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Responses to FERC Additional Information Request OP-1(f) (Operational Scenarios)

Aquatic Resources

Final Report

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TABLE OF CONTENTS

Table of Contents i
List of Tables ii
List of Figures iii
Schedule A: Additional Information Request OP-1 Aquatic Resources Operational Scenario 1
1. Introduction 2
2. Responses 4
2.1. Response to OP-1(f)(i)—River Flows/Wetted Stream Area 4
2.2. Response to OP-1(f)(ii)—Fish Habitat 6
2.3. Response to OP-1(f)(iii)—Brownlee Passage 7
2.3.1. Fall Chinook Salmon 9
2.3.2. Steelhead and Spring Chinook Salmon 13
2.4. Response to OP-1(f)(iv)—Fish Stranding 14
2.4.1. Methods 14
2.4.2. Results 15
2.4.3. Discussion 20
3. Agency Consultation 23
3.1. Initial Agency Consultation 23
3.2. Agency Comments on Final AIR 23
4. Literature Cited 28
Appendix A – Agency Consultation 30

LIST OF TABLES

Table 1–117. End-of-day (23rd hour) water levels in Brownlee, Oxbow, and Hells Canyon reservoirs for the eleven requested operational scenarios as well as actual recorded levels for the extreme low flow year of 1992, the medium year of 1995, and the extreme high flow year of 1997 (January 1 through December 31)..... 31–89

Table 118. A comparison of survival, estimated adult returns, and proportions of required escapement associated with a free-flowing environment (i.e., no Hells Canyon Complex), Scenario 3A, passage through Brownlee reservoir without collection or bypass, and Scenario 5A, which assumes an 80% collection efficiency and transport to below Hells Canyon dam. 90

Table 119. Surface area and reservoir length of Brownlee reservoir at different elevation levels. 91

Table 120. Entrapment pool site locations, flows, and elevations that cause pools to disconnect from the river channel (entrapment flow/elevation) and whether a site was modeled as age-0 fall Chinook habitat with the 1D habitat model (Chandler et al. 2001a). 91

Table 121. Number of entrapment events, duration of events, and percentage of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1A modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 92

Table 122. Number of entrapment sites disconnected from the river channel and mean number of entrapment events per site for 11 operational scenarios modeled in the upper HC reach during the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 93

Table 123. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1B modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 94

Table 124. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1C modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 95

Table 125. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1D modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 96

Table 126. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1E modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 97

Table 127. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1F modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 98

Table 128. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by

month under Operational Scenario 2 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 99

Table 129. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 3 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 100

Table 130. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 4 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 101

Table 131. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 5 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 102

Table 132. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 6 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. 103

LIST OF FIGURES

Figure 1–36. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under the eleven requested operational scenarios and proposed operations during the extreme low flow year of 1992, the medium flow of 1995, and the extreme high flow year of 1997. 104–139

Figure 37–60. Total surface area (wetted stream area) predicted for the upper HC reach modeled under the eleven requested operatianal scenarios and proposed operations during the extreme low flow year of 1992, the medium flow year of 1995, and the extreme high flow year of 1997 140–163

Figure 61–99. Brownlee, Oxbow, and Hells Canyon reservoir water surface elevations modeled with CHEOPS under the eleven requested operational scenarios as well as actual measured eleveations during the extreme low flow year of 1992, the medium flow year of 1995, and the extreme high flow year of 1997. 164

Figure 100. Actual 15-minute flows recorded in 1992 from the Snake River at Hells Canyon dam gauge (top) and the Snake River near Anatone, Washington, gauge. 203

Figure 101. Actual 15-minute flows recorded in 1995 from the Snake River at Hells Canyon dam gauge (top) and the Snake River near Anatone, Washington, gauge. 204

Figure 102. Actual 15-minute flows recorded in 1997 from the Snake River at Hells Canyon dam gauge (top) and the Snake River near Anatone, Washington, gauge. 205

Figure 103–258. Total weighted usable area (WUA) under the eleven requested operational scenarios and proposed operations for the 13 target species/life stages in the upper HC Reach, modeled under an extreme low flow year of 1992, a medium flow year of 1995, and an extreme high flow year of 1997. Modeled periodocities for species/life species that are less than one year are shown with cross-hatching. 206–361

Figure 259–414. Total weighted usable area (WUA) under the eleven requested operational scenarios and proposed operations for the 13 target species/life stages in the lower HC Reach, modeled under an extreme low flow year of 1992, a medium flow year of 1995, and an extreme high flow year of 1997. Modeled periodocities for species/life species that are less than one year are shown with cross-hatching.. 362–517

Figure 415. Brownlee reservoir elevation and timing of arrival (percent) of Age 0 fall Chinook salmon, spring Chinook salmon and steelhead at the upper end of Brownlee reservoir during 1963 and 1964. 518

Figure 416. Entrapment pool site at RM 242.0 (Battle Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. 519

Figure 417. Entrapment pool site at RM 236.0 (Saddle Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the right edge, middle of the picture. 519

Figure 418. Entrapment pool site at RM 235.6 (Hat Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located right of center in the middle of the picture. 520

Figure 419. Entrapment pool site at RM 227.5 (Pine Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the right edge, middle of the picture. 520

Figure 420. Entrapment pool site at RM 224.9 (Little Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site is just off screen along the left edge, middle of the picture. 521

Figure 421. Entrapment pool site at RM 223.5 (Temperance Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture. 521

Figure 422. Entrapment pool site at RM 222.8 (Suicide Point) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture. 522

Figure 423. Entrapment pool site at RM 220.1 (Yankee Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the right edge, middle of the picture. 522

Figure 424. Entrapment pool site at RM 216.5 (Fish Trap Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located left of center, middle of the picture. 523

Figure 425. Entrapment pool site at RM 214.4 (lower Pittsburgh) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture. 523

Figure 426. Entrapment pool site at RM 201.9 (Five Pine) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site is just off screen along the left edge, middle of the picture. 524

Figure 427. Entrapment pool site at RM 191.7 (Imnaha River) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture. 524

SCHEDULE A: ADDITIONAL INFORMATION REQUEST OP-1 AQUATIC RESOURCES OPERATIONAL SCENARIO

Time Required: 9 months

(f) Aquatic resources

(i) For us to evaluate the effects of project operations on aquatic habitats, including invertebrate habitat, we need additional information on river flows and the amount of wetted stream area that would be available under the alternative operations described above. For each scenario (Scenarios 1 through 6), please use your operational models to simulate river flows and water levels for each of the 5 representative years (1992, 1994, 1995, 1999, and 1997). For each year and scenario, provide the following graphs:

(1) River flows as predicted for the Hells Canyon dam gage (no. 13290450) (15-minute intervals, January 1 through December 31).

(2) River flows as predicted for the Snake River near Anatone, Washington, gage (no. 13334300) below the confluence with the Salmon River (15-minute intervals, January 1 through December 31).

(3) Total wetted stream area upstream of the confluence with the Salmon River (15-minute intervals, January 1 through December 31).

(4) Total wetted stream area downstream of the confluence with the Salmon River (15-minute intervals, January 1 through December 31).

(5) Water levels in the Brownlee, Oxbow, and Hells Canyon reservoirs (1-hour intervals in graphic format and end-of-day values in tabular format, January 1 through December 31).

To help us understand how modeled proposed operations compare to recent historical operations, please also provide a set of the foregoing graphs based on actual measured flow and water levels that occurred in the 5 representative years. (If there are periods of missing data due to gage outages or other causes, provide your best estimate for the missing data and clearly identify those periods and locations where estimated data are used.)

(ii) Fish Habitat: For each of the scenarios identified above, provide hourly time series plots of weighted usable area (WUA) (January 1 through December 31) for each of the 5 representative years and each of the species and lifestages that were modeled in your instream flow assessment. On each plot, show total WUA in the upper Hells Canyon reach (Hells Canyon dam to the Salmon River) and lower Hells Canyon reach (Salmon River to Asotin). For fall chinook rearing, include separate plots showing predicted WUA-based on both the 1D and the 2D habitat models. For redband and bull trout, please ensure that your plots show WUA values for the full calendar year, and provide plots of WUA determined with your existing suitability criteria and with the depth limitation removed (see comments on page 12 of ODFW's September 16, 2003, additional study request [ASR] letter).

(iii) Brownlee passage: In your analysis of reintroduction alternatives, you review data that indicate that the outmigration survival of spring and fall chinook smolts showed a four-fold increase between 1963 and 1964 after the drawdown of Brownlee reservoir was increased from 21 to 89 feet below full pool (E.3.1-2, chapter 11, page 5). In order for us to evaluate the potential for restoring anadromous fish to areas upstream of the project, we need to have sufficient information to evaluate the effects of reservoir drawdown on the survival rates of smolts migrating through Brownlee reservoir. Accordingly, please evaluate the effect of year-round operation of Brownlee reservoir at minimum operating pool (Scenario 5) on the potential rate of outmigration survival for fall chinook, spring chinook, and steelhead smolts.

(iv) Fish stranding: In your responses to agency comments on the draft license application, you indicate that the potential for fish stranding downstream of the project is limited by the scarcity of areas with shallow bank slopes, but you also acknowledge that the effects of stranding on fish populations in the Hells Canyon reach is largely unknown and that localized stranding may occur. Because this reach is used for rearing by juvenile Snake River fall chinook, we need to ensure that we have sufficient information to evaluate operational effects on this ESA-listed species. Accordingly, in consultation with NOAA Fisheries, IDFG and ODFW, evaluate the effects of each operational scenario on fish stranding, and provide the results of your analysis with your filing.

Please prepare your responses to parts (d), (e), (f) and (g) of this AIR after consultation with NOAA Fisheries, U.S. Fish and Wildlife Service (FWS), U.S. Forest Service (FS), U.S. Bureau of Land Management (BLM), Idaho Department of Fish and Game (IDFG), Idaho Department of Environmental Quality (IDEQ), Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Environmental Quality (ODEQ) Columbia River Inter-Tribal Fish Commission (CRITFC), Nez Perce Tribe (NPT), Shoshone-Bannock Tribes (SBT), Shoshone-Paiute Tribes of the Duck Valley Indian Reservation (SPT), Burns Paiute Tribe (BPT), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), and the Confederated Tribes of Warm Springs (CTWS). Include comments from the consulted entities on your response to items (d), (e), (f) and (g) and your response to their comments with your filing.

In all parts of your response where graphics are requested, full page black-and-white graphics should be provided to ensure readability in both hard copy and electronic formats. In order to facilitate side-by-side comparisons, please provide the graphs that we ask for in subparts (e)(i) through (e)(iii) and subparts (f)(i) and (f)(ii) of this AIR for both current and your proposed operations.[1]

1. INTRODUCTION

Agency review of Idaho Power Company's (IPC) final license application for the Hells Canyon Hydroelectric Project (IPC 2003) prompted the Federal Energy Regulatory Commission (FERC) to submit a letter to IPC on May 4, 2004, requesting additional information on issues such as the effects of project operations on aquatic habitats. This report presents analysis conducted to address the additional information request (AIR) OP-1(f). OP-1(f) required an analysis on the effect of 11 operational scenarios on river flows, wetted stream area, fish habitat, reintroduction of anadromous salmonids, and stranding of age-0 fall Chinook. Much of AIR OP-1 required a presentation of modeled data in 15-minute intervals over five modeled flow years. IPC requested that this analysis be limited to hourly flow intervals over three flow years representing extreme low, medium, and extreme high flow conditions. These modifications were accepted in FERC's October 20, 2004, letter to IPC. IPC also requested an extension of time to complete an operational analysis comparable to that presented in Chandler et al. (2001a). The analysis in Chandler et al. (2001a) was directed specifically at comparing different operational scenarios.

[1] In AIR OP-2, *Current Operations Scenarios,* we ask you to determine whether your proposed operations are the same as your current operations.

The request for additional time was not granted; therefore, IPC conducted only the analysis that was requested under OP-1(f). The analysis is presented in this report.

We do believe that generating metrics from paired-scenario comparisons is the preferred way to evaluate how different scenarios affect modeled aquatic habitats. Simple plots of total WUA (as requested by FERC) are not well suited for this evaluation because of the large scale of WUA available in each reach of Hells Canyon (HC). Total WUA sums to millions of square meters (m^2) in each reach. It is, therefore, extremely difficult to scale hourly time series plots to be used effectively to compare individual scenarios. While we cannot compare these plots to the analysis conducted in Chandler et al. (2001), we can reasonably assume that conducting that analysis for these eleven operational scenarios would result in WUA that would fall into a range between proposed operations and run of river full pool.

This AIR involves evaluating 11 operational scenarios. These scenarios are detailed in IPC's response to OP-1(a) about power economics. The OP-1(a) report details the parameters of each operational scenario including ramping rates, minimum flows, Brownlee reservoir restrictions, and daily limits between maximum and minimum outflows. Generally, the 11 scenarios can be grouped into four categories based on ramping rates: 1) no ramping rates and essentially run-of-river conditions [Operational Scenarios 1A and 5], 2) 2-inch/hour ramping rate [Operational Scenarios 1B, 1D, 1F, 2, and 4], 3) 6-inch/hour ramping rates [Operational Scenarios 1C and 1E], and 4) 1-foot/hour ramping rate [Operational Scenarios 3 and 6].

2. RESPONSES

2.1. Response to OP-1(f)(i)—River Flows/Wetted Stream Area

(i) For us to evaluate the effects of project operations on aquatic habitats, including invertebrate habitat, we need additional information on river flows and the amount of wetted stream area that would be available under the alternative operations described above. For each scenario (Scenarios 1 through 6), please use your operational models to simulate river flows and water levels for each of the 5 representative years (1992, 1994, 1995, 1999, and 1997). For each year and scenario, provide the following graphs:

(1) River flows as predicted for the Hells Canyon dam gage (no. 13290450) (15-minute intervals, January 1 through December 31).

(2) River flows as predicted for the Snake River near Anatone, Washington, gage (no. 13334300) below the confluence with the Salmon River (15-minute intervals, January 1 through December 31).

(3) Total wetted stream area upstream of the confluence with the Salmon River (15-minute intervals, January 1 through December 31).

(4) Total wetted stream area downstream of the confluence with the Salmon River (15-minute intervals, January 1 through December 31).

(5) Water levels in the Brownlee, Oxbow, and Hells Canyon reservoirs (1--hour intervals in graphic format and end-of-day values in tabular format, January 1 through December 31).

To help us understand how modeled proposed operations compare to recent historical operations, please also provide a set of the foregoing graphs based on actual measured flow and water levels that occurred in the 5 representative years. (If there are periods of missing data due to gage outages or other causes, provide your best estimate for the missing data and clearly identify those periods and locations where estimated data are used.)

We used the MIKE 11 one-dimensional (1D) flow model (Chandler et al. 2001a, Rungø 2001) to simulate hourly river flows near the Hells Canyon dam and Snake River near Anatone, Washington, gauges for the proposed operations scenario and the 11 requested operational scenarios. Scenarios were modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. These plots, requested in OP-1(f)(i)(1) and OP-1(f)(i)(2), are shown in Figure 1 through Figure 36.

The MIKE 11 1D flow model was also used to estimate total surface area (wetted stream area) in the upper and lower HC reaches across 10 Hells Canyon dam discharges ranging from 5 to 100 thousand cubic feet per second (kcfs) (Chandler et al. 2001a). These two surface area vs. discharge relationships were then used in a time series analysis (as described in Chandler et al. 2001a) for the proposed operations scenario and each of the 11 requested operational scenarios. These scenarios were modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. These plots, requested in OP-1(f)(i)(3) and OP-1(f)(i)(4), are shown in Figure 37 through Figure 48 for the upper HC reach and Figure 49 through Figure 60 for the lower HC reach.

We used the CHEOPS simulation package for hydropower systems to calculate water levels in Brownlee, Oxbow, and Hells Canyon reservoirs for the proposed operations scenario and each of the 11 requested operational scenarios and modeled these scenarios under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. As requested in OP-1(f)(i)(5), hourly plots are shown in Figure 61 through Figure 99, and end-of-day values (hour 23 of each day) are presented in Table 1 through Table 117.

As requested in the last paragraph of section OP-1(f)(i), we plotted actual flows measured at the Hells Canyon dam gauge (no. 13290450) and the Snake River near Anatone, Washington, gauge (no. 13334300) for years 1992, 1995, and 1997. These hourly plots are shown in Figure 100 through Figure 102. Actual data at the Hells Canyon dam gauge were complete for all three years. But there were two data gaps at the Snake River near Anatone, Washington, gauge in 1992 and two data gaps in 1995. To fill the gaps for 1992, data were estimated using daily average estimates from January 12, 12:00, to January 15, 07:00, and from January 31, 13:00, to February 10, 15:00. Similarly, to fill data gaps for 1995, daily average estimates were used from April 16, 00:00, to April 17, 23:00, and from July 18, 13:00, to July 18, 20:00. We were unable to construct surface area plots from actual historical data that could be used for comparison with proposed operations or the 11 requested operational scenarios. The surface area time series analysis conducted for the operational scenarios incorporated several discharge points throughout each reach as output from the MIKE 11 1D model (see section 3.6.1.2 in Chandler et al. 2001a). The use of several discharge points allows for travel time of flows in each reach. There are no actual surface area calculations available for comparison, and using actual discharge data with the modeled surface area vs. discharge relationships would not have provided a comparable result since travel time would not have been allowed for. As requested in OP-1(f)(i)(5), we plotted actual water levels in Brownlee, Oxbow, and Hells Canyon reservoirs for 1992, 1995, and 1997 (Figure 73, Figure 86, and Figure 99) and provided end-of-day (hour 23 of each day) tabular values at the end of each grouping of scenario and year for the three reservoirs (Table 1—Table 117).

2.2. Response to OP-1(f)(ii)—Fish Habitat

> (ii) Fish Habitat: For each of the scenarios identified above, provide hourly time series plots of weighted usable area (WUA) (January 1 through December 31) for each of the 5 representative years and each of the species and lifestages that were modeled in your instream flow assessment. On each plot, show total WUA in the upper Hells Canyon reach (Hells Canyon dam to the Salmon River) and lower Hells Canyon reach (Salmon River to Asotin). For fall chinook rearing, include separate plots showing predicted WUA-based on both the 1D and the 2D habitat models. For redband and bull trout, please ensure that your plots show WUA values for the full calendar year, and provide plots of WUA determined with your existing suitability criteria and with the depth limitation removed (see comments on page 12 of ODFW's September 16, 2003, additional study request [ASR] letter).

We conducted a habitat time series analysis at the reach level for both the upper and lower HC reaches for all 11 operational scenarios modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997. This analysis was conducted for the 10 species/life stages presented in Chandler et al. (2001a), as well as for the three additional variations of existing habitat relationships outlined in OP-1(f)(ii). As requested, we conducted a habitat time series analysis for both the 1D and 2D modeled habitat estimates for juvenile fall Chinook. It is important to remember the differences in these two modeled estimates and how they were presented in Chandler et al. (2001a). The 2D model estimate of juvenile habitat differed from the 1D estimate since it was an expansion of results from seven 2D sites for the upper HC reach and four 2D sites for the lower HC reach. The expansion of results was applied only to the reach in which the 2D sites were located. The 1D estimate is well suited to describing habitat throughout the entire HC reach, but because it does not incorporate water velocity on a reach scale, it is not well suited for comparing the relative influence that each operational scenario may have on modeled rearing habitats. Habitat modeled at the 2D sites incorporates velocity, depth, gradient, and substrate on a spatial scale that is better suited for comparing operational scenarios.

Additional variations to the previous target species/life stages were requested for rainbow trout and bull trout, such as applying the habitat time series for the entire year instead of the modeled periodicity of October 15 through May 31 (as in Chandler et al. 2001a) and removing a depth limitation in the site-specific habitat suitability criteria (HSC) as requested by the Oregon Department of Fish and Wildlife (ODFW) in its September 16, 2003, additional study request letter to FERC. We accommodated these requests in this current habitat time series of the 11 operational scenarios across the modeled years of 1992, 1995, and 1997. We believe that it is important to note that use of radio-telemetry equipment becomes restricted in deeper habitats: because trout may not be detected when they use deeper habitats, there may be a bias toward shallower habitat. However, information presented in Chandler et al. (2001b) supports our belief that this potential bias is low. During the three-year habitat-use study, radio-tagged bull trout were detected 97.1% of the time, and redband trout were detected 88.9% of the time. Based on this high detection rate, we believe that the range of depths included in the HSC is an appropriate

characterization of habitats used by redband trout in the HC reach during the October to May period modeled. Movement studies on redband trout and bull trout conducted by IPC in the HC reach directed the period to be modeled in the instream flow assessment. Movements of fish into and from the tributaries resulted in the modeled period of October 15 through May 31. Recent work conducted by IPC focused on summer habitat use of bull trout in the Snake River. Only three bull trout were captured, and all moved into tributaries during the summer period. One fish occasionally returned to the Snake River, but it occupied a tributary mouth. IPC believes that any summer use of the Snake River by bull trout is related to the thermal refuges afforded by the tributaries. It is important to note that the instream flow assessment modeled changes in depth and water velocity for a range of flows released under different operational scenarios but did not account for habitat use that is driven by temperature refuges.

Specific methods for this habitat time series are similar to those detailed in section 3.6.2.2 in Chandler et al. (2001a). As requested in OP-1(f)(ii), hourly plots (January 1 through December 31) for all target species/life stages are shown in Figure 103 through Figure 258 for the upper HC reach and Figure 259 through Figure 414 for the lower HC reach. Periodicities are shown with crosshatching when appropriate for some species/life stages.

2.3. Response to OP-1(f)(iii)—Brownlee Passage

> (iii) Brownlee passage: In your analysis of reintroduction alternatives, you review data that indicate that the outmigration survival of spring and fall chinook smolts showed a four-fold increase between 1963 and 1964 after the drawdown of Brownlee reservoir was increased from 21 to 89 feet below full pool (E.3.1-2, chapter 11, page 5). In order for us to evaluate the potential for restoring anadromous fish to areas upstream of the project, we need to have sufficient information to evaluate the effects of reservoir drawdown on the survival rates of smolts migrating through Brownlee reservoir. Accordingly, please evaluate the effect of year-round operation of Brownlee reservoir at minimum operating pool (Scenario 5) on the potential rate of outmigration survival for fall chinook, spring chinook, and steelhead smolts.

The effect that year-round operations of Brownlee reservoir at minimum operating pool (Operational Scenario 5) may have on the potential rate of outmigration survival for fall Chinook, spring Chinook, and steelhead smolts is impossible to determine with the information available. Survival estimates presented in chapter 11 of Technical Report E.3.1-2 (Chandler and Chapman 2003) of the Hells Canyon final license application (IPC 2003) were based on actual estimates of survival from 1963 and 1964 (Raleigh and Ebel 1968). These represent the only empirically derived survival data of natural smolts passing through Brownlee reservoir. They correspond to two different types of water years, which resulted in different levels of flood-control drafts. They offer reasonable estimates and ranges of survival that could be expected today under similar operations of Brownlee reservoir. During the spring periods of 1963 and 1964, Brownlee reservoir operations associated with the anadromous smolt outmigration (April–June)

were similar to what they are today and to proposed operations in the Hells Canyon final license application (IPC 2003). In the spring, the reservoir is operated to meet energy load requirements, meet flood-control targets established by the U.S. Army Corps of Engineers, and refill as quickly as possible following flood control with the goal of being full at or near July 4. Scenario 5 does not provide any flood control and, therefore, assumes that IPC has been relieved from providing flood control at Brownlee reservoir.

In 1963 and 1964, maximum reservoir drawdowns during the spring period were 21 and 89 ft, respectively. However, Brownlee reservoir was only at these elevations for a few days before refill operations were initiated (Figure 415). As such, the timing of maximum drawdown did not correspond with the actual outmigration period of anadromous fish. Most anadromous fish entered the upper end of Brownlee reservoir during late April and throughout May (Figure 415) and were generally out of the river upstream of Brownlee reservoir before mid-June (Krcma and Raleigh 1970). The actual period of outmigration corresponded to higher reservoir elevations following the maximum drawdown (Figure 415). For example, during May, the average reservoir elevation in 1963 was 2073 ft mean sea level (msl, 4 ft below full), and average reservoir elevation in 1964 was 2035 ft msl (42 ft below full). Thus, conditions in these years were much different than the operation contemplated in Operational Scenario 5 of the AIR, with Brownlee reservoir operating at minimum pool year round (no flood control provided by Brownlee reservoir).

Raleigh and Ebel (1968) also examined smolt outmigration in 1965, although because of their conservative approach used to estimate survival and escapement, their estimates of escapement from the reservoir exceeded recruitment. However, they did report 1965 to have the best outmigration conditions and the highest escapement. The 1965 drawdown was to the minimum operating pool (101 ft draft), and the filling period was more prolonged than in 1964, although the reservoir was filling until mid-June. They reported that escapement of juveniles was the least successful in 1963 (21 ft maximum draft), escapement was intermediate in 1964 (89 ft maximum draft), and best in 1965. They attributed these differences in escapement from the reservoir to well-oriented downstream currents associated with the different drawdown levels. In 1963, upreservoir movement by migrating fish was observed the most and related to low water velocities and disoriented currents. In 1965, there were well-oriented downstream currents with the larger, more protracted drawdown, a situation that led to higher escapement. With this information, it is reasonable to expect that migration success under a minimum operating pool, such as that contemplated in Operational Scenario 5, would be better than those observed in 1963 through 1965. In such a scenario, there would be no reservoir filling, and well-oriented downstream currents would be more prevalent.

In chapter 11 of Technical Report E.3.1-2 (Chandler and Chapman 2003), we estimated survival of spring Chinook salmon and steelhead smolts from different subbasins upstream of Hells Canyon reservoir to the Lower Granite dam tailrace (LGRT). We also estimated smolt survival of fall Chinook salmon from various reaches of the mainstem Snake River upstream of Brownlee reservoir. We based these survival estimates on several assumptions discussed in detail in Chandler and Chapman 2003 and evaluated several reintroduction scenarios with different assumptions of collection and bypass using the 1963 and 1964 empirical survival information (see Table 2 of Chandler and Chapman 2003). For reaches (free-flowing or reservoir) other than Brownlee reservoir, we based survival estimates on those reported from various literature sources on measured survival over known distances of either free-flowing or reservoir habitats. We calculated what we termed "mortality coefficients" that represented a rate of loss per kilometer of migration in either free-flowing or reservoir habitats. The distance of a reach was multiplied by the mortality coefficient and then solved for a survival estimate (see section 2.1 of Technical Report E.3.1-2). With this approach, we were able to estimate survival by various reaches of the Snake River to the LGRT. We also estimated what survival would be under a free-flowing environment, with no dam or reservoir passage upstream of Lower Granite reservoir. From the survival estimates, we calculated the number of smolts that would arrive at the LGRT. We then used a range of smolt-to-adult returns (SARs) to estimate the number of adults that would return to Lower Granite dam and to respective spawning areas under different assumptions of adult passage and adult transportation. We further evaluated whether the number of returning adults was sufficient to sustain the level of production.

To estimate what survival might be under Operational Scenario 5 of the AIR, we assumed that it would be somewhere between our Reintroduction Scenario 3A and a free-flowing (no project) estimate. Reintroduction Scenario 3A assessed subbasins between Brownlee and Swan Falls dams and assumed the survival estimated for the 89-ft drawdown from the 1964 outmigration (Table 118), the scenario with the highest survival without collection at Brownlee dam. For further comparison, we also used Reintroduction Scenario 5A, which differed from 3A by assuming an 80% collection capability at Brownlee dam, with transport to below Hells Canyon dam, thereby avoiding mortality associated with passage through Brownlee dam, Oxbow reservoir and dam, and Hells Canyon reservoir and dam. With this scenario, we assumed a 98% survival associated with transport to below Hells Canyon dam.

2.3.1. Fall Chinook Salmon

Fall Chinook salmon produced in the reach between Swan Falls and Brownlee dams were primarily from spawning that occurred in the reach between Swan Falls dam and Marsing, Idaho (see Chapman and Chandler 2001). We estimated a production potential of 1,839,626 smolts from the free-flowing reach above Brownlee reservoir. Our estimate of the survival rate to the LGRT for fall Chinook salmon below Swan Falls under a free-flowing scenario was 0.33 (606,976 smolts arriving at the LGRT). Our survival

estimate under Reintroduction Scenario 3A was 0.10 (178,000 smolts arriving at LGRT); that for Reintroduction Scenario 5A was 0.16 (301,961 smolts arriving at the LGRT) (Table 118). The survival estimate through Brownlee reservoir was 0.85 under the free-flowing scenario and 0.42 under the 1964 89-ft drawdown scenario (Table 118).

The fall Chinook salmon free-flowing survival estimate was calculated based on the following assumptions (further detail and sources of information are provided in section 2.1.1 of Chandler and Chapman 2003). We used a survival rate of 0.65 to represent survival of fall Chinook salmon migrating from Pittsburg Landing (PL, river kilometer [Rkm] 347 in the free-flowing section below Hells Canyon dam) to the LGRT. This reach includes 121 km of free-flowing river and 52 km of reservoir habitat (Lower Granite reservoir). To segregate free-flowing survival and reservoir survival from this estimate, we used a survival estimate of 0.81, which was estimated for Little Goose reservoir (from Williams and Bjornn 1997) and then calculated what the free-flowing reach survival must be to obtain a total PL to LGRT survival of 0.65 (PL survival × 0.81 [survival assumed for Lower Granite reservoir based on Little Goose passage] = 0.65 [survival from PL to LGRT]). Thus, a survival of 0.80 over 121 km of free-flowing habitat (PL to the top of Lower Granite reservoir) was used to represent survival in free-flowing environments, and a survival of 0.81 over 52 km of reservoir habitat and through the dam to arrive at the LGRT was used to represent survival in reservoir habitats. Mortality coefficients (mortality per km) based on calculating an instantaneous mortality rate (see section 2.1 of Chandler and Chapman 2003) were used to estimate a fraction of loss per kilometer as follows (from Ricker 1958).

2.3.1.1. Free-Flowing

S = 0.80 over a 121-km distance from PL to the top of Lower Granite reservoir

$N_d/N_0 = e^{-Zd}$ (number [N] at distance$_d$/number [N] at start $_{d=0}$) where $Z = -\ln[S]$, which is called the instantaneous mortality rate expressed for that distance [121 km in this example])

$S = e^{-(-\ln 0.8)}$, $S = e^{-0.223}$, where the instantaneous mortality rate = 0.223; thus, for each 1 km, the fraction of the population that dies is equal to 0.223 / 121 km = 0.001844

We used the value –0.001844 to represent the fraction of loss per kilometer of migration in a free-flowing environment. Thus, to calculate survival for any length of free-flowing reach, assuming this same fraction of loss per kilometer, we multiply the length of the free-flowing reach by that fraction, which gives us the instantaneous mortality rate for that reach, whereby we can solve S as $e^{-(\textit{instantaneous mortality rate}[Z])}$.

2.3.1.2. Reservoir

The survival estimate of 0.81 over a distance of 52 km of reservoir from the top of Lower Granite reservoir to the LGRT results in an instantaneous mortality rate of 0.21, which results in a fraction of loss per kilometer of 0.00405 (0.210/52 km). This value was used to assign a fraction of loss to reservoir habitats. Because this survival estimate included passage through Lower Granite dam, we assumed, by applying this value to other reservoirs (such as Oxbow and Hells Canyon), that passage through these dams could have comparable survival. Thus, it is assumed that any bypass system in place would perform with efficiency and survival similar to the system at Lower Granite dam during the time of these survival estimates.

2.3.2.3. New Survival Analysis

Subsequent to filing the final license application for the Hells Canyon Complex (IPC 2003), communication with NOAA Fisheries (Ritchie Graves, personal communication) suggested that the survival estimate for the free-flowing reach used in our analysis was likely to low. This likelihood was based on observations of different hatchery release groups in 1998 of subyearling fall Chinook salmon from two locations in the HC reach, one at Pittsburg Landing and another farther downstream at Billy Creek. Differences in survival between these two groups was approximately 5% from their release site to Lower Granite dam, with survival of the upper group (released at Pittsburg Landing) lower than that of the lower group (released at Billy Creek). Similar differences in survival were observed in the 1997 release groups reported in Muir et al. (1999). The distance between these two locations is 85 km. Thus, NOAA Fisheries assumed that this difference could be used to estimate a survival of approximately 0.95 over the 85-km migration through free-flowing habitat. This result equates to an instantaneous mortality rate of 0.0513, with a fraction of loss per kilometer of 0.0006035 (–0.513/85 km). Thus, for the 121 km of free-flowing river between PL and the top of Lower Granite reservoir, a reach survival is 0.93 ($S = e^{-0.0006035 \times 121}$).

This assumption of a higher survival in the free-flowing section for an overall survival of 0.65 between PL and the LGRT necessitates reducing the survival estimate for passage through Lower Granite reservoir, which represented the reservoir passage survival expected in other reservoir reaches in our analysis. If the free-flowing survival is 0.93 and the total reach survival is 0.65, then in our assumption, survival through Lower Granite reservoir is reduced to 0.7 (0.65/0.93). This then changes the instantaneous mortality rate to 0.358, or a fraction of loss per kilometer (52 km) to 0.00689. This value could be used to represent passage through other reservoirs, including Oxbow and Hells Canyon, with the same assumptions of similar bypass capabilities and dam passage survival that we made in our original estimates.

Using this set of assumptions, our original analysis of survival in a free-flowing scenario from Walters Ferry to the top of Lower Granite reservoir and through Lower Granite reservoir to the LGRT is increased from 0.33 to 0.52 ($S = e^{-0.0006035 \times 487} = 0.75$; $0.75 \times 0.7 = 0.52$, where the 0.7 is the survival through Lower Granite reservoir discussed in the above paragraph. The assumption of 0.65 survival from PL to the LGRT is likely high. For example, Muir et al. (1999) reported survival probabilities of fish released at Pittsburg Landing to the LGRT approaching 0.6 in early June and then steadily declining through the season to near 0.14 in early July. However, for the purposes of this analysis, we continue to use a survival of 0.65.

2.1.3.4. Best Estimate

If Operational Scenario 5 were to result in a survival comparable to that in the free-flowing environment discussed above, survival through Brownlee reservoir would be calculated for Scenarios 3A and 5A as 0.95 (Table 118). However, survival through Brownlee reservoir at a minimum operating pool would not be expected to be comparable to that in a free-flowing reach. Even with a 100-ft drawdown, Brownlee reservoir is still a large reservoir (Table 119). Under Operational Scenario 5, Brownlee reservoir is a 57-km-long reservoir that approaches depths over 200 ft. In comparison, Lower Granite reservoir at full pool is 64 km in length. In addition, the volume of inflows into Lower Granite reservoir is much higher than inflow volumes entering Brownlee reservoir. As such, passage survival would not be expected to differ greatly from what currently occurs in Lower Granite reservoir. If this assumption is true, our best survival estimate of 0.685 for Operational Scenario 5 (Table 118) is likely optimistic. Also, our best survival estimate does not take into account any impacts of increased TDG resulting from spilling water at Brownlee, Oxbow, and Hells Canyon dams, since Scenario 5 would require IPC to spill water to pass inflows.

2.3.1.5. Survival in Perspective of Returning Adults and Production Sustainability

If the Operational Scenario 5 were to allow survival through Brownlee reservoir comparable to that in a free-flowing environment as we estimated above, overall smolt survival to the LGRT would still be low. Under Operational Scenario 3A, passage past Brownlee dam and through Oxbow, Hells Canyon, and Lower Granite reservoirs would further reduce survival to an estimated 0.23 (Table 118). Under Scenario 5A, with a collection and transport assumption of 80% of the individuals that survive to Brownlee dam but still need to pass through Lower Granite reservoir, survival is estimated to be 0.47. Under a scenario such as Operational Scenario 5, survival may be reduced further during medium and high water years because of prolonging periods of spill associated with passing inflows and maintaining a minimum operating pool. Under proposed operations in the final license application (IPC 2003), Brownlee reservoir

operates to minimize spill in conjunction with the flood-control program. Prolonged periods of spill would elevate total dissolved gas levels downstream of Hells Canyon dam and could potentially reduce survival to the LGRT further than accounted for in our best estimates.

2.3.2. Steelhead and Spring Chinook Salmon

For spring Chinook and steelhead, the original estimates reported in Chandler and Chapman (2003) that were associated with smolt passage through Brownlee reservoir and other free-flowing and reservoir reaches were not modified in this analysis as they were for fall Chinook salmon. As with fall Chinook salmon, there is no way to estimate what survival through Brownlee reservoir under Operational Scenario 5 would be. The only empirically derived estimates were those obtained in the early 1960s. Although 1964 had a significant draft, much of the outmigration associated with these survival estimates occurred during periods of filling Brownlee reservoir. Therefore, we would not expect them to be comparable to those under an operation such as Scenario 5.

Because Brownlee reservoir is still a large reservoir, we would not expect that survival through Brownlee reservoir at a minimum operating pool, as contemplated in Operational Scenario 5, would be comparable to that in a free-flowing environment. Our best estimate of survival associated with this scenario would be the average of our original free-flowing estimates and the values associated with the 89-ft 1964 operation. Under a free-flowing assumption, survival for spring Chinook salmon and steelhead through Brownlee reservoir would be 0.94 and 0.96, respectively. Under the 1964 89-ft empirical estimates, survival for spring Chinook salmon was 0.51; we assumed that survival for steelhead would be comparable in our analysis. The average of these two survival estimates through Brownlee reservoir is 0.73 for spring Chinook salmon and 0.74 for steelhead. It is only under the assumptions of a high SAR and low required escapement conditions that adult returns would be sufficient to sustain production from basins between Brownlee and Swan Falls dams. Low SAR values would not allow sufficient escapement to sustain production, even under conditions promoting low required escapement, such as high egg-to-smolt survival and low prespawn mortality. Our analysis does not take into account any impacts of increased TDG resulting from spilling water at Brownlee, Oxbow, and Hells Canyon dams, since Scenario 5 would require IPC to spill water to pass inflows.

2.4. Response to OP-1(f)(iv)—Fish Stranding

> (iv) Fish stranding: In your responses to agency comments on the draft license application, you indicate that the potential for fish stranding downstream of the project is limited by the scarcity of areas with shallow bank slopes, but you also acknowledge that the effects of stranding on fish populations in the Hells Canyon reach is largely unknown and that localized stranding may occur. Because this reach is used for rearing by juvenile Snake River fall chinook, we need to ensure that we have sufficient information to evaluate operational effects on this ESA-listed species. Accordingly, in consultation with NOAA Fisheries, IDFG and ODFW, evaluate the effects of each operational scenario on fish stranding, and provide the results of your analysis with your filing.

2.4.1. Methods

We used a modeling exercise to evaluate the effects of each operational scenario on fish stranding in the upper HC reach within the allowed time frame of this request. We used helicopter video footage shot on September 29, 2000 of the Snake River below Hells Canyon dam at a flow of 5600 to 5800 cfs to identify areas that appeared to form stranded pools of water (entrapment pools). Small pools that were nearly connected at this low flow and were certain to be connected at the minimum flow proposed (6500 cfs) were not included in the selection. We identified 12 entrapment pool sites (Figure 416–Figure 427) from this initial survey that we included for the model exercise. During November 2003, we conducted a topographic survey of these sites with JUB Engineers, Inc., and IPC staff to determine control point elevations that disconnected the river from each entrapment pool. A series of transects were surveyed in cross sections at each site as well as a thalweg transect that contoured the lowest elevation of each site out to the edge of water in the river channel. We then used discharge and elevation cross sections from the MIKE 11 1D flow model to construct stage verses discharge relationships near each entrapment pool. Using these relationships we were able to take each control point elevation and assign a modeled flow threshold that would disconnect that site from the river channel and create an entrapment pool. The 12 identified entrapment sites with the elevations and discharges that disconnect them from the river channel are shown in Table 120. We also compared the fall Chinook 1D habitat model (Chandler et al. 2001a) with the 12 identified sites to see whether modeled habitat patches were located at entrapment pool sites. This information ("yes" or "no" to whether entrapment pool sites were modeled as fall Chinook juvenile habitat) is listed in Table 120. A time series analysis for the rearing period of March 15 though June 15 was conducted for each of the 11 requested operational scenarios at the 12 entrapment pool sites. Using the MIKE 11 1D flow model for each operational scenario, we developed 11 hourly hydrographs (two entrapment sites were adjacent and shared one hydrograph) that were site specific to each entrapment pool location. At each entrapment pool location, we compared hourly flow values from the site-specific hydrograph to the "entrapment flow" (determined from surveyed control point elevation). Results from this analysis were stratified by month and include number of entrapment events, as well as the minimum,

maximum, and median number of hours that the entrapment pool was disconnected from the river. Often some pools were disconnected from the river at a flow that was not reached again during the remainder of the fall Chinook rearing period. Many of the entrapment events were of short durations, and pools were reconnected with the river channel within 24 hours. For these entrapment events that were less than 24 hours, we calculated the percentage of time that the duration was under darkness and daylight hours. Daylight hours were modeled as 7:00 am to 7:00 pm during March, 7:00 am to 8:00 pm during April, and 6:00 am to 9:00 pm for May and June.

2.4.2. Results

We analyzed 12 sites in the upper HC reach that were located between RM 242.0 (Battle Creek) and RM 191.7 (Imnaha River) (Table 120). Entrapment pools were formed at these sites between 4954 and 30,146 cfs (Table 120). Two of the sites formed entrapment pools at flows less than the minimum flow (6500 cfs) restriction in IPC's proposed operations. Over half (7) of the sites formed entrapment pools at flows greater than 20 kcfs, with the remaining 3 sites forming pools at flows between 8 and 16 kcfs (Table 120). Four of the 12 sites did not overlap with predicted age-0 fall Chinook habitat from the 1D habitat model detailed in Chandler et al. (2001a). Two of these sites—Saddle Creek and Hat Creek—formed entrapment pools at flows greater than 20 kcfs and were located on cobble bars that, when submersed in water, likely resulted in mean column water velocities higher than the range of 0 to 0.4 m/s determined to be suitable by Tiffan et al. (2001, 2002). The site at RM 220.1 (Yankee Bar) was not modeled as suitable fall Chinook juvenile habitat because its shoreline gradient is higher than the range of 0% to 40% determined suitable by Tiffan et al. (2001, 2002). The flow that entraps this pool (4954 cfs) is considerably less than the minimum flow of 6500 cfs under proposed operations. The fourth site not modeled as habitat under the 1D habitat model is the site located at the mouth of the Imnaha River. This site entraps fish at a flow of 15,762 cfs and was likely not included in the habitat model because of its substrate size along the pool/river channel boundary (substrate less than small boulder was rated as suitable in the 1D habitat model). Very large boulders line this boundary, which also made surveying this boundary for an entrapment elevation difficult. This pool likely stays connected through the large boulder pool/river boundary at flows less than the 15,762 cfs determined in this analysis. The remaining 8 sites are located in areas modeled as suitable habitat for age-0 fall Chinook (Table 120).

Operational Scenario 1A resulted in three sites forming entrapment pools during the extreme low flow year of 1992. These sites had the three lowest entrapment flows ranging from 4954 to 8107 cfs and resulted in 1 or 2 events during the modeled rearing period. Duration of entrapment events ranged between 23 and 333 hours (Table 121). Entrapment events lasting less than 24 hours were under darkness 35% of the time and under daylight 65% of the time. This scenario modeled under the medium flow year resulted in seven sites forming entrapment pools, with a mean of 3.4 events per site (Table 122).

Entrapment flows for these sites ranged from 4954 to 30,146 cfs. The median duration of entrapment events by month ranged between 25 and 831 hours (Table 121). There were 2 events during the medium flow year with durations less than 24 hours; the percentage of duration under darkness (41% to 43%) and daylight (57%–59%) hours was nearly equal. One site, RM 222.8, was affected by Operational Scenario 1A modeled under the extreme high flow year of 1997. This site, with an entrapment flow of 30,146 cfs, had 2 events during May that ranged in duration from 22 to 49 hours. There was an equal duration of darkness and daylight for the event lasting less than 24 hours.

Operational Scenario 1B resulted in three sites forming entrapment pools during the extreme low flow year of 1992. These sites had entrapment flows of 4954, 5500, and 13,694 cfs and resulted in 1 or 2 events during the modeled rearing period. Duration of entrapment events ranged between 23 and 2167 hours (Table 123). Entrapment events lasting less than 24 hours were under darkness 35% of the time and under daylight 65% of the time. Scenario 1B modeled under the medium flow year resulted in seven sites forming entrapment pools, with a mean of 8.9 events per site (Table 122). Entrapment flows for these sites ranged from 20,438 to 30,146 cfs. The median duration of entrapment events by month ranged between 4 and 665 hours (Table 123). Across all seven sites, 28 of the 62 total events had durations less than 24 hours. The median percentage of time that these events were under darkness ranged between 33% and 100%. One site, RM 222.8, was affected by Operational Scenario 1B modeled under the extreme high flow year of 1997. This site, with an entrapment flow of 30,146 cfs, had 4 events during May ranging in duration from 3 to 27 hours (median = 7.5 hours). There was a nearly equal duration of darkness (57%) and daylight (43%) for the 3 events lasting less than 24 hours.

Operational Scenario 1C resulted in 5 of the 12 sites forming entrapment pools during the extreme low flow year of 1992. These sites had entrapment flows between 4954 and 15,762 cfs and averaged 3.6 entrapment events per site during the modeled rearing period. Duration of entrapment events ranged between 16 and 2163 hours (Table 124). Entrapment events lasting less than 24 hours occurred during the darkness a median of 35% to 71% of the time (Table 124). Operational Scenario 1C modeled under the medium flow year resulted in 8 of the sites forming entrapment pools, with a mean of 31.1 events per site during the rearing period (Table 122). Entrapment flows for these sites range from 15,762 to 30,146 cfs. The median duration of entrapment events by month ranged between 2 and 45 hours (Table 124). Across all 8 sites, 209 of the 249 total events lasted less than 24 hours. The median percentage of time that these events were under darkness ranged between 14% and 91%. One site, RM 222.8, was affected by Operational Scenario 1C modeled under the extreme high flow year of 1997. This site, with an entrapment flow of 30,146 cfs, had 5 events during May ranging in duration from 4 to 11 hours (median = 8 hours). There was a nearly equal duration of darkness (55%) and daylight (45%) for the 5 events with durations less than 24 hours.

Three of the 12 sites formed entrapment pools under Operational Scenario 1D modeled during the extreme low flow year of 1992. These sites, with entrapment flows of 4954, 5500, and 13,694 cfs, had between 1 and 2 events during the modeled rearing period. Duration of entrapment events ranged between 23 and 2167 hours (Table 125). Entrapment events lasting less than 24 hours were under darkness 35% of the time and under daylight 65% of the time. The medium flow year modeled under Operational Scenario 1D resulted in 7 sites forming entrapment pools, with a mean of 8.4 events per site during the rearing period (Table 122). Entrapment flows for these sites ranged from 20,438 to 30,146 cfs. The median duration of entrapment events by month ranged between 4 and 665 hours (Table 125). Across all 7 sites, 32 of the 59 total events had durations less than 24 hours. The median percentage of time that these events were under darkness ranged between 25% and 100%. One site, RM 222.8, was affected by Operational Scenario 1D modeled under the extreme high flow year of 1997. This site, with an entrapment flow of 30,146 cfs, had 4 events during May ranging in duration from 3 to 27 hours (median = 7.5 hours). There was a nearly equal duration of darkness (55%) and daylight (45%) for the 5 events lasting less than 24 hours.

Operational Scenario 1E resulted in 5 of the 12 sites forming entrapment pools during the extreme low flow year of 1992. These sites had entrapment flows ranging from 4954 to 13,694 cfs and resulted in a mean of 3.1 entrapment events per site during the modeled rearing period. Duration of entrapment events ranged between 16 and 2163 hours (Table 126). Entrapment events lasting less than 24 hours occurred during the darkness a median of 35% to 71% of the time (Table 126). This scenario modeled under the medium flow year resulted in 8 sites forming entrapment pools, with a mean of 31.1 events per site (Table 122). Entrapment flows for these sites range from 15,762 to 30,146 cfs. The median duration of entrapment events by month ranged between 2 and 45 hours (Table 126). Across all 8 sites, 209 of the 249 total events lasted less than 24 hours. The median percentage of time that these events were under darkness ranged between 14% and 91%. One site, RM 222.8, was affected by Operational Scenario 1E modeled under the extreme high flow year of 1997. This site, with an entrapment flow of 30,146 cfs, had 5 events during May ranging from 4 to 11 hours in duration (median = 8 hours). There was a nearly equal duration of darkness (55%) and daylight (45%) for the 5 events lasting less than 24 hours.

Operational Scenario 1F resulted in 4 of the sites forming entrapment pools during the extreme low flow year of 1992. These sites had entrapment flows between 4954 cfs and 13,694 cfs and resulted in 1 or 2 events each during the modeled rearing period. Duration of entrapment events ranged between 23 and 2167 hours (Table 127). Entrapment events lasting less than 24 hours were under darkness 35% of the time and under daylight 65% of the time. Operational Scenario 1F modeled under the medium flow year resulted in 7 of the 12 sites forming entrapment pools, with a mean of 8.9 events per site during the rearing period (Table 122). Entrapment flows for these sites ranged from 20,438 to 30,146 cfs. The median duration of entrapment events by month ranged between 4 and 665 hours (Table 127). Across all

7 sites, 35 of the 62 total events lasted less than 24 hours. The median percentage of time that these events were under darkness ranged between 33% and 100%. One site, RM 222.8, was affected by Operational Scenario 1F modeled under the extreme high flow year of 1997. This site, with an entrapment flow of 30,146 cfs, had 4 events during May ranging in duration from 3 to 27 hours (median = 7.5 hours). There was a nearly equal duration of darkness (57%) and daylight (43%) for the 5 events lasting less than 24 hours.

In the time series analysis, Operational Scenario 2 had the same results as Operational Scenario 1D with two exceptions. On additional site, RM 227.5, resulted in a single entrapment event totaling 333 hours during the extreme low flow year of 1992 (Table 128). The other exception occurred during the extreme high flow year of 1997. Two locations formed entrapment pools under this flow year. The number of entrapment events totaled 2 and 7 for these two sites with durations ranging between 5 and 84 hours (Table 128). The rest of the results from this time series analysis are identical to those from Operational Scenario 1D.

Operational Scenario 3 resulted in half of the 12 sites forming entrapment pools during the extreme low flow year of 1992. These sites, with entrapment flows between 4954 and 20,438 cfs, had a mean of 5.3 events per site during the modeled rearing period. Median duration by month of entrapment events ranged between 20 and 636 hours (Table 129). Entrapment events lasting less than 24 hours occurred during the darkness a median of 53% to 100% of the time (Table 129). Operational Scenario 3 modeled under the medium flow year resulted in 9 of the sites forming entrapment pools, with a mean of 38.8 events per site during the rearing period (Table 122). Entrapment flows for these sites ranged from 13,694 to 30,146 cfs. The median duration of entrapment events by month ranged between 4 and 694 hours (Table 129). Across all 9 sites, 321 of the 349 total events had durations less than 24 hours. The median percentage of time that these events were under darkness ranged between 0% and 100% (Table 129). Three sites were affected by Operational Scenario 3 modeled under the extreme high flow year of 1997. These sites, with entrapment flows between 26,781 and 30,146 cfs, had between 1 and 5 events during May ranging in duration from 4 to 12 hours (Table 129). Except for 1 event for RM 201.9 (daylight = 100%), there was an equal duration of darkness and daylight for events lasting less than 24 hours.

Four of the 12 sites formed entrapment pools under Operational Scenario 4 modeled during the extreme low flow year of 1992. These sites, with entrapment flows between 4954 and 13,694 cfs, had either 1 or 2 events during the modeled rearing period. Duration of entrapment events ranged between 2 and 2167 hours (Table 130). The one entrapment event lasting less than 24 hours occurred during darkness. The medium flow year modeled under Operational Scenario 4 resulted in 7 sites forming entrapment pools, with a mean of 8.9 events per site during the rearing period (Table 122). Entrapment flows for

these sites ranged from 20,438 to 30,146 cfs. The median duration of entrapment events by month ranged between 4 and 665 hours (Table 130). Across all 7 sites, 35 of the 62 total events lasted less than 24 hours. The median percentage of time that these events were under darkness ranged between 33% and 100%. One site, RM 222.8, was affected by Operational Scenario 4 modeled under the extreme high flow year of 1997. This site, with an entrapment flow of 30,146 cfs, had 4 events during May ranging in duration from 3 to 27 hours (median = 7.5 hours). There was a nearly equal duration of darkness (57%) and daylight (43%) for the 5 events lasting less than 24 hours.

Operational Scenario 5 resulted in three sites forming entrapment pools during the extreme low flow year of 1992. These sites, with entrapment flows between 4954 and 8107 cfs, had between 1 and 4 entrapment events per site during the modeled rearing period. Duration of entrapment events ranged between 23 and 572 hours (Table 131). Entrapment events lasting less than 24 hours were under darkness about one-third of the time (35%–38%). Operational Scenario 5 modeled under the medium flow year resulted in seven of the sites forming entrapment pools, with a mean of 3.1 events per site during the rearing period (Table 122). Entrapment flows for these sites ranged from 20,438 to 30,146 cfs. The duration of entrapment events by month ranged between 2 and 555 hours (Table 131). Three events lasted less than 24 hours during the medium flow year. The median percentage of time under darkness ranged between 71% and 100%. No sites formed entrapment pools with Operational Scenario 5 modeled under the extreme high flow year of 1997.

Operational Scenario 6 resulted in half of the 12 sites forming entrapment pools during the extreme low flow year of 1992. These sites, with entrapment flows between 4954 and 20,438 cfs, had a mean of 5 events per site during the modeled rearing period. Median duration by month of entrapment events ranged between 19 and 333 hours (Table 132). The 17 events lasting less than 24 hours during the extreme low flow year had a median percentage of time during darkness ranging between 35% and 69% (Table 132). Operational Scenario 6 modeled under the medium flow year resulted in 9 of the sites forming entrapment pools, with a mean of 44.7 events per site during the rearing period (Table 122). Entrapment flows for these sites ranged from 13,694 to 30,146 cfs. The median duration of entrapment events by month ranged between 3 and 20.5 hours (Table 132). Across all 9 sites, 370 of the 402 total events lasted less than 24 hours. The median percentage of time that these events were under darkness ranged between 0% and 100% (Table 132). Three sites were affected by Operational Scenario 6 modeled under the extreme high flow year of 1997. These sites, with entrapment flows between 26,781 and 30,146 cfs, had between 1 and 5 events during May ranging in duration from 4 to 12 hours (Table 132). Except for 1 event for RM 201.9 (daylight = 100%), there was an equal duration of darkness and daylight for events lasting less than 24 hours.

2.4.3. Discussion

This AIR required IPC to "evaluate the effects of each operational scenario on fish stranding." Given the time constraints of this request, we used a modeling exercise to look at how entrapment pool sites were physically connected to the river channel by water levels resulting from the 11 requested operational scenarios. Using a time series approach, we were able to look at the timing, frequency, and duration of periods when surveyed sites formed entrapment pools. We also overlapped predicted habitat patches on these sites for insight as to whether age-0 fall Chinook could be entrapped. Given the timing of these AIRs and the seasonality of the fall Chinook rearing period, we were unable to conduct field surveys to determine whether age-0 fall Chinook are entrapped in all the identified pool sites. Other information needs include monitoring the length of time that these pool sites drain after being disconnected from the river channel, as well as evaluating the temperature and dissolved oxygen conditions in disconnected pools, size and depth of the pools, and exposure to avian, aquatic, and terrestrial predators. This modeling exercise should be considered the first step in evaluating fish stranding in the HC reach. We believe that analyzing these entrapment pools with respect to water levels predicted for the 11 operational scenarios satisfies this request and plan to continue monitoring these sites beginning in the spring of 2005 to understand how these sites are influenced by continued hydropower operations. This monitoring will include snorkel surveys of entrapment areas; calculation of drain times of pools; recording of temperature and dissolved oxygen conditions in entrapment pools; and further topographic surveys of individual pool sites.

Interpreting the effects of each operational scenario on the 12 entrapment pool sites in the upper HC reach was difficult in the absence of specific field data. Given the time constraints of this AIR, we were able to identify and model areas that form pools, but we did not have field data to verify whether entrapment of age-0 fall Chinook occurs. Four of these entrapment sites are located in areas not rated as suitable habitat by the age-0 fall Chinook habitat model (Chandler et al. 2001a), so fall Chinook may not be entrapped when pools are isolated from the river channel. These sites, located at RM 236.0, RM 235.6, RM 220.1 and RM 191.7, could be considered lower priority when determining operational requirements for entrapment areas. Additionally, two sites (RM 220 and RM 242.0) form entrapment pools at flows less than the minimum flow of 6500 cfs identified by IPC in its proposed operations. These sites could be excluded from consideration since flows under proposed operations would not be low enough to disconnect these sites. Seven remaining sites were located in areas modeled as juvenile habitat and had entrapment flows greater than the proposed operations minimum flow of 6500 cfs. Two of these sites—Fish Trap Bar (RM 216.5) and Pine Bar (RM 227.5)—are locations of known use by age-0 fall Chinook (USFWS unpublished data). The other five locations are located between RM 224.9 and RM 201.9, and while they occur in modeled habitat areas, it is unknown whether age-0 fall Chinook occur in these

locations. We plan to monitor these sites in the spring of 2005 to determine use of these areas and entrapment of fall Chinook in the pools.

The 11 operational scenarios differ mostly in ramping rates, although differences in the timing and amount of Brownlee reservoir storage and minimum flows influence flow levels as well. The 11 scenarios can generally be grouped into four categories with respect to Hells Canyon dam outflows during the modeled juvenile fall Chinook rearing period (March 15–June 15). These four groupings, based on ramping rates, are 1) none, 2) 2 inch/hour, 3) 6 inch/hour, and 4) 1 foot/hour. Scenarios with a 2-inch/hour ramping rate include 1B, 1D, 1F, 2, and 4. Scenarios with a 6-inch/hour ramping rate are 1C and 1E. Operational scenarios with a ramping rate of 1 foot/hour were 3 and 6. Operational scenarios with no ramping rate, essentially run-of-river (RoR) conditions, were 1A and 5. Minimum flows for all but the last two weeks of the modeled rearing period were based on the fall Chinook flow program, which were at least 8500 cfs during low flow years and up to 12,000 cfs under high flow years. The minimum flow for the remaining two weeks of the modeled rearing period was 6500 cfs, except in Operational Scenarios 3 and 4 where it was 8500 cfs.

This modeling exercise did not lend itself to determining how these entrapment areas affected the survival of age-0 fall Chinook or whether the timing, frequency, and duration of entrapment events impacted the fall Chinook population in Hells Canyon. All we could interpret from this analysis was how operational scenarios affected the connectivity of entrapment pool sites to the river channel.

The two operational scenarios modeled with no ramping rate (RoR flows in 1A and 5) had few entrapment events for each site although the events had long durations. Pools were typically disconnected from the river channel when flows receded seasonally and were not reconnected again during the modeled period. Only between 1 and 3 events lasted less than 24 hours under each scenario for all 12 sites and across all years. These two operational scenarios had the least effect on connectivity of the entrapment pool sites.

Five operational scenarios were modeled with a 2-inch/hour ramping rate. These scenarios either had this ramping rate for the entire modeled period or for all but the last two weeks of the modeled period. Generally, these scenarios influenced only one or two sites (RM 227.5 and RM 224.9) with entrapment flows above the proposed minimum flow of 6500 cfs. The other two sites were influenced only because of the extremely low flow conditions of 1992. Most of the impact to the entrapment sites under these scenarios occurred during the medium flow year of 1995. These scenarios generally caused a greater number of events at each of the sites. The average number of entrapment events per site was between 8 and 9 for the entire 3-month modeled period. Typically, half of these events lasted less than 24 hours, meaning that pools were reconnected with the river channel within 24 hours of entrapment. Except in

Operational Scenario 2, only one site was influenced by these scenarios during the extreme high flow year of 1997. Based on the number of events per site and proportion of events with durations less than 24 hours, these five operational scenarios would have minimal effect on the connectivity of entrapment pool sites.

Two operational scenarios were modeled with a 6-inch/hour ramping rate (1C and 1E). Operational Scenario 1C incorporated a 6-inch/hour ramping rate during the entire modeled rearing period, while Operational Scenario 1E incorporated it for all but the last two weeks of the modeled rearing period. These scenarios under the 6-inch/hour ramping rates disconnected more sites from the river channel than the 2-inch/hour scenarios did and resulted in a higher mean number of events per site. As with the previous two groups of scenarios, scenario effects on the connection of entrapment sites to the river channel during the extreme low flow year of 1992 were minimal, while the medium flow year of 1995 showed the greatest effects of flows on the connection of sites to the river channel. The mean number of events per site was three to four times higher for both 1992 and 1995 for this grouping of scenarios than for the 2-inch/hour grouping. Of all the events for the entrapment sites disconnected under these scenarios, 84% of them lasted less than 24 hours. The remaining 16% of the events had high-duration periods, with some events lasting up to 428 hours. These two scenarios, characterized by 6-inch/hour ramping rates, resulted in a greater degree of influence on the connectivity of entrapment sites than the previous two scenario groupings did.

The fourth grouping of operational scenarios, characterized by 1-foot/hour ramping rates, included Operational Scenarios 3 and 6. Across all flow years, these two scenarios disconnected the most entrapment pool sites from the river channel. The mean number of events per site was also the highest for these two scenarios. For all sites modeled during the medium flow year of 1995, there were 349 and 402 entrapment events under these two scenarios, with 92% of them lasting less than 24 hours. In the remaining 8% of the events, durations of entrapment were as high as 659 hours. These two scenarios resulted in the greatest effect on the connectivity of entrapment sites to the river channel.

Overall, there was a continuum of effects on connectivity to entrapment sites by the operational scenarios with lower ramping rates resulting in lower numbers of entrapment events. However, fewer entrapment events were also associated with longer durations of entrapment. Scenarios with a high number of entrapment events also had a high percentage of events that were short in duration, meaning that most pools were reconnected within 24 hours. At this point, the relationship between entrapment events/durations and the degree of entrapment/survival of age-0 fall Chinook is unknown. It is important to note that, while ramping rate was the parameter used to group the operational scenarios, the actual rates of ramping (i.e., 2 inches, 6 inches and 1 foot) do not dictate the number of entrapment events.

Maximum (and minimum) daily outflows from power plants are typically dictated by ramping rates. More restrictive ramping rates result in a smaller range between minimum and maximum daily outflows. For example, ramping water levels at a rate of 1 foot/hour will result in a higher peak outflow during the day than a more restrictive rate of 2 inches/hour. Many of the entrapment sites become disconnected at flows greater than 20 kcfs and were influenced more frequently under the higher outflows reached under ramping rates of 6 inches and 1 foot/hour, because those rates allowed outflows up to and in excess of 20 kcfs. Consequently, entrapment events do not occur because water levels recede at a faster rate; rather, they occur because many of the entrapment pools disconnect from the river channel where higher flows can occur.

3. AGENCY CONSULTATION

3.1. Initial Agency Consultation

As requested in OP-1(f)(iv), IPC conducted a meeting to consult with representatives from Oregon Department of Fish and Wildlife (ODFW), Idaho Department of Fish and Game (IDFG), NOAA Fisheries, and the United States Fish and Wildlife Service (USFWS) on September 22, 2005. IPC presented a conceptual approach to evaluate effects of the eleven requested operational scenarios on fish stranding in the upper HC Reach. IPC presented how stranding pools were identified, surveyed, and assigned a flow that disconnected them from the river channel. IPC also presented a sample of how data would be presented in the final AIR.

3.2. Agency Comments on Final AIR

Appendix A includes copies of cover letters submitted to required agencies (listed in OP-1) following completion of a draft of this AIR. It also includes comments received back from ODFW (received January 19, 2005) and NOAA Fisheries (received January 20, 2005).

IPC Response to ODFW Comment Letter—

IPC appreciates ODFW's comments on the draft response to AIR OP-1(f). ODFW states in their comments that they do not consider requests for review and comment of AIR reports to be "consultation". However, IPC has consulted with agencies, tribes, and others (including ODFW) consistent with the guidelines outlined by FERC in its May 4, 2004 request for additional information. IPC appreciates ODFW's support of additional monitoring proposed to gather further information on how entrapment pools formed in the upper HC Reach affect juvenile fall chinook salmon. IPC plans to initiate additional

monitoring studies during the spring of 2005. ODFW states in their comments that they disagree with some of the assumptions and numbers referenced by IPC in determining best survival estimates for salmonid smolts migrating from tributaries above the Hells Canyon Complex. However, IPC cannot address these comments because ODFW does not state which assumptions or numbers they are in disagreement with. IPC considers data, such as that requested by ODFW their comments, to be proprietary. This information was not requested from the FERC this report was drafted to be responsive to the specific request received from the FERC within the allowed time frame. However, if ODFW has specific questions regarding the data or analysis related to the data, IPC welcomes the opportunity to discuss them with ODFW.

IPC Response to NOAA Fisheries Comment Letter—

IPC's responses are numbered to correspond with numbered comments presented in the NOAA Fisheries letter.

1. IPC appreciates NOAA Fisheries review of this AIR and would welcome further discussion with NOAA Fisheries to assure the best information is used relative to assumptions presented in this analysis and to further clarify what appears to be some minor misunderstandings on the part of NOAA Fisheries in our approach to this analysis.

2. IPC does not dispute that survival of Snake River fall chinook salmon migrating in the Snake River below Hells Canyon Dam is related to environmental factors experienced by these migrants. However, NOAA Fisheries fails to emphasize in their comments, that it is the environmental conditions prevalent in Lower Granite Reservoir that influences the survival. As demonstrated by NOAA Fisheries comment later, the free-flowing section upstream of Lower Granite Reservoir has very high survival. IPC also does not dispute that larger individuals and earlier migrating individuals have better survival migrating through Lower Granite Reservoir.

It is the position of IPC that the purpose of a temperature control structure in Brownlee Reservoir would only be to mitigate for the poor survival conditions caused by migrating through Lower Granite Reservoir and not because of any impacts associated with the Hells Canyon Complex. The Hells Canyon Complex has accelerated emergence timing relative to what it was historically in this reach, and brought it very close to what is was historically in the Marsing Reach (above the Hells Canyon Complex). However, the main difference is fish produced below Hells Canyon today not only emerge approximately the same time as the Marsing Reach, but have between 350 to 500 km less distance to migrate. Fall chinook migration conditions and survival would be better today were it not for passing through Lower Granite Reservoir. Growth of juvenile fall chinook salmon below Hells Canyon Dam today is also very comparable to what

has been estimated to be in the Marsing Reach, and exhibits rapid growth relative to other present-day stocks of fall chinook salmon (Connor et al. 2003).

NOAA Fisheries assertion that survival rates of fall chinook originating upstream of the HCC would tend to survive at higher rates than those observed for migrants at present is unclear and seems to be unfounded. Survival of fall chinook salmon today if they were migrating from the Marsing Reach, with Brownlee Reservoir in place would only be at a reduced rate relative to migrants below the Hells Canyon Complex, even if capture and transport could be accomplished at the upper end of Brownlee Reservoir. Passage associated with the complex will reduce survival. If NOAA's statement were made under the assumption that the Hells Canyon Complex was not in place, survival rates may be comparable, but overall survival to the Lower Granite tailrace will be lower than observed present-day because of a greater distance to migrate and the same conditions encountered in Lower Granite Reservoir that fish face today.

3. The estimate that IPC used was based on the adult returns present immediately before the construction of the Hells Canyon Complex. NOAA fisheries places emphasis on the 115 miles of free-flowing habitat upstream of the HCC, but does not acknowledge that only the top 10 miles of this reach was producing fall chinook salmon prior to construction of the HCC. There is evidence that in a pre-development context (pre-1900) that spawning also occurred in other areas within this115 miles, but for reasons not fully understood they were not used appreciably in the 1950's. Several large tributaries to the Snake River such as the Boise, Owyhee, Payette, and Weiser rivers influence much of this 115-mile reach. It is unclear how development in these basins may have influenced the production potential of the mainstem, in addition to the direct impacts from land-uses and development associated with the mainstem Snake River. It is the belief of IPC that NOAA fisheries is overly optimistic in their expectation of production for this reach. It continues to be the hope of IPC that TMDL's when fully implemented throughout the Snake River basin will improve the quality of the river. We agree that it is a basin-wide problem. However, the ability and timeline of full implementation of these TMDL's and the ability of the river to recover continues to be uncertain.

The Hanford Reach of the Columbia is a much larger river and does not have near the habitat degradation associated with it as does the Snake River in the reach above Brownlee Reservoir. It is very likely that neither fry-to-smolt nor egg-to-fry survivals are comparable between these two reaches. IPC agrees with NOAA fisheries assertion that it is the number of adults that would likely limit future production in the reach upstream of Brownlee (if IPC understands the assertion correctly). IPC believes that the ability to return sufficient adults to maintain production is what will limit future potential. However, the inability to return adults starts within the reach itself in terms of low incubation survival because of poor habitat quality. IPC believes it is the habitat conditions leading to poor incubation and outmigration survival, along with conditions currently limiting fall chinook adult-returns downstream of the HCC, that will limit

the ability of smolts to survive sufficiently to return enough adults to sustain any production level, whether it is 1.8 million or 18 million smolts produced.

4. NOAA Fisheries suggests using a survival rate of 0.998676325/km to represent free-flowing sections, which equates to an approximate survival of 0.89 over the 85 km reach between Pittsburg Landing and Billy Creek [(1-0.99867) x 85 km = 0.1125; $S=e^{-0.1125}$ =0.89]. Later in the comment, NOAA Fisheries suggests using 0.9994 / km as the best estimate to represent the survival in the free-flowing reach. There is some confusion on the part of NOAA Fisheries, because we did in fact use the 0.9994 estimate to represent the free-flowing environment to re-calculate what survival might be under a free-flowing condition to the top of Lower Granite Reservoir under a no-HCC project scenario. We also used this estimate to re-calculate what survival to Lower Granite Tailrace might be if Operation Scenario 5 would allow survival through Brownlee to be comparable to a free-flowing environment. This is discussed in section **2.1.3.4. Best Estimate**. Meeting with NOAA Fisheries, as suggested would help clarify our analysis.

Again, IPC does not dispute the idea that migration at a larger size or an earlier migration would lead to higher smolt survival through Lower Granite Reservoir, or any reservoir for that matter. NOAA fisheries suggestion that a temperature control structure in Brownlee Reservoir would allow sufficient warming in early/spring and late/winter to increase survival for fall chinook salmon is an idea that will be discussed and analyzed in detail in the near future. However, as discussed above, the purpose for such a measure is to compensate for delays associated with passing through Lower Granite Reservoir – an impact that is not associated with the construction or operation of the HCC.

5. The comment in section 5 again shows some confusion on the part of NOAA Fisheries in the approach of the IPC analysis and needs some clarification. NOAA Fisheries concludes that based on the new survival rate (free-flowing reaches) that the LGR survival would be 0.763 rather than 0.81. The second paragraph of section 2.3.2.3 of the AIR explains what our estimate of reservoir survival reaches would be based on our approach.

In our original analysis presented in Technical Report E.3.1-2 chapter 11 of the HCC Final License Application, we needed to obtain estimates for free-flowing reaches and reservoir reaches. We had estimates of survival for a reach of river that contained both free-flowing and reservoir habitats (Pittsburg Landing (PL) to Lower Granite Tailrace (LGRT)). This estimate was 0.65. There was not an independent estimate of survival in just the free-flowing reach or just the reservoir. In order to segregate these estimates, we use a survival rate of 0.81 associated with an estimate from Little Goose Reservoir (downstream of Lower Granite) because it only included reservoir habitat. We used the 0.81 as a reservoir estimate and from that calculated that the free-flowing reach would be 0.8 in order to obtain an

overall estimate of 0.65 [free-flowing x 0.81 = 0.65; therefore free-flowing =0.8] These then provided the basis for our analysis.

However, as stated in section **2.3.2.3 New Survival Analysis** – following discussion with NOAA Fisheries after filing the HCC FLA, we obtained an estimate for just the free-flowing reach (0.95 over 85 km). This leads to a calculation as explained in the section 2.3.2.3 to a survival of 0.93 over 121 km of river from PL to LGRT. If we still use the overall survival of 0.65 to represent the survival between PL and LGRT, then this necessitates that survival in the reservoir would equal (0.65/0.93 = 0.7). This became the basis of survival for reservoir sections (except Brownlee Reservoir). It is unlcear how NOAA Fisheries derived 0.763. These are details that could be cleared up with an opportunity to discuss further.

Regardless of the above confusion, IPC does agree with NOAA fisheries that the survival calculated for Lower Granite should be used for the first reservoir encountered, and that other lower Snake River projects (like Little Goose) should be used to represent a more mature migrating smolt – for example if smolts were migrating through Oxbow and Hells Canyon or Lower Granite – after the initial rearing in Brownlee. IPC recalculated the estimates of survival for fall chinook salmon to the LGRT using this premise and added this to Table 118 presented in the AIR Report to demonstrate the new estimates (3A-new, and 5A-new – below). These assumptions increase the survival estimate to Lower Granite Reservoir Tailrace by approximately 10%. These assumptions however, do not change the basic conclusion that high SAR's and good habitat conditions to reduce the required escapement are needed to support a self-sustaining population. This analysis also does not change IPC's best estimate presented in the AIR as using the average of the 1964 draft survival (0.42) and a free-flowing survival assumption through Brownlee (0.95), which equals 0.685. IPC is still of the opinion that this survival estimate is optimistic based on the reasons presented in the AIR.

6. IPC apologizes for the confusion on page 12. IPC was not suggesting that all inflows would have to be passed via the spillway. The point IPC was suggesting is that because the reservoir would be held at minimum operating pool and passing inflow under Operation Scenario 5, that in most years, there would be much more spill associated with the projects than under current operations as inflow exceeded the capacity of the power houses at Brownlee. The operation of the complex today is to minimize spill, which is largely accomplished through the flood control operations at Brownlee under present operations.

7. IPC acknowledges NOAA Fisheries support for the modeling exercise conducted on the entrapment pool sites for this report as well as IPC's plans for continued monitoring of these sites initiating in spring 2005. The FERC did not request IPC to analyze stranding sites under the proposed operational scenario. Given the time frame for this AIR request, this report is responsive only to analysis requested by the FERC in OP-1(f). However, IPC believes that the proposed operations scenarios would result in similar

results to those reported for operational scenarios 3 and 6. Results presented in this report suggested that the operational scenarios could be divided into groups based on ramping rate limitations. Proposed operations, with a ramping rate of 1 foot/hour, would therefore be grouped with operational scenarios 3 and 6. IPC would be willing to discuss this issue further with NOAA Fisheries if further questions arise after the monitoring proposed for spring 2005 is completed.

8. The modeling exercise presented in this report is the initial step in a phased approach to evaluate potential impacts to juvenile fall chinook salmon when entrapment pool sites are disconnected from the river channel. While some of these sites are located in areas not modeled as juvenile fall chinook rearing areas, IPC believes it is premature to prioritize any of the entrapment sites identified in this report. Monitoring planned during the spring of 2005 will provide information that will allow the prioritization of these sites and will help to answer NOAA Fisheries question in this comment.

9. While IPC did collect some data during the November 2003 survey of the entrapment pool sites, more detailed topographic surveys are planned for 2005 that will enable IPC to answer the question NOAA Fisheries poses in this comment. IPC believes that further monitoring of these sites is needed before potential impacts to fall chinook juveniles from changes in flows at these entrapment sites can be assessed.

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APPENDIX A – AGENCY CONSULTATION

Appendix A contains copies of letters sent to the following entities requesting comments on the draft report of AIR OP-1(f): NOAA Fisheries, U.S. Fish and Wildlife Service (FWS), U.S. Forest Service (FS), U.S. Bureau of Land Management (BLM), Idaho Department of Fish and Game (IDFG), Idaho Department of Environmental Quality (IDEQ), Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Environmental Quality (ODEQ) Columbia River Inter-Tribal Fish Commission (CRITFC), Nez Perce Tribe (NPT), Shoshone-Bannock Tribes (SBT), Shoshone-Paiute Tribes of the Duck Valley Indian Reservation (SPT), Burns Paiute Tribe (BPT), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), and the Confederated Tribes of Warm Springs (CTWS).

Appendix A also includes letters from ODFW and NOAA Fisheries providing comments on the draft report of AIR OP-1(f).

Table 1. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1A modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.06	2074.48	2074.16	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.05	2074.83	2074.05	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.05	2075.16	2074.00	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.05	2075.41	2073.93	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.06	2075.69	2073.86	2071.91	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.06	2075.80	2073.78	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.06	2075.92	2073.70	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.06	2075.92	2073.62	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.06	2075.90	2073.53	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.05	2075.83	2073.44	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.06	2075.72	2073.36	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.05	2075.62	2073.27	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.06	2075.54	2073.21	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.06	2075.51	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2072.37	2075.45	2073.09	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2072.67	2075.34	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2072.99	2075.30	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.45	2075.16	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.68	2075.07	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.85	2075.04	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2074.04	2074.92	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2074.04	2074.85	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2074.04	2074.75	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2074.05	2074.68	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2074.05	2074.63	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2074.05	2074.59	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2074.05	2074.52	2072.15	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2074.06	2074.47	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2074.11	2074.44	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48	2074.19	2074.32	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.05		2074.22	2072.02		2066.22		2075.96

Table 2. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1B modeled under the extreme low flow year of 1992 (January 1 through December 31)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.06	2074.48	2074.16	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.05	2074.83	2074.05	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.05	2075.16	2074.00	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.05	2075.41	2073.93	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.06	2075.69	2073.86	2071.91	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.06	2075.80	2073.78	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.06	2075.92	2073.70	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.06	2075.92	2073.62	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.06	2075.90	2073.53	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.05	2075.83	2073.44	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.06	2075.72	2073.36	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.05	2075.62	2073.27	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.06	2075.54	2073.21	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.06	2075.51	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2072.37	2075.45	2073.09	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2072.67	2075.34	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2072.99	2075.30	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.45	2075.16	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.68	2075.07	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.85	2075.04	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2074.04	2074.92	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2074.04	2074.85	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2074.04	2074.75	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2074.05	2074.68	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2074.05	2074.63	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2074.05	2074.59	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2074.05	2074.52	2072.15	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2074.06	2074.47	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2074.11	2074.44	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48	2074.19	2074.32	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.05		2074.22	2072.02		2066.22		2075.96

Table 3. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1C modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.06	2074.48	2074.16	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.05	2074.83	2074.05	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.05	2075.16	2074.00	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.05	2075.41	2073.93	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.06	2075.69	2073.86	2071.91	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.06	2075.80	2073.78	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.06	2075.92	2073.70	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.06	2075.92	2073.62	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.06	2075.90	2073.53	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.05	2075.83	2073.44	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.06	2075.72	2073.36	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.05	2075.62	2073.27	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.06	2075.54	2073.21	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.06	2075.51	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2072.37	2075.45	2073.09	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2072.67	2075.34	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2072.99	2075.30	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.45	2075.16	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.68	2075.07	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.85	2075.04	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2074.04	2074.92	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2074.04	2074.85	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2074.04	2074.75	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2074.05	2074.68	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2074.05	2074.63	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2074.05	2074.59	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2074.05	2074.52	2072.15	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2074.06	2074.47	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2074.11	2074.44	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48	2074.19	2074.32	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.05		2074.22	2072.02		2066.22		2075.96

Table 4. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1D modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.06	2074.48	2074.16	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.05	2074.83	2074.05	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.05	2075.16	2074.00	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.05	2075.41	2073.93	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.06	2075.69	2073.86	2071.91	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.06	2075.80	2073.78	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.06	2075.92	2073.70	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.06	2075.92	2073.62	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.06	2075.90	2073.53	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.05	2075.83	2073.44	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.06	2075.72	2073.36	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.05	2075.62	2073.27	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.06	2075.54	2073.21	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.06	2075.51	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2072.37	2075.45	2073.09	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2072.67	2075.34	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2072.99	2075.30	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.45	2075.16	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.68	2075.07	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.85	2075.04	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2074.04	2074.92	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2074.04	2074.85	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2074.04	2074.75	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2074.05	2074.68	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2074.05	2074.63	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2074.05	2074.59	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2074.05	2074.52	2072.15	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2074.06	2074.47	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2074.11	2074.44	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48	2074.19	2074.32	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.05		2074.22	2072.02		2066.22		2075.96

Table 5. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1E modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.06	2074.19	2074.16	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.05	2074.48	2074.05	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.05	2074.83	2074.00	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.05	2075.16	2073.93	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.06	2075.41	2073.86	2071.91	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.06	2075.69	2073.78	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.06	2075.80	2073.70	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.06	2075.92	2073.62	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.06	2075.92	2073.53	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.05	2075.90	2073.44	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.06	2075.83	2073.36	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.05	2075.72	2073.27	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.06	2075.62	2073.21	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.06	2075.54	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2072.37	2075.51	2073.09	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2072.67	2075.45	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2072.99	2075.34	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.45	2075.30	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.68	2075.16	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.85	2075.07	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2074.04	2075.04	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2074.04	2074.92	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2074.04	2074.85	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2074.05	2074.75	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2074.05	2074.68	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2074.05	2074.63	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2074.05	2074.59	2072.15	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2074.06	2074.52	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2074.11	2074.47	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48		2074.44	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.05		2074.32	2072.02		2066.22		2075.96

Table 6. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1F modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.06	2074.48	2074.16	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.05	2074.83	2074.05	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.05	2075.16	2074.00	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.05	2075.41	2073.93	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.06	2075.69	2073.86	2071.91	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.06	2075.80	2073.78	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.06	2075.92	2073.70	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.06	2075.92	2073.62	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.06	2075.90	2073.53	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.05	2075.83	2073.44	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.06	2075.72	2073.36	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.05	2075.62	2073.27	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.06	2075.54	2073.21	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.06	2075.51	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2072.37	2075.45	2073.09	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2072.67	2075.34	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2072.99	2075.30	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.45	2075.16	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.68	2075.07	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.85	2075.04	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2074.04	2074.92	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2074.04	2074.85	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2074.04	2074.75	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2074.05	2074.68	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2074.05	2074.63	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2074.05	2074.59	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2074.05	2074.52	2072.15	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2074.06	2074.47	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2074.11	2074.44	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48	2074.19	2074.32	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.05		2074.22	2072.02		2066.22		2075.96

Table 7. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 2 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.06	2070.12	2049.32	2048.79	2051.97	2060.23	2066.95
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.05	2069.76	2049.18	2048.79	2052.26	2060.63	2067.15
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.05	2069.22	2049.13	2048.79	2052.36	2061.04	2067.34
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.05	2068.61	2049.10	2048.79	2052.49	2061.41	2067.48
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.06	2068.06	2049.07	2048.77	2052.65	2061.70	2067.64
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.06	2067.39	2049.05	2048.76	2052.80	2061.94	2067.63
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.06	2066.76	2049.02	2048.81	2053.06	2062.17	2067.86
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.06	2066.03	2049.01	2048.83	2053.29	2062.43	2068.31
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.06	2065.28	2048.98	2048.87	2053.67	2062.49	2068.56
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.05	2064.49	2048.96	2048.99	2053.97	2062.75	2068.74
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.06	2063.68	2048.95	2049.00	2054.36	2063.03	2069.11
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.05	2062.87	2048.92	2049.06	2054.71	2063.23	2069.59
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.06	2062.09	2048.92	2049.09	2055.08	2063.50	2069.89
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.06	2061.36	2048.91	2049.18	2055.53	2063.70	2070.19
15	2075.93	2075.90	2075.94	2075.58	2075.47	2072.37	2060.60	2048.91	2049.35	2055.92	2063.87	2070.59
16	2075.89	2075.99	2075.93	2075.69	2075.33	2072.67	2059.80	2048.89	2049.53	2056.34	2064.03	2070.98
17	2075.93	2075.96	2075.92	2075.75	2075.23	2072.99	2059.06	2048.89	2049.68	2056.74	2064.27	2071.23
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.45	2058.21	2048.89	2049.82	2057.16	2064.54	2071.48
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.68	2057.42	2048.87	2049.87	2057.65	2064.76	2071.91
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.85	2056.70	2048.87	2050.04	2057.70	2065.00	2072.31
21	2075.98	2075.54	2075.95	2075.95	2074.87	2074.04	2055.88	2048.87	2050.28	2057.75	2065.30	2072.86
22	2075.97	2075.80	2075.95	2075.95	2074.72	2073.94	2055.11	2048.87	2050.29	2057.89	2065.49	2073.28
23	2075.95	2076.16	2075.95	2075.96	2074.54	2073.78	2054.32	2048.80	2050.40	2058.00	2065.63	2073.67
24	2075.94	2076.23	2075.95	2075.95	2074.32	2073.47	2053.56	2048.79	2050.51	2058.08	2065.92	2074.04
25	2075.92	2076.25	2075.96	2075.94	2074.15	2073.02	2052.83	2048.79	2050.63	2058.28	2066.16	2074.42
26	2075.87	2076.16	2075.96	2075.96	2073.91	2072.55	2052.09	2048.79	2050.78	2058.52	2066.31	2074.85
27	2075.86	2075.94	2075.96	2075.96	2073.60	2072.03	2051.32	2048.79	2050.98	2058.71	2066.42	2075.26
28	2075.82	2075.94	2075.95	2075.96	2073.28	2071.60	2050.58	2048.79	2051.29	2058.89	2066.47	2075.56
29	2075.87	2075.94	2075.96	2075.94	2072.94	2071.09	2050.13	2048.79	2051.46	2059.12	2066.66	2075.78
30	2075.96		2075.96	2075.86	2072.48	2070.52	2049.73	2048.79	2051.72	2059.36	2066.79	2075.82
31	2075.96		2075.96		2072.05		2049.46	2048.79		2059.80		2075.96

Table 8. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 3 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.48	2073.64	2073.71	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.54	2073.77	2073.70	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.56	2073.83	2073.71	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.56	2073.84	2073.72	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.55	2073.97	2073.70	2071.92	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.56	2073.93	2073.68	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.56	2073.91	2073.63	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.60	2073.83	2073.58	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.63	2073.77	2073.50	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.67	2073.72	2073.42	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.67	2073.68	2073.35	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.77	2073.68	2073.26	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.91	2073.70	2073.20	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.94	2073.72	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2073.18	2073.71	2073.08	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2073.31	2073.66	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2073.36	2073.68	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.55	2073.65	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.50	2073.66	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.41	2073.72	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2073.43	2073.69	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2073.33	2073.71	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2073.28	2073.73	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2073.23	2073.75	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2073.15	2073.78	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2073.18	2073.79	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2073.22	2073.77	2072.16	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2073.32	2073.76	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2073.41	2073.76	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48	2073.47	2073.70	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.50		2073.67	2072.02		2066.22		2075.96

Table 9. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 4 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2075.94	2075.99	2075.94	2075.96	2075.94	2072.48	2073.68	2073.75	2072.00	2067.61	2066.63	2073.03
2	2075.91	2075.99	2075.93	2075.96	2075.97	2072.54	2073.81	2073.74	2071.99	2067.52	2066.99	2073.23
3	2075.99	2075.99	2075.94	2075.95	2076.01	2072.56	2073.87	2073.75	2071.99	2067.26	2067.38	2073.41
4	2075.95	2075.96	2075.94	2075.91	2076.02	2072.56	2073.89	2073.76	2071.99	2067.05	2067.72	2073.56
5	2075.89	2076.02	2075.94	2075.91	2075.91	2072.55	2074.01	2073.74	2071.92	2066.83	2067.99	2073.70
6	2075.93	2076.06	2075.94	2075.96	2076.00	2072.56	2073.97	2073.70	2071.88	2066.59	2068.21	2073.70
7	2075.98	2076.02	2075.94	2075.78	2075.98	2072.56	2073.95	2073.65	2071.86	2066.39	2068.42	2073.92
8	2075.92	2076.01	2075.94	2075.61	2075.98	2072.60	2073.87	2073.59	2071.73	2066.15	2068.66	2074.37
9	2075.85	2075.99	2075.94	2075.38	2076.01	2072.63	2073.81	2073.50	2071.61	2066.02	2068.72	2074.61
10	2075.90	2075.94	2075.94	2074.92	2076.05	2072.67	2073.76	2073.43	2071.54	2065.81	2068.95	2074.79
11	2075.93	2075.85	2075.95	2075.02	2076.02	2072.67	2073.72	2073.35	2071.33	2065.66	2069.21	2075.14
12	2075.97	2075.79	2075.95	2075.11	2075.93	2072.79	2073.72	2073.26	2071.16	2065.44	2069.40	2075.54
13	2075.95	2075.91	2075.95	2075.27	2075.76	2072.93	2073.74	2073.20	2070.93	2065.25	2069.66	2075.64
14	2075.94	2075.92	2075.95	2075.46	2075.64	2072.96	2073.76	2073.12	2070.72	2065.11	2069.86	2075.69
15	2075.93	2075.90	2075.94	2075.58	2075.47	2073.20	2073.75	2073.08	2070.57	2064.91	2070.02	2075.83
16	2075.89	2075.99	2075.93	2075.69	2075.33	2073.34	2073.70	2072.98	2070.42	2064.74	2070.18	2075.96
17	2075.93	2075.96	2075.92	2075.75	2075.23	2073.38	2073.72	2072.92	2070.27	2064.51	2070.41	2075.89
18	2075.96	2075.70	2075.95	2075.80	2075.11	2073.57	2073.69	2072.86	2070.09	2064.31	2070.67	2075.81
19	2075.96	2075.27	2075.95	2075.79	2074.99	2073.53	2073.70	2072.76	2069.80	2064.18	2070.88	2075.83
20	2076.00	2075.40	2075.95	2075.69	2074.94	2073.44	2073.76	2072.69	2069.67	2064.22	2071.11	2075.81
21	2075.98	2075.54	2075.95	2075.95	2074.87	2073.45	2073.73	2072.69	2069.60	2064.27	2071.40	2075.94
22	2075.97	2075.80	2075.95	2075.95	2074.72	2073.35	2073.75	2072.60	2069.31	2064.40	2071.59	2075.97
23	2075.95	2076.16	2075.95	2075.96	2074.54	2073.30	2073.77	2072.42	2069.12	2064.50	2071.72	2075.96
24	2075.94	2076.23	2075.95	2075.95	2074.32	2073.26	2073.79	2072.31	2068.91	2064.59	2072.01	2075.94
25	2075.92	2076.25	2075.96	2075.94	2074.15	2073.17	2073.82	2072.28	2068.69	2064.77	2072.24	2075.92
26	2075.87	2076.16	2075.96	2075.96	2073.91	2073.21	2073.83	2072.28	2068.46	2065.00	2072.39	2075.98
27	2075.86	2075.94	2075.96	2075.96	2073.60	2073.25	2073.81	2072.16	2068.28	2065.19	2072.50	2076.04
28	2075.82	2075.94	2075.95	2075.96	2073.28	2073.36	2073.80	2072.09	2068.17	2065.35	2072.55	2076.09
29	2075.87	2075.94	2075.96	2075.94	2072.94	2073.45	2073.80	2072.08	2067.93	2065.57	2072.74	2076.13
30	2075.96		2075.96	2075.86	2072.48	2073.51	2073.74	2072.03	2067.75	2065.80	2072.87	2075.99
31	2075.96		2075.96		2072.50		2073.71	2072.02		2066.22		2075.96

Table 10. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 5 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
2	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
3	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
4	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
5	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
6	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
7	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
8	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
9	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
10	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
11	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
12	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
13	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
14	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
15	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
16	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
17	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
18	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
19	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
20	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
21	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
22	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
23	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
24	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
25	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
26	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
27	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
28	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
29	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
30	1976.00		1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
31	1976.00		1976.00		1976.00		1976.00	1976.00		1976.00		1976.00

Table 11. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 6 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2034.03	2051.86	2072.05	2076.07	2075.97	2072.06	2073.43	2041.25	2007.52	1976.00	1982.53	1997.86
2	2034.48	2052.46	2072.68	2076.08	2075.99	2072.05	2072.86	2040.16	2006.47	1976.00	1983.39	1998.32
3	2035.05	2053.06	2073.32	2076.03	2076.02	2072.05	2072.07	2039.09	2005.37	1976.00	1984.26	1998.76
4	2035.50	2053.59	2074.03	2075.96	2076.02	2072.06	2071.17	2038.00	2004.26	1976.00	1985.04	1999.14
5	2035.94	2054.17	2074.67	2075.96	2075.91	2072.06	2070.33	2036.88	2003.03	1976.00	1985.70	1999.51
6	2036.50	2054.70	2075.13	2076.11	2076.00	2072.06	2069.35	2035.78	2001.90	1976.00	1986.25	1999.64
7	2037.08	2055.10	2075.41	2075.94	2075.98	2072.06	2068.41	2034.70	2000.89	1976.00	1986.77	2000.12
8	2037.57	2055.53	2075.64	2075.76	2075.98	2072.06	2067.38	2033.63	1999.80	1976.00	1987.33	2000.96
9	2038.06	2055.94	2075.77	2075.54	2076.01	2072.06	2066.36	2032.52	1998.72	1976.00	1987.56	2001.47
10	2038.73	2056.34	2075.86	2075.07	2076.05	2072.05	2065.25	2031.42	1997.76	1976.00	1988.12	2001.91
11	2039.36	2056.77	2075.93	2075.17	2076.02	2072.06	2064.11	2030.33	1996.60	1976.00	1988.71	2002.49
12	2039.99	2057.26	2075.95	2075.27	2075.93	2072.05	2063.00	2029.21	1995.52	1976.00	1989.18	2003.27
13	2040.52	2057.94	2075.98	2075.43	2075.77	2072.06	2061.89	2028.13	1994.34	1976.00	1989.76	2003.74
14	2041.05	2058.53	2075.97	2075.62	2075.64	2072.06	2060.85	2027.02	1993.21	1976.00	1990.24	2004.23
15	2041.63	2059.07	2075.96	2075.73	2075.47	2072.37	2059.78	2025.98	1992.18	1976.00	1990.65	2004.87
16	2042.17	2059.72	2075.95	2075.82	2075.33	2072.67	2058.64	2024.84	1991.14	1976.00	1991.07	2005.49
17	2042.81	2060.23	2075.92	2075.84	2075.23	2072.99	2057.58	2023.78	1990.11	1976.00	1991.61	2005.89
18	2043.43	2060.75	2075.95	2075.86	2075.11	2073.45	2056.41	2022.72	1989.04	1976.00	1992.18	2006.30
19	2044.01	2061.30	2075.99	2075.83	2074.99	2073.68	2055.31	2021.58	1987.79	1976.00	1992.69	2006.96
20	2044.60	2062.62	2075.99	2075.72	2074.94	2073.85	2054.28	2020.53	1986.83	1976.19	1993.22	2007.55
21	2045.12	2064.03	2076.00	2075.91	2074.87	2074.04	2053.17	2019.55	1985.96	1976.40	1993.84	2008.36
22	2045.64	2065.47	2076.02	2076.00	2074.72	2074.04	2052.07	2018.43	1984.67	1976.80	1994.28	2009.00
23	2046.15	2066.90	2076.07	2075.94	2074.54	2074.04	2050.96	2017.20	1983.59	1977.15	1994.64	2009.59
24	2046.68	2067.86	2076.12	2075.98	2074.32	2074.05	2049.88	2016.07	1982.46	1977.46	1995.26	2010.16
25	2047.22	2068.69	2076.07	2075.95	2074.15	2074.05	2048.81	2015.03	1981.31	1977.98	1995.78	2010.76
26	2047.76	2069.36	2076.04	2075.97	2073.91	2074.05	2047.76	2014.05	1980.15	1978.57	1996.16	2011.42
27	2048.39	2069.99	2076.02	2076.02	2073.60	2074.05	2046.68	2012.88	1979.07	1979.08	1996.48	2012.04
28	2049.04	2070.70	2075.98	2076.04	2073.28	2074.06	2045.62	2011.79	1978.13	1979.55	1996.68	2012.51
29	2049.79	2071.41	2075.97	2075.99	2072.94	2074.11	2044.58	2010.77	1977.02	1980.12	1997.13	2012.95
30	2050.56		2075.98	2075.90	2072.49	2073.84	2043.43	2009.66	1976.00	1980.69	1997.47	2013.12
31	2051.19		2075.99		2072.05		2042.30	2008.58		1981.61		2013.44

Table 12. End-of-day (23rd hour) water levels in Brownlee reservoir for Proposed Operations modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2075.95	2075.99	2075.95	2075.95	2075.95	2072.48	2074.51	2074.02	2072.05	2066.87	2066.47	2072.94
2	2075.92	2075.99	2075.95	2075.95	2075.86	2072.48	2074.61	2073.46	2071.98	2066.64	2066.87	2073.10
3	2075.99	2075.99	2075.95	2075.95	2075.95	2072.48	2074.90	2073.62	2071.89	2066.41	2067.23	2073.30
4	2075.95	2075.95	2075.92	2075.95	2075.99	2072.48	2075.27	2073.69	2071.98	2066.11	2067.62	2073.49
5	2075.89	2076.02	2075.95	2075.95	2076.02	2072.48	2075.49	2073.66	2071.98	2065.85	2067.95	2073.62
6	2075.92	2076.09	2075.95	2075.92	2076.02	2072.48	2075.63	2073.72	2071.85	2065.62	2068.21	2073.76
7	2075.99	2076.02	2075.95	2075.92	2075.92	2072.48	2075.82	2073.69	2071.98	2065.26	2068.44	2073.76
8	2075.92	2076.02	2075.95	2075.95	2076.02	2072.48	2075.86	2073.56	2071.89	2064.83	2068.64	2073.99
9	2075.86	2075.99	2075.95	2075.79	2075.99	2072.48	2075.95	2073.49	2071.75	2064.67	2068.90	2074.45
10	2075.89	2075.95	2075.95	2075.63	2075.99	2072.48	2075.92	2073.46	2071.72	2064.77	2068.97	2074.67
11	2075.92	2075.86	2075.95	2075.36	2076.02	2072.48	2075.86	2073.46	2071.59	2064.50	2069.20	2074.87
12	2075.95	2075.79	2075.95	2074.90	2076.09	2072.48	2075.79	2073.40	2071.20	2064.24	2069.46	2075.20
13	2075.95	2075.92	2075.95	2075.04	2076.02	2072.48	2075.66	2073.30	2071.00	2064.08	2069.65	2075.59
14	2075.95	2075.92	2075.95	2075.10	2075.95	2072.48	2075.56	2073.20	2070.84	2063.85	2069.88	2075.69
15	2075.92	2075.89	2075.95	2075.27	2075.79	2072.51	2075.49	2073.17	2070.57	2063.58	2070.08	2075.72
16	2075.89	2075.99	2075.95	2075.46	2075.66	2072.51	2075.46	2073.07	2070.25	2063.45	2070.25	2075.86
17	2075.92	2075.95	2075.95	2075.59	2075.49	2072.80	2075.40	2073.00	2070.05	2063.03	2070.41	2075.99
18	2075.95	2075.69	2075.92	2075.69	2075.33	2073.10	2075.27	2072.94	2069.82	2062.80	2070.64	2075.92
19	2075.95	2075.27	2075.92	2075.76	2075.23	2073.43	2075.23	2072.80	2069.62	2062.54	2070.90	2075.86
20	2075.99	2075.40	2075.95	2075.82	2075.13	2073.89	2075.10	2073.00	2069.46	2062.31	2071.13	2075.86
21	2075.99	2075.53	2075.95	2075.79	2075.00	2074.08	2075.00	2073.17	2069.20	2062.73	2071.36	2075.86
22	2075.95	2075.79	2075.95	2075.69	2074.94	2074.28	2074.97	2072.48	2068.97	2063.19	2071.66	2075.99
23	2075.95	2076.18	2075.95	2075.95	2074.87	2074.45	2074.87	2072.41	2068.70	2063.49	2071.82	2075.99
24	2075.95	2076.22	2075.95	2075.95	2074.74	2074.45	2074.81	2072.38	2068.47	2063.85	2071.95	2075.99
25	2075.92	2076.25	2075.95	2075.95	2074.54	2074.45	2074.67	2072.28	2068.21	2064.21	2072.25	2075.95
26	2075.86	2076.15	2075.95	2075.95	2074.31	2074.45	2074.61	2072.18	2068.01	2064.57	2072.48	2075.95
27	2075.86	2075.95	2075.95	2075.95	2074.15	2074.48	2074.58	2072.08	2067.72	2064.86	2072.61	2076.02
28	2075.82	2075.95	2075.95	2075.95	2073.92	2074.48	2074.51	2072.02	2067.42	2065.09	2072.74	2076.09
29	2075.86		2075.95	2075.95	2073.59	2074.48	2074.45	2072.08	2067.13	2065.42	2072.77	2076.12
30	2075.95		2075.95	2075.95	2073.26	2074.48	2074.41	2072.05	2067.06	2065.78	2072.80	2076.15
31	2075.95		2075.95		2072.94		2074.38	2072.02		2066.11		

Table 13. Actual end-of-day (23rd hour) water levels in Brownlee reservoir measured during the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2074.97	2069.29	2074.35	2074.71	2075.59	2073.99	2076.68	2064.70	2059.88	2058.89	2055.15	2061.71
2	2074.45	2069.92	2074.08	2074.58	2074.22	2073.92	2076.84	2064.34	2059.84	2058.60	2055.45	2061.98
3	2074.15	2069.23	2074.12	2074.28	2072.57	2073.99	2075.95	2064.31	2059.91	2058.47	2055.74	2061.98
4	2074.12	2069.13	2074.25	2074.41	2071.16	2074.02	2074.81	2064.37	2059.61	2058.70	2056.47	2062.21
5	2074.25	2069.39	2074.38	2074.81	2069.72	2074.08	2073.43	2064.37	2059.52	2058.43	2056.63	2062.27
6	2074.12	2069.20	2074.28	2074.81	2069.20	2074.18	2071.82	2064.11	2059.75	2058.14	2056.83	2062.60
7	2073.59	2068.80	2074.58	2074.51	2069.23	2074.18	2070.51	2063.62	2059.91	2057.84	2057.02	2062.47
8	2072.84	2069.03	2074.84	2074.41	2069.49	2074.08	2069.16	2063.32	2059.65	2057.42	2057.15	2063.26
9	2071.98	2069.56	2074.74	2074.22	2070.02	2074.05	2067.36	2062.96	2059.61	2057.25	2057.25	2063.39
10	2071.66	2069.16	2074.58	2073.85	2070.48	2074.15	2067.16	2062.60	2059.94	2056.86	2057.48	2063.45
11	2071.39	2069.23	2074.51	2074.28	2070.38	2073.95	2067.52	2062.54	2059.75	2056.69	2058.01	2063.65
12	2071.30	2069.06	2074.22	2074.64	2069.95	2073.92	2067.03	2062.27	2059.58	2056.50	2058.17	2063.95
13	2070.74	2069.75	2073.99	2074.51	2069.69	2074.22	2067.03	2062.11	2059.81	2056.24	2058.47	2064.47
14	2070.21	2069.65	2074.22	2074.67	2069.72	2074.67	2067.10	2061.85	2059.52	2056.01	2058.60	2064.67
15	2069.98	2070.18	2074.64	2074.81	2069.82	2075.43	2066.96	2061.88	2059.88	2055.68	2058.76	2064.83
16	2069.88	2070.70	2074.08	2075.00	2069.95	2075.63	2066.67	2062.14	2059.78	2055.32	2058.83	2065.09
17	2069.72	2070.97	2074.05	2075.43	2070.25	2075.59	2066.47	2061.78	2060.04	2054.82	2059.12	2065.36
18	2069.65	2071.03	2073.79	2075.33	2070.05	2075.86	2066.47	2061.35	2059.75	2054.46	2059.42	2065.68
19	2069.65	2070.93	2074.12	2076.02	2070.51	2075.95	2066.24	2061.12	2059.91	2054.30	2059.52	2065.98
20	2069.13	2071.62	2074.08	2076.41	2070.97	2076.18	2066.21	2061.09	2060.04	2053.94	2059.91	2066.44
21	2068.47	2072.35	2074.18	2076.15	2071.16	2076.84	2066.14	2061.06	2059.91	2053.77	2060.11	2067.06
22	2068.41	2073.20	2074.45	2076.12	2071.56	2076.74	2065.91	2061.06	2059.61	2053.64	2060.60	2067.06
23	2068.05	2074.15	2074.18	2076.22	2072.05	2076.77	2065.95	2060.70	2059.71	2053.28	2060.24	2067.46
24	2067.88	2074.61	2074.41	2076.54	2072.44	2076.91	2065.65	2060.70	2059.88	2053.05	2060.73	2067.85
25	2068.28	2074.74	2074.38	2076.41	2072.51	2076.68	2065.59	2060.50	2059.84	2053.32	2061.09	2068.05
26	2068.54	2074.71	2074.18	2076.77	2072.77	2076.48	2065.91	2060.27	2059.81	2053.68	2061.45	2068.21
27	2068.38	2074.77	2074.25	2076.28	2073.13	2076.28	2065.55	2060.14	2059.75	2053.48	2061.42	2068.67
28	2068.01	2074.81	2074.51	2076.32	2073.40	2076.61	2065.52	2060.21	2059.78	2053.74	2061.49	2069.00
29	2068.05	2074.28	2074.81	2076.41	2073.53	2076.71	2065.46	2060.17	2059.91	2053.94	2061.58	2069.00
30	2068.24		2074.87	2076.41	2073.72	2076.51	2065.29	2060.07	2059.35	2054.17	2061.42	2068.93
31	2068.54		2074.67		2074.15		2065.19	2059.98		2054.56		2068.74

Table 14. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1A modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.57	2076.27	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.49	2043.95	2038.61	2035.07	2077.00	2076.15	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.88	2043.77	2038.27	2036.40	2077.00	2076.06	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.39	2043.70	2037.76	2037.41	2077.00	2076.16	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.78	2077.00	2076.14	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.10	2043.37	2036.29	2038.21	2077.00	2076.17	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.35	2043.11	2035.52	2039.57	2077.00	2076.17	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.19	2077.00	2076.01	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.93	2077.00	2075.84	2071.84	2068.52	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.79	2077.00	2075.61	2071.75	2068.13	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.75	2077.00	2075.38	2071.58	2067.68	2052.80	2054.51	2073.88
12	2072.02	2054.19	2041.49	2035.37	2049.43	2077.00	2075.45	2071.40	2067.31	2052.10	2054.93	2073.71
13	2071.19	2053.70	2041.47	2034.98	2052.11	2077.00	2075.43	2071.26	2066.86	2051.68	2055.61	2074.49
14	2071.57	2053.12	2041.14	2034.81	2054.07	2077.00	2075.51	2071.15	2066.42	2051.28	2056.24	2075.07
15	2071.49	2052.41	2041.16	2034.47	2055.93	2077.00	2075.38	2070.91	2065.90	2050.79	2056.96	2075.45
16	2070.88	2051.68	2041.73	2034.43	2057.61	2077.00	2075.29	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.57	2076.94	2075.25	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.34	2034.40	2061.62	2076.60	2075.25	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.65	2034.37	2063.47	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.14
20	2068.40	2049.01	2041.18	2034.33	2064.96	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.06
21	2067.67	2048.51	2041.17	2034.19	2066.03	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.01
22	2067.06	2047.92	2041.04	2034.17	2067.39	2075.82	2074.25	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.78	2034.26	2069.15	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.10
24	2065.79	2046.64	2040.48	2034.09	2070.85	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.15	2040.29	2033.80	2071.54	2075.43	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.62	2040.14	2033.81	2072.12	2075.93	2073.78	2069.55	2060.28	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.90	2075.30	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.46	2073.81	2075.49	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.56	2075.94	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.20	2076.25	2073.00	2069.05	2058.41	2051.07	2064.84	2075.78
31	2059.72		2039.17		2075.87		2072.88	2068.98		2051.15		2075.94

Table 15. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1B modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.49	2075.78	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.56	2043.95	2038.61	2035.07	2077.00	2075.70	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.86	2043.77	2038.27	2036.40	2077.00	2075.75	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.40	2043.70	2037.76	2037.41	2077.00	2075.96	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.77	2077.00	2075.95	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.10	2043.38	2036.29	2038.21	2077.00	2076.06	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.36	2043.11	2035.52	2039.57	2077.00	2076.14	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.19	2077.00	2075.98	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.92	2077.00	2075.80	2071.84	2068.50	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.78	2077.00	2075.52	2071.75	2068.10	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.72	2077.00	2075.31	2071.58	2067.68	2052.80	2054.51	2073.87
12	2072.02	2054.19	2041.49	2035.37	2049.40	2077.00	2075.42	2071.40	2067.28	2052.10	2054.93	2073.71
13	2071.19	2053.70	2041.47	2034.98	2052.07	2077.00	2075.39	2071.26	2066.82	2051.68	2055.61	2074.49
14	2071.69	2053.12	2041.14	2034.81	2054.04	2077.00	2075.52	2071.15	2066.38	2051.28	2056.24	2075.07
15	2071.53	2052.41	2041.16	2034.47	2055.89	2077.00	2075.31	2070.91	2065.90	2050.79	2056.96	2075.45
16	2070.88	2051.68	2041.73	2034.43	2057.57	2077.00	2075.24	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.52	2076.94	2075.21	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.35	2034.40	2061.56	2076.60	2075.24	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.33	2034.37	2063.41	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.14
20	2068.40	2049.01	2041.44	2034.37	2064.90	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.06
21	2067.68	2048.51	2041.01	2034.19	2065.96	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.02
22	2067.06	2047.92	2040.83	2034.17	2067.32	2075.82	2074.24	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.64	2034.26	2069.08	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.11
24	2065.79	2046.64	2040.44	2034.09	2070.77	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.11	2040.28	2033.80	2071.46	2075.44	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.62	2040.14	2033.81	2072.04	2075.94	2073.78	2069.55	2060.29	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.82	2075.30	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.46	2073.74	2075.49	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.48	2075.95	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.12	2075.77	2073.00	2069.05	2058.41	2051.07	2064.84	2075.76
31	2059.72		2039.17		2075.79		2072.88	2068.98		2051.15		2075.94

Table 16. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1C modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.38	2075.80	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.52	2043.95	2038.61	2035.07	2076.98	2075.74	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.92	2043.77	2038.27	2036.40	2077.00	2075.78	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.40	2043.70	2037.76	2037.40	2077.00	2075.98	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.78	2077.00	2076.02	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.09	2043.38	2036.29	2038.22	2077.00	2076.13	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.36	2043.11	2035.52	2039.57	2077.00	2076.14	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.17	2077.00	2075.99	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.90	2077.00	2075.81	2071.84	2068.52	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.75	2077.00	2075.59	2071.75	2068.13	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.69	2077.00	2075.37	2071.58	2067.68	2052.80	2054.51	2073.88
12	2072.01	2054.19	2041.49	2035.37	2049.36	2077.00	2075.45	2071.40	2067.31	2052.10	2054.93	2073.71
13	2071.18	2053.70	2041.47	2034.98	2052.02	2077.00	2075.43	2071.26	2066.86	2051.68	2055.61	2074.49
14	2071.62	2053.12	2041.14	2034.80	2053.98	2077.00	2075.50	2071.15	2066.42	2051.28	2056.24	2075.07
15	2071.51	2052.41	2041.16	2034.46	2055.83	2077.00	2075.38	2070.91	2065.90	2050.79	2056.96	2075.45
16	2070.88	2051.68	2041.73	2034.43	2057.51	2077.00	2075.29	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.45	2076.94	2075.25	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.38	2034.39	2061.48	2076.60	2075.26	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.33	2034.37	2063.33	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.15
20	2068.40	2049.01	2041.43	2034.33	2064.81	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.07
21	2067.67	2048.51	2041.01	2034.19	2065.87	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.02
22	2067.06	2047.92	2040.83	2034.16	2067.22	2075.82	2074.25	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.63	2034.26	2068.98	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.11
24	2065.79	2046.64	2040.44	2034.09	2070.66	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.16	2040.28	2033.80	2071.35	2075.44	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.62	2040.14	2033.81	2071.92	2075.97	2073.78	2069.55	2060.28	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.70	2075.32	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.45	2073.62	2075.51	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.37	2075.97	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.01	2075.78	2073.00	2069.05	2058.41	2051.07	2064.84	2075.79
31	2059.72		2039.17		2075.68		2072.88	2068.98		2051.15		2075.94

Table 17. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1D modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.49	2075.78	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.56	2043.95	2038.61	2035.07	2077.00	2075.70	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.86	2043.77	2038.27	2036.40	2077.00	2075.75	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.40	2043.70	2037.76	2037.41	2077.00	2075.96	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.77	2077.00	2075.95	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.10	2043.38	2036.29	2038.21	2077.00	2076.06	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.36	2043.11	2035.52	2039.57	2077.00	2076.14	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.19	2077.00	2075.98	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.92	2077.00	2075.80	2071.84	2068.50	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.78	2077.00	2075.52	2071.75	2068.10	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.72	2077.00	2075.31	2071.58	2067.68	2052.80	2054.51	2073.87
12	2072.02	2054.19	2041.49	2035.37	2049.40	2077.00	2075.42	2071.40	2067.28	2052.10	2054.93	2073.71
13	2071.19	2053.70	2041.47	2034.98	2052.07	2077.00	2075.39	2071.26	2066.82	2051.68	2055.61	2074.49
14	2071.69	2053.12	2041.14	2034.81	2054.04	2077.00	2075.52	2071.15	2066.38	2051.28	2056.24	2075.07
15	2071.53	2052.41	2041.16	2034.47	2055.89	2077.00	2075.31	2070.91	2065.90	2050.79	2056.96	2075.45
16	2070.88	2051.68	2041.73	2034.43	2057.57	2077.00	2075.24	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.52	2076.94	2075.21	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.35	2034.40	2061.56	2076.60	2075.24	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.33	2034.37	2063.41	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.14
20	2068.40	2049.01	2041.44	2034.37	2064.90	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.06
21	2067.68	2048.51	2041.01	2034.19	2065.96	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.02
22	2067.06	2047.92	2040.83	2034.17	2067.32	2075.82	2074.24	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.64	2034.26	2069.08	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.11
24	2065.79	2046.64	2040.44	2034.09	2070.77	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.11	2040.28	2033.80	2071.46	2075.44	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.62	2040.14	2033.81	2072.04	2075.94	2073.78	2069.55	2060.29	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.82	2075.30	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.46	2073.74	2075.49	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.48	2075.95	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.12	2075.77	2073.00	2069.05	2058.41	2051.07	2064.84	2075.76
31	2059.72		2039.17		2075.79		2072.88	2068.98		2051.15		2075.94

Table 18. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1E modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.38	2075.78	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.56	2043.95	2038.61	2035.07	2076.98	2075.70	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.86	2043.77	2038.27	2036.40	2077.00	2075.75	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.40	2043.70	2037.76	2037.40	2077.00	2075.96	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.78	2077.00	2075.95	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.10	2043.38	2036.29	2038.22	2077.00	2076.06	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.36	2043.11	2035.52	2039.57	2077.00	2076.14	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.17	2077.00	2075.98	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.90	2077.00	2075.80	2071.84	2068.50	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.75	2077.00	2075.52	2071.75	2068.10	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.69	2077.00	2075.31	2071.58	2067.68	2052.80	2054.51	2073.87
12	2072.02	2054.19	2041.50	2035.37	2049.36	2077.00	2075.42	2071.40	2067.28	2052.10	2054.93	2073.71
13	2071.19	2053.70	2041.47	2034.98	2052.02	2077.00	2075.39	2071.26	2066.82	2051.68	2055.61	2074.49
14	2071.69	2053.12	2041.14	2034.80	2053.98	2077.00	2075.52	2071.15	2066.38	2051.28	2056.24	2075.07
15	2071.53	2052.41	2041.16	2034.46	2055.83	2077.00	2075.31	2070.91	2065.90	2050.79	2056.96	2075.45
16	2070.88	2051.68	2041.73	2034.43	2057.51	2077.00	2075.24	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.45	2076.94	2075.21	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.38	2034.39	2061.48	2076.60	2075.24	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.33	2034.37	2063.33	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.14
20	2068.40	2049.01	2041.43	2034.33	2064.81	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.06
21	2067.68	2048.51	2041.01	2034.19	2065.87	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.02
22	2067.06	2047.92	2040.83	2034.16	2067.22	2075.82	2074.24	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.63	2034.26	2068.98	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.11
24	2065.79	2046.64	2040.44	2034.09	2070.66	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.11	2040.29	2033.80	2071.35	2075.44	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.62	2040.14	2033.81	2071.92	2075.94	2073.78	2069.55	2060.29	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.70	2075.30	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.45	2073.62	2075.50	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.37	2075.95	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.01	2075.77	2073.00	2069.05	2058.41	2051.07	2064.84	2075.76
31	2059.72		2039.17		2075.68		2072.88	2068.98		2051.15		2075.94

Table 19. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1F modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.49	2075.80	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.52	2043.95	2038.61	2035.07	2077.00	2075.74	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.92	2043.77	2038.27	2036.40	2077.00	2075.78	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.40	2043.70	2037.76	2037.41	2077.00	2075.98	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.77	2077.00	2076.02	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.09	2043.38	2036.29	2038.21	2077.00	2076.12	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.35	2043.11	2035.52	2039.57	2077.00	2076.13	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.19	2077.00	2075.98	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.92	2077.00	2075.81	2071.84	2068.52	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.78	2077.00	2075.59	2071.75	2068.13	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.72	2077.00	2075.37	2071.58	2067.68	2052.80	2054.51	2073.88
12	2072.02	2054.19	2041.49	2035.37	2049.40	2077.00	2075.45	2071.40	2067.31	2052.10	2054.93	2073.71
13	2071.18	2053.70	2041.47	2034.98	2052.07	2077.00	2075.42	2071.26	2066.86	2051.68	2055.61	2074.49
14	2071.62	2053.12	2041.14	2034.81	2054.04	2077.00	2075.49	2071.15	2066.42	2051.28	2056.24	2075.07
15	2071.51	2052.41	2041.16	2034.47	2055.89	2077.00	2075.38	2070.91	2065.90	2050.79	2056.96	2075.46
16	2070.88	2051.68	2041.73	2034.43	2057.57	2077.00	2075.29	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.52	2076.94	2075.25	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.35	2034.40	2061.56	2076.60	2075.25	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.33	2034.37	2063.41	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.14
20	2068.40	2049.01	2041.44	2034.37	2064.90	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.06
21	2067.67	2048.51	2041.01	2034.19	2065.96	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.01
22	2067.06	2047.92	2040.83	2034.17	2067.32	2075.82	2074.25	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.64	2034.26	2069.08	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.10
24	2065.79	2046.64	2040.44	2034.09	2070.77	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.14	2040.28	2033.80	2071.46	2075.44	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.62	2040.14	2033.81	2072.04	2075.97	2073.78	2069.55	2060.28	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.82	2075.32	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.46	2073.74	2075.51	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.48	2075.97	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.12	2075.78	2073.00	2069.05	2058.41	2051.07	2064.84	2075.78
31	2059.72		2039.17		2075.79		2072.88	2068.98		2051.15		2075.94

Table 20. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 2 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.49	2074.50	2049.43	2048.90	2048.31	2050.71	2065.50
2	2076.04	2059.56	2043.95	2038.61	2035.07	2077.00	2074.33	2049.34	2048.93	2048.25	2050.86	2066.55
3	2075.96	2059.86	2043.77	2038.27	2036.40	2077.00	2074.12	2049.22	2048.89	2048.23	2051.08	2067.81
4	2075.76	2059.40	2043.70	2037.76	2037.41	2077.00	2073.78	2049.19	2048.83	2048.18	2051.26	2068.59
5	2075.61	2058.62	2043.53	2037.13	2037.77	2077.00	2073.10	2048.99	2048.82	2048.09	2051.56	2069.48
6	2075.58	2058.10	2043.38	2036.29	2038.21	2077.00	2072.27	2048.98	2048.85	2048.04	2051.74	2070.32
7	2075.22	2057.36	2043.11	2035.52	2039.57	2077.00	2071.32	2049.02	2048.84	2048.09	2052.10	2071.03
8	2074.64	2056.69	2042.89	2035.60	2041.19	2077.00	2070.16	2048.99	2048.82	2048.13	2052.52	2071.91
9	2073.55	2056.14	2042.40	2036.36	2042.92	2077.00	2068.93	2049.00	2048.91	2048.05	2052.95	2072.58
10	2072.76	2055.54	2041.72	2036.06	2044.78	2077.00	2067.78	2049.05	2048.84	2048.01	2053.42	2073.34
11	2072.52	2054.88	2041.45	2035.76	2046.72	2077.00	2066.66	2048.99	2048.80	2048.01	2054.06	2073.61
12	2072.02	2054.19	2041.49	2035.37	2049.40	2077.00	2065.80	2048.94	2048.82	2047.80	2054.49	2073.54
13	2071.19	2053.70	2041.47	2034.98	2052.07	2077.00	2064.73	2048.92	2048.79	2047.86	2055.17	2074.36
14	2071.69	2053.12	2041.14	2034.81	2054.04	2077.00	2063.60	2048.94	2048.79	2047.94	2055.80	2074.99
15	2071.53	2052.41	2041.16	2034.47	2055.89	2077.00	2062.44	2048.81	2048.78	2047.93	2056.51	2075.40
16	2070.88	2051.68	2041.73	2034.43	2057.57	2077.00	2061.46	2048.83	2048.73	2047.87	2057.05	2076.00
17	2070.16	2050.91	2041.63	2034.42	2059.52	2076.94	2060.63	2048.83	2048.74	2047.90	2057.62	2076.15
18	2069.57	2050.18	2041.35	2034.40	2061.56	2076.60	2059.85	2048.93	2048.69	2047.80	2057.99	2076.19
19	2068.89	2049.51	2041.33	2034.37	2063.41	2076.64	2058.92	2048.94	2048.71	2047.73	2058.61	2076.14
20	2068.40	2049.01	2041.44	2034.37	2064.90	2076.58	2057.91	2048.97	2048.63	2047.76	2059.07	2076.06
21	2067.68	2048.51	2041.01	2034.19	2065.96	2076.31	2056.91	2048.98	2048.64	2048.21	2059.58	2076.01
22	2067.06	2047.92	2040.83	2034.17	2067.32	2076.40	2056.04	2048.96	2048.53	2048.50	2060.10	2076.09
23	2066.52	2047.25	2040.64	2034.26	2069.08	2075.76	2055.21	2048.96	2048.46	2048.72	2060.44	2076.11
24	2065.79	2046.64	2040.44	2034.09	2070.77	2075.97	2054.52	2049.03	2048.44	2049.00	2060.93	2076.06
25	2065.12	2046.11	2040.28	2033.80	2071.46	2076.24	2053.85	2049.03	2048.40	2049.31	2061.41	2076.02
26	2064.41	2045.62	2040.14	2033.81	2072.04	2075.59	2053.02	2048.89	2048.36	2049.74	2061.90	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.82	2075.84	2052.12	2048.88	2048.41	2050.09	2062.45	2075.96
28	2063.22	2044.35	2039.74	2033.46	2073.74	2074.94	2051.32	2048.92	2048.39	2050.36	2063.01	2075.91
29	2062.38		2039.58	2033.99	2074.48	2075.30	2050.43	2048.93	2048.45	2050.54	2063.69	2075.74
30	2061.03		2039.42	2033.93	2075.12	2075.63	2049.87	2048.85	2048.40	2050.61	2064.41	2075.76
31	2059.72		2039.17		2075.79		2049.54	2048.84		2050.69		2075.93

Table 21. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 3 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.08	2044.18	2038.76	2034.45	2076.54	2075.76	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.58	2043.95	2038.61	2035.07	2077.00	2075.68	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.86	2043.77	2038.27	2036.39	2077.00	2075.73	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.40	2043.70	2037.76	2037.41	2077.00	2075.95	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.77	2077.00	2075.99	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.09	2043.38	2036.29	2038.21	2077.00	2076.05	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.36	2043.11	2035.52	2039.59	2077.00	2076.11	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.19	2077.00	2075.99	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.92	2077.00	2075.80	2071.84	2068.50	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.76	2077.00	2075.52	2071.75	2068.10	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.71	2077.00	2075.31	2071.58	2067.68	2052.80	2054.51	2073.87
12	2072.02	2054.19	2041.49	2035.37	2049.39	2077.00	2075.39	2071.40	2067.28	2052.10	2054.93	2073.71
13	2071.19	2053.70	2041.48	2034.98	2052.06	2077.00	2075.36	2071.26	2066.82	2051.68	2055.61	2074.49
14	2071.69	2053.12	2041.14	2034.81	2054.03	2077.00	2075.48	2071.15	2066.38	2051.28	2056.24	2075.07
15	2071.53	2052.41	2041.18	2034.47	2055.89	2077.00	2075.31	2070.91	2065.90	2050.79	2056.96	2075.45
16	2070.88	2051.68	2041.72	2034.43	2057.58	2077.00	2075.24	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.53	2076.94	2075.21	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.36	2034.39	2061.57	2076.60	2075.24	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.33	2034.28	2063.43	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.14
20	2068.40	2049.01	2041.43	2034.26	2064.91	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.06
21	2067.67	2048.51	2041.01	2034.19	2065.99	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.02
22	2067.06	2047.92	2040.83	2034.06	2067.35	2075.82	2074.24	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.63	2034.12	2069.12	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.11
24	2065.79	2046.64	2040.44	2034.09	2070.82	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.10	2040.29	2033.80	2071.51	2075.44	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.63	2040.14	2033.73	2072.09	2075.93	2073.78	2069.55	2060.29	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.86	2075.30	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.46	2073.78	2075.49	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.53	2075.94	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.17	2075.76	2073.00	2069.05	2058.41	2051.07	2064.84	2075.76
31	2059.72		2039.17		2075.84		2072.88	2068.98		2051.15		2075.94

Table 22. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 4 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2076.05	2059.07	2044.18	2038.76	2034.54	2076.49	2075.80	2072.86	2068.99	2057.84	2051.17	2065.92
2	2076.04	2059.52	2043.95	2038.61	2035.07	2077.00	2075.74	2072.78	2068.99	2057.31	2051.32	2066.95
3	2075.96	2059.92	2043.77	2038.27	2036.40	2077.00	2075.78	2072.64	2068.94	2056.81	2051.54	2068.21
4	2075.76	2059.40	2043.70	2037.76	2037.41	2077.00	2075.98	2072.55	2068.88	2056.29	2051.72	2068.99
5	2075.61	2058.62	2043.53	2037.13	2037.77	2077.00	2076.02	2072.29	2068.86	2055.73	2052.02	2069.88
6	2075.58	2058.09	2043.38	2036.29	2038.21	2077.00	2076.12	2072.17	2068.89	2055.20	2052.20	2070.73
7	2075.22	2057.35	2043.11	2035.52	2039.57	2077.00	2076.13	2072.09	2068.87	2054.76	2052.56	2071.44
8	2074.64	2056.69	2042.89	2035.60	2041.19	2077.00	2075.98	2071.95	2068.69	2054.32	2052.98	2072.32
9	2073.55	2056.14	2042.40	2036.36	2042.92	2077.00	2075.81	2071.84	2068.52	2053.78	2053.40	2072.99
10	2072.76	2055.54	2041.72	2036.06	2044.78	2077.00	2075.59	2071.75	2068.13	2053.26	2053.86	2073.74
11	2072.52	2054.88	2041.45	2035.76	2046.72	2077.00	2075.37	2071.58	2067.68	2052.80	2054.51	2073.88
12	2072.02	2054.19	2041.49	2035.37	2049.40	2077.00	2075.45	2071.40	2067.31	2052.10	2054.93	2073.71
13	2071.18	2053.70	2041.47	2034.98	2052.07	2077.00	2075.42	2071.26	2066.86	2051.68	2055.61	2074.49
14	2071.62	2053.12	2041.14	2034.81	2054.04	2077.00	2075.49	2071.15	2066.42	2051.28	2056.24	2075.07
15	2071.51	2052.41	2041.16	2034.47	2055.89	2077.00	2075.38	2070.91	2065.90	2050.79	2056.96	2075.46
16	2070.88	2051.68	2041.73	2034.43	2057.57	2077.00	2075.29	2070.80	2065.39	2050.26	2057.49	2076.04
17	2070.16	2050.91	2041.63	2034.42	2059.52	2076.94	2075.25	2070.67	2064.92	2049.82	2058.06	2076.18
18	2069.57	2050.18	2041.35	2034.40	2061.56	2076.60	2075.25	2070.62	2064.40	2049.24	2058.43	2076.20
19	2068.89	2049.51	2041.33	2034.37	2063.41	2076.01	2075.03	2070.50	2063.95	2048.69	2059.06	2076.14
20	2068.40	2049.01	2041.44	2034.37	2064.90	2075.33	2074.74	2070.40	2063.40	2048.24	2059.51	2076.06
21	2067.67	2048.51	2041.01	2034.19	2065.96	2075.65	2074.44	2070.28	2062.93	2048.69	2060.01	2076.01
22	2067.06	2047.92	2040.83	2034.17	2067.32	2075.82	2074.25	2070.13	2062.35	2048.97	2060.54	2076.10
23	2066.52	2047.25	2040.64	2034.26	2069.08	2074.96	2074.08	2070.00	2061.81	2049.19	2060.88	2076.10
24	2065.79	2046.64	2040.44	2034.09	2070.77	2075.17	2074.02	2069.93	2061.31	2049.48	2061.36	2076.07
25	2065.12	2046.14	2040.28	2033.80	2071.46	2075.44	2073.98	2069.80	2060.80	2049.79	2061.85	2076.02
26	2064.41	2045.62	2040.14	2033.81	2072.04	2075.97	2073.78	2069.55	2060.28	2050.20	2062.33	2075.94
27	2063.80	2044.95	2039.90	2033.73	2072.82	2075.32	2073.55	2069.41	2059.85	2050.55	2062.88	2075.96
28	2063.22	2044.35	2039.74	2033.46	2073.74	2075.51	2073.41	2069.32	2059.36	2050.82	2063.43	2075.91
29	2062.38		2039.58	2033.99	2074.48	2075.97	2073.17	2069.20	2058.93	2051.00	2064.11	2075.74
30	2061.03		2039.42	2033.93	2075.12	2075.78	2073.00	2069.05	2058.41	2051.07	2064.84	2075.78
31	2059.72		2039.17		2075.79		2072.88	2068.98		2051.15		2075.94

Table 23. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 5 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
2	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
3	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
4	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
5	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
6	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
7	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
8	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
9	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
10	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
11	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
12	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
13	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
14	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
15	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
16	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
17	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
18	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
19	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
20	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
21	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
22	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
23	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
24	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
25	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
26	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
27	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
28	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
29	1976.00		1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
30	1976.00		1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
31	1976.00		1976.00		1976.00		1976.00	1976.00		1976.00		1976.00

Table 24. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 6 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
1	2027.09	2029.10	1995.62	1978.17	1979.71	2051.95	2076.72	2047.75	2011.18	1976.00	1991.68	2032.29
2	2027.48	2028.65	1994.94	1978.14	1981.29	2054.05	2076.63	2046.64	2010.05	1976.00	1992.71	2034.16
3	2027.79	2028.29	1994.33	1978.11	1984.16	2055.78	2076.56	2045.45	2008.80	1976.00	1993.83	2036.34
4	2027.99	2027.05	1993.87	1977.97	1986.47	2057.28	2076.60	2044.30	2007.58	1976.00	1994.87	2037.90
5	2028.32	2025.71	1993.29	1977.44	1987.84	2058.86	2076.49	2042.97	2006.43	1976.00	1996.10	2039.63
6	2029.21	2024.46	1992.72	1976.46	1989.27	2060.27	2076.43	2041.81	2005.27	1976.00	1997.13	2041.18
7	2029.88	2023.09	1991.99	1978.09	1991.58	2061.70	2076.04	2040.72	2004.04	1976.04	1998.40	2042.57
8	2030.68	2021.79	1991.32	1978.16	1994.03	2063.43	2075.25	2039.56	2002.83	1976.09	1999.77	2044.15
9	2031.48	2020.63	1990.27	1978.29	1996.48	2064.96	2074.26	2038.38	2001.80	1976.00	2001.09	2045.49
10	2033.14	2019.40	1988.93	1978.18	1999.12	2066.67	2073.18	2037.23	2000.57	1976.00	2002.46	2046.93
11	2035.75	2018.08	1988.19	1978.16	2001.75	2068.61	2072.02	2035.97	1999.39	1976.00	2004.14	2048.57
12	2038.74	2016.73	1987.90	1978.01	2004.83	2071.03	2071.13	2034.76	1998.26	1976.00	2005.51	2050.45
13	2041.36	2015.50	1987.53	1977.93	2007.83	2073.36	2070.11	2033.59	1997.09	1976.04	2007.19	2053.39
14	2044.31	2014.25	1986.79	1977.94	2010.41	2075.54	2069.15	2032.45	1995.95	1976.11	2008.74	2056.39
15	2046.74	2012.85	1987.08	1977.99	2013.01	2076.44	2068.02	2031.12	1994.78	1976.09	2010.39	2059.39
16	2047.51	2011.42	1987.02	1978.17	2015.34	2076.65	2066.82	2029.98	1993.58	1976.04	2011.81	2062.37
17	2047.54	2009.95	1986.46	1978.17	2018.00	2076.71	2065.65	2028.79	1992.46	1976.10	2013.26	2064.80
18	2047.06	2008.62	1985.93	1978.13	2020.71	2076.66	2064.60	2027.71	1991.24	1976.00	2014.43	2066.56
19	2046.35	2007.31	1985.29	1978.13	2023.11	2076.54	2063.26	2026.54	1990.13	1976.00	2015.95	2067.39
20	2045.46	2006.19	1984.71	1978.12	2025.03	2076.53	2062.00	2025.39	1988.86	1976.77	2017.22	2067.64
21	2044.23	2005.06	1984.13	1978.10	2026.41	2076.46	2060.71	2024.23	1987.76	1978.45	2018.54	2067.63
22	2043.03	2003.80	1983.80	1977.94	2028.23	2076.56	2059.52	2023.02	1986.50	1979.85	2019.89	2067.54
23	2041.91	2002.44	1982.97	1978.10	2030.59	2076.41	2058.33	2021.85	1985.24	1981.09	2020.95	2067.15
24	2040.60	2001.18	1982.41	1978.13	2032.79	2076.65	2057.25	2020.77	1984.06	1982.43	2022.19	2066.64
25	2039.31	2000.03	1981.69	1977.68	2035.12	2076.35	2056.18	2019.62	1982.88	1983.80	2023.43	2066.03
26	2037.92	1998.89	1981.12	1977.58	2037.46	2076.37	2054.95	2018.26	1981.67	1985.33	2024.66	2065.33
27	2036.63	1997.56	1980.45	1977.61	2040.08	2076.64	2053.68	2017.07	1980.61	1986.73	2025.97	2064.71
28	2035.40	1996.30	1979.86	1977.26	2042.71	2076.36	2052.50	2015.94	1979.46	1987.95	2027.30	2063.99
29	2033.95		1979.29	1978.14	2045.14	2076.42	2051.19	2014.76	1978.41	1989.03	2028.79	2063.15
30	2031.84		1978.71	1978.18	2047.41	2076.68	2049.98	2013.49	1977.06	1989.93	2030.34	2062.47
31	2029.68		1978.13		2049.70		2048.81	2012.29		1990.85		2061.96

Table 25. End-of-day (23rd hour) water levels in Brownlee reservoir for Proposed Operations modeled during the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2076.05	2059.02	2044.19	2038.75	2034.55	2076.74	2075.86	2072.87	2069.00	2057.88	2051.22	2065.98
2	2076.05	2059.42	2043.96	2038.62	2035.07	2077.00	2075.79	2072.80	2069.00	2057.35	2051.38	2067.00
3	2075.95	2059.81	2043.77	2038.26	2036.39	2077.00	2075.82	2072.67	2068.97	2056.86	2051.58	2068.28
4	2075.76	2059.35	2043.70	2037.76	2037.40	2077.00	2075.99	2072.57	2068.93	2056.33	2051.77	2069.03
5	2075.63	2058.63	2043.54	2037.14	2037.80	2077.00	2076.05	2072.31	2068.90	2055.78	2052.07	2069.95
6	2075.59	2058.11	2043.37	2036.29	2038.26	2077.00	2076.15	2072.18	2068.93	2055.25	2052.27	2070.77
7	2075.23	2057.35	2043.11	2035.53	2039.63	2077.00	2076.18	2072.12	2068.90	2054.82	2052.59	2071.49
8	2074.64	2056.69	2042.88	2035.60	2041.24	2077.00	2076.02	2071.95	2068.74	2054.37	2053.02	2072.38
9	2073.56	2056.14	2042.39	2036.35	2042.98	2077.00	2075.82	2071.85	2068.54	2053.81	2053.45	2073.03
10	2072.77	2055.55	2041.73	2036.06	2044.85	2077.00	2075.59	2071.75	2068.15	2053.32	2053.91	2073.79
11	2072.51	2054.89	2041.44	2035.76	2046.79	2077.00	2075.36	2071.59	2067.72	2052.86	2054.56	2073.92
12	2072.02	2054.20	2041.50	2035.37	2049.48	2077.00	2075.46	2071.43	2067.33	2052.13	2054.99	2073.76
13	2071.20	2053.71	2041.47	2034.97	2052.17	2077.00	2075.43	2071.30	2066.87	2051.74	2055.64	2074.54
14	2071.59	2053.12	2041.14	2034.81	2054.10	2077.00	2075.49	2071.16	2066.41	2051.31	2056.30	2075.10
15	2071.52	2052.40	2041.18	2034.48	2055.97	2077.00	2075.36	2070.93	2065.95	2050.85	2057.02	2075.49
16	2070.87	2051.67	2041.73	2034.42	2057.65	2077.00	2075.30	2070.80	2065.42	2050.30	2057.55	2076.09
17	2070.15	2050.92	2041.64	2034.42	2059.61	2076.97	2075.23	2070.70	2064.96	2049.87	2058.11	2076.22
18	2069.56	2050.17	2041.37	2034.38	2061.65	2076.64	2075.27	2070.64	2064.44	2049.28	2058.47	2076.25
19	2068.90	2049.51	2041.34	2034.38	2063.52	2076.05	2075.04	2070.51	2063.98	2048.75	2059.12	2076.18
20	2068.41	2049.02	2041.44	2034.32	2065.00	2075.40	2074.77	2070.41	2063.45	2048.30	2059.55	2076.09
21	2067.69	2048.53	2041.01	2034.19	2066.05	2075.72	2074.45	2070.31	2062.99	2048.75	2060.07	2076.09
22	2067.06	2047.93	2040.85	2034.15	2067.42	2074.71	2074.28	2070.15	2062.40	2049.02	2060.57	2076.15
23	2066.51	2047.25	2040.65	2034.25	2069.20	2074.94	2074.08	2070.02	2061.85	2049.25	2060.93	2076.18
24	2065.78	2046.65	2040.45	2034.09	2070.87	2075.27	2074.05	2069.95	2061.35	2049.51	2061.42	2076.12
25	2065.13	2046.16	2040.29	2033.79	2071.56	2075.53	2073.99	2069.82	2060.83	2049.84	2061.88	2076.09
26	2064.41	2045.61	2040.13	2033.83	2072.18	2075.10	2073.79	2069.56	2060.34	2050.26	2062.37	2075.99
27	2063.81	2044.95	2039.90	2033.73	2072.97	2075.36	2073.56	2069.43	2059.88	2050.59	2062.93	2076.02
28	2063.22	2044.36	2039.73	2033.47	2073.89	2075.66	2073.43	2069.33	2059.39	2050.85	2063.49	2075.95
29	2062.37		2039.57	2033.99	2074.64	2076.12	2073.17	2069.20	2058.96	2051.05	2064.18	2075.79
30	2061.03		2039.40	2033.92	2075.33	2075.86	2073.03	2069.06	2058.43	2051.12	2064.90	2075.82
31	2059.65		2039.17		2076.02		2072.90	2069.00		2051.18		

Table 26. Actual end-of-day (23rd hour) water levels in Brownlee reservoir measured during the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2072.41	2069.49	2058.60	2065.68	2057.19	2076.32	2076.32	2067.59	2055.51	2042.00	2041.31	2066.51
2	2072.31	2071.00	2057.19	2066.11	2057.29	2076.41	2076.61	2066.51	2054.69	2041.21	2042.09	2067.78
3	2072.31	2071.59	2055.51	2065.59	2057.71	2076.51	2076.51	2065.29	2054.69	2040.68	2043.11	2069.29
4	2071.49	2072.51	2054.20	2064.70	2057.71	2076.61	2076.51	2063.91	2054.89	2040.19	2043.41	2070.21
5	2071.20	2072.61	2052.89	2064.31	2057.61	2076.41	2076.22	2062.90	2054.30	2039.21	2044.29	2071.30
6	2070.90	2072.41	2051.41	2064.31	2057.91	2076.81	2076.32	2061.81	2053.71	2038.58	2044.78	2072.71
7	2070.80	2071.89	2049.31	2064.01	2058.89	2076.81	2076.41	2060.50	2053.18	2037.89	2045.31	2073.49
8	2070.90	2071.39	2047.51	2064.50	2060.21	2076.51	2076.61	2059.52	2052.50	2037.80	2046.29	2074.41
9	2071.00	2071.20	2046.49	2065.39	2061.62	2076.32	2076.32	2058.70	2052.69	2037.60	2046.88	2075.20
10	2071.10	2070.70	2046.29	2065.49	2062.99	2076.41	2076.41	2058.40	2052.79	2036.81	2047.51	2075.79
11	2072.02	2070.11	2047.21	2065.00	2064.50	2076.61	2076.32	2057.81	2052.30	2037.21	2049.12	2075.99
12	2072.80	2068.80	2048.49	2064.11	2066.80	2076.61	2076.51	2057.91	2051.81	2037.21	2050.00	2075.99
13	2072.71	2067.69	2049.71	2063.29	2068.80	2076.51	2076.61	2058.11	2051.08	2036.91	2050.99	2076.51
14	2073.40	2066.11	2050.79	2062.90	2070.11	2076.51	2076.32	2057.91	2050.49	2036.62	2051.90	2076.41
15	2073.00	2064.11	2052.69	2062.21	2071.49	2076.51	2076.22	2057.81	2050.10	2036.71	2052.89	2076.32
16	2072.21	2062.60	2054.89	2061.49	2071.69	2076.41	2076.32	2057.91	2049.71	2036.39	2053.81	2076.32
17	2071.30	2061.19	2056.89	2060.89	2072.51	2076.61	2076.41	2058.30	2049.90	2035.79	2054.69	2075.99
18	2070.80	2061.29	2058.60	2059.81	2073.20	2076.61	2076.22	2058.50	2049.51	2034.91	2055.61	2075.69
19	2069.92	2060.89	2061.29	2058.99	2073.69	2076.71	2075.89	2058.60	2048.89	2034.71	2056.40	2075.10
20	2068.90	2060.89	2063.09	2058.11	2073.89	2076.71	2075.69	2058.50	2048.30	2035.01	2057.29	2074.51
21	2068.41	2060.70	2064.31	2057.71	2073.79	2076.61	2075.89	2058.40	2047.61	2034.91	2057.81	2073.99
22	2067.59	2060.80	2065.29	2057.81	2074.22	2076.51	2076.09	2058.11	2047.31	2035.40	2059.09	2074.12
23	2066.90	2061.29	2065.91	2058.40	2074.81	2076.41	2076.51	2057.91	2046.88	2035.79	2059.81	2073.79
24	2066.80	2060.99	2066.31	2058.01	2075.30	2076.41	2076.51	2057.52	2046.39	2036.62	2060.50	2074.41
25	2067.00	2061.29	2066.70	2057.61	2075.89	2076.22	2075.79	2057.52	2046.00	2037.30	2060.99	2074.41
26	2067.19	2061.49	2067.19	2056.99	2076.51	2076.71	2074.51	2057.09	2045.51	2037.99	2061.49	2073.89
27	2067.59	2060.70	2067.19	2056.79	2076.51	2076.81	2073.00	2057.52	2044.39	2038.91	2062.50	2073.40
28	2067.69	2059.39	2067.59	2056.10	2076.51	2076.41	2071.69	2057.09	2044.00	2039.31	2063.39	2073.20
29	2067.69		2067.49	2056.20	2076.32	2076.51	2070.80	2057.09	2043.31	2039.80	2064.21	2073.00
30	2067.69		2067.19	2057.52	2076.81	2076.71	2069.92	2056.60	2042.59	2040.29	2065.19	2073.00
31	2067.92		2066.21		2076.61		2068.80	2056.30		2041.31		2073.10

Table 27. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1A modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.40	2058.82	2036.48	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.14	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.83	2058.95	2034.66	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.55	2058.98	2033.64	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.23	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2067.01	2059.07	2031.55	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.81	2059.00	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.16	2066.29	2058.62	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.89	2065.88	2058.03	2028.53	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.60	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.22	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.81	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.67	2064.56	2054.43	2024.47	2050.67	2075.17
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.26	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.91	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.57	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.23	2063.12	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.89	2062.67	2049.98	2019.41	2053.50	2075.76
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.55	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.23	2062.24	2047.98	2017.38	2054.59	2076.06
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.96	2062.05	2046.84	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.70	2061.71	2045.85	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.41	2061.34	2044.86	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2071.02	2061.09	2043.86	2024.03	2056.21	2075.86
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.74	2060.67	2042.80	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.28	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.95	2060.10	2040.84	2028.53	2059.34	2076.05
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.55	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.15	2059.48	2038.66	2031.57	2061.37	2075.82
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.90	2059.34	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.70	2059.12		2034.64		2075.91

Table 28. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1B modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.34	2058.82	2036.49	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.09	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.77	2058.95	2034.65	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.49	2059.02	2033.64	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.16	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2066.96	2059.04	2031.55	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.77	2058.93	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.15	2066.24	2058.55	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.89	2065.88	2058.02	2028.52	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.55	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.18	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.75	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.61	2064.56	2054.43	2024.47	2050.67	2075.18
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.20	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.85	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.52	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.19	2063.04	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.83	2062.67	2049.98	2019.41	2053.50	2075.77
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.53	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.17	2062.24	2047.98	2017.38	2054.59	2076.05
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.90	2062.05	2046.84	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.65	2061.71	2045.85	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.37	2061.30	2044.86	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2070.98	2061.02	2043.86	2024.03	2056.21	2075.85
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.70	2060.67	2042.80	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.24	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.89	2060.10	2040.84	2028.53	2059.34	2076.09
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.50	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.09	2059.48	2038.67	2031.57	2061.37	2075.81
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.84	2059.30	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.64	2059.07		2034.64		2075.91

Table 29. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1C modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.40	2058.82	2036.48	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.14	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.83	2058.95	2034.65	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.55	2058.98	2033.64	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.23	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2067.01	2059.08	2031.55	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.81	2059.01	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.17	2066.29	2058.62	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.90	2065.88	2058.02	2028.52	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.60	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.23	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.81	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.67	2064.56	2054.43	2024.47	2050.67	2075.17
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.26	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.91	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.57	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.24	2063.12	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.89	2062.67	2049.99	2019.41	2053.50	2075.76
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.55	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.23	2062.24	2047.98	2017.38	2054.59	2076.06
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.96	2062.05	2046.84	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.70	2061.71	2045.85	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.41	2061.33	2044.86	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2071.02	2061.09	2043.86	2024.03	2056.21	2075.85
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.74	2060.67	2042.80	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.28	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.95	2060.10	2040.84	2028.53	2059.34	2076.05
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.55	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.15	2059.48	2038.67	2031.57	2061.37	2075.81
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.90	2059.34	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.70	2059.12		2034.64		2075.91

Table 30. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1D modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.34	2058.82	2036.49	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.09	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.77	2058.95	2034.65	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.49	2059.02	2033.64	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.16	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2066.96	2059.04	2031.55	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.77	2058.93	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.15	2066.24	2058.55	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.89	2065.88	2058.02	2028.52	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.55	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.18	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.75	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.61	2064.56	2054.43	2024.47	2050.67	2075.18
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.20	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.85	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.52	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.19	2063.04	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.83	2062.67	2049.98	2019.41	2053.50	2075.77
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.53	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.17	2062.24	2047.98	2017.38	2054.59	2076.05
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.90	2062.05	2046.84	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.65	2061.71	2045.85	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.37	2061.30	2044.86	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2070.98	2061.02	2043.86	2024.03	2056.21	2075.85
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.70	2060.67	2042.80	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.24	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.89	2060.10	2040.84	2028.53	2059.34	2076.09
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.50	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.09	2059.48	2038.67	2031.57	2061.37	2075.81
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.84	2059.30	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.64	2059.07		2034.64		2075.91

Table 31. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1E modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.34	2058.82	2036.49	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.09	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.77	2058.95	2034.65	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.49	2059.02	2033.64	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.16	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2066.96	2059.04	2031.55	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.77	2058.93	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.15	2066.24	2058.55	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.89	2065.88	2058.02	2028.52	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.55	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.18	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.75	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.61	2064.56	2054.43	2024.47	2050.67	2075.18
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.20	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.85	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.52	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.19	2063.04	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.83	2062.67	2049.98	2019.41	2053.50	2075.77
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.53	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.17	2062.24	2047.98	2017.38	2054.59	2076.05
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.90	2062.05	2046.84	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.65	2061.71	2045.85	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.37	2061.30	2044.86	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2070.98	2061.02	2043.86	2024.03	2056.21	2075.85
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.70	2060.67	2042.80	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.24	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.89	2060.10	2040.84	2028.53	2059.34	2076.09
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.50	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.09	2059.48	2038.67	2031.57	2061.37	2075.81
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.84	2059.30	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.64	2059.07		2034.64		2075.91

Table 32. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 1F modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.40	2058.82	2036.48	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.14	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.83	2058.95	2034.65	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.55	2058.98	2033.64	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.23	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2067.00	2059.08	2031.55	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.81	2059.00	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.16	2066.29	2058.62	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.89	2065.88	2058.03	2028.52	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.60	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.22	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.81	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.67	2064.56	2054.43	2024.47	2050.67	2075.17
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.26	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.90	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.57	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.23	2063.12	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.89	2062.67	2049.99	2019.41	2053.50	2075.76
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.55	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.23	2062.24	2047.98	2017.38	2054.59	2076.05
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.96	2062.05	2046.84	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.69	2061.71	2045.86	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.41	2061.34	2044.86	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2071.01	2061.09	2043.86	2024.03	2056.21	2075.86
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.74	2060.67	2042.80	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.28	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.95	2060.10	2040.84	2028.53	2059.34	2076.05
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.55	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.15	2059.48	2038.66	2031.57	2061.37	2075.81
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.90	2059.34	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.69	2059.12		2034.64		2075.91

Table 33. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 2 modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2069.62	2077.00	2049.34	2048.60	2031.73	2035.88	2063.50
2	2077.00	2055.54	2033.36	2006.93	1986.93	2071.41	2077.00	2049.24	2048.69	2031.08	2037.51	2064.66
3	2077.00	2054.77	2032.50	2006.11	1990.17	2073.22	2077.00	2049.15	2048.85	2030.39	2038.91	2065.83
4	2077.00	2053.97	2031.65	2005.30	1993.20	2075.02	2076.59	2049.13	2048.91	2029.59	2040.46	2066.91
5	2077.00	2053.17	2030.79	2004.48	1996.19	2076.76	2075.55	2049.07	2049.03	2028.81	2041.63	2067.98
6	2077.00	2052.40	2029.94	2003.67	1999.19	2077.00	2074.27	2049.16	2049.01	2027.96	2042.61	2069.10
7	2077.00	2051.61	2029.08	2002.86	2002.19	2077.00	2073.52	2049.29	2048.91	2027.12	2043.72	2070.13
8	2075.26	2050.81	2028.23	2002.05	2005.19	2077.00	2072.62	2049.02	2048.61	2026.37	2045.01	2071.20
9	2074.45	2050.03	2027.37	2001.23	2008.20	2077.00	2071.32	2048.96	2048.20	2025.63	2046.09	2072.49
10	2073.66	2049.25	2026.52	2000.42	2011.11	2077.00	2069.89	2048.97	2047.54	2024.82	2047.18	2073.51
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2068.45	2048.96	2047.05	2024.06	2048.51	2074.24
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2066.86	2048.78	2046.21	2023.23	2049.69	2075.02
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2065.40	2048.89	2045.40	2022.56	2050.48	2075.14
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2063.77	2049.00	2044.72	2021.75	2051.26	2075.41
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2062.48	2048.93	2044.15	2021.12	2051.87	2075.47
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2061.34	2048.77	2043.43	2020.32	2052.40	2075.64
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2060.32	2048.59	2042.74	2019.47	2053.06	2075.75
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2059.33	2048.53	2042.10	2018.67	2053.32	2075.76
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2058.42	2048.67	2041.36	2017.92	2053.94	2075.81
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2057.62	2048.76	2040.61	2017.14	2054.41	2076.04
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2056.78	2048.89	2039.73	2018.87	2054.47	2075.97
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2056.05	2048.87	2038.96	2020.63	2054.74	2076.13
23	2063.42	2039.00	2015.39	1986.74	2050.15	2077.00	2055.29	2048.72	2038.20	2022.24	2055.37	2076.25
24	2063.03	2038.22	2014.54	1985.54	2053.15	2077.00	2054.44	2048.80	2037.44	2023.81	2056.03	2075.85
25	2061.86	2037.43	2013.68	1984.34	2056.00	2077.00	2053.71	2048.76	2036.60	2025.34	2056.96	2075.89
26	2061.05	2036.65	2012.83	1983.14	2058.92	2077.00	2052.81	2048.85	2035.81	2026.91	2058.02	2075.94
27	2060.28	2035.85	2011.98	1981.94	2061.73	2077.00	2051.97	2048.83	2035.09	2028.30	2059.16	2076.09
28	2059.48	2035.07	2011.12	1980.73	2064.35	2077.00	2051.10	2048.86	2034.44	2029.87	2060.17	2076.00
29	2058.71		2010.27	1979.53	2065.64	2077.00	2050.22	2048.84	2033.41	2031.35	2061.19	2075.81
30	2057.91		2009.41	1978.33	2066.94	2077.00	2049.78	2048.84	2032.59	2032.87	2062.38	2075.91
31	2057.11		2008.56		2068.15		2049.56	2048.75		2034.43		2075.91

Table 34. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 3 modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.34	2058.82	2036.48	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.09	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.77	2058.95	2034.65	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.49	2058.98	2033.63	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.16	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2066.96	2059.01	2031.56	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.77	2058.93	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.15	2066.24	2058.55	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.86	2065.88	2058.02	2028.51	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.55	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.18	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.75	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.61	2064.56	2054.43	2024.47	2050.67	2075.17
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.20	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.85	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.52	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.19	2063.05	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.83	2062.67	2049.98	2019.40	2053.50	2075.76
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.49	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.17	2062.24	2047.98	2017.38	2054.59	2076.05
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.90	2062.05	2046.85	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.65	2061.71	2045.84	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.37	2061.26	2044.85	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2070.98	2061.02	2043.86	2024.03	2056.21	2075.85
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.70	2060.67	2042.81	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.24	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.89	2060.10	2040.84	2028.53	2059.34	2076.05
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.50	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.09	2059.48	2038.67	2031.57	2061.37	2075.81
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.84	2059.27	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.64	2059.07		2034.64		2075.91

Table 35. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 4 modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.34	2034.22	2007.73	1982.95	2060.02	2077.00	2068.40	2058.82	2036.48	2036.09	2063.68
2	2077.00	2055.54	2033.36	2006.93	1986.93	2061.85	2077.00	2068.14	2058.84	2035.59	2037.72	2064.83
3	2077.00	2054.77	2032.50	2006.11	1990.17	2063.69	2077.00	2067.83	2058.95	2034.65	2039.12	2066.00
4	2077.00	2053.97	2031.65	2005.30	1993.20	2065.53	2076.59	2067.55	2058.98	2033.64	2040.66	2067.08
5	2077.00	2053.17	2030.79	2004.48	1996.19	2067.26	2075.72	2067.23	2059.07	2032.64	2041.82	2068.15
6	2077.00	2052.40	2029.94	2003.67	1999.19	2068.99	2075.98	2067.00	2059.08	2031.55	2042.81	2069.27
7	2077.00	2051.61	2029.08	2002.86	2002.19	2070.77	2076.14	2066.81	2059.00	2030.49	2043.92	2070.30
8	2075.26	2050.81	2028.23	2002.05	2005.19	2072.17	2076.16	2066.29	2058.62	2029.50	2045.20	2071.36
9	2074.45	2050.03	2027.37	2001.23	2008.20	2073.98	2075.89	2065.88	2058.03	2028.52	2046.28	2072.66
10	2073.66	2049.25	2026.52	2000.42	2011.11	2076.29	2075.60	2065.58	2057.18	2027.46	2047.38	2073.67
11	2072.88	2048.45	2025.66	1999.61	2014.11	2077.00	2075.22	2065.26	2056.49	2026.45	2048.70	2074.34
12	2072.08	2047.67	2024.81	1998.80	2017.11	2077.00	2074.81	2064.79	2055.45	2025.38	2049.88	2075.09
13	2071.31	2046.89	2023.95	1997.98	2020.12	2077.00	2074.67	2064.56	2054.43	2024.47	2050.67	2075.17
14	2070.51	2046.10	2023.10	1997.17	2023.11	2077.00	2074.26	2064.35	2053.54	2023.42	2051.45	2075.44
15	2069.71	2045.31	2022.24	1996.36	2026.11	2077.00	2073.90	2063.97	2052.74	2022.55	2052.06	2075.49
16	2069.33	2044.52	2021.38	1995.16	2029.11	2077.00	2073.57	2063.51	2051.77	2021.50	2052.58	2075.65
17	2068.16	2043.73	2020.53	1993.96	2032.11	2077.00	2073.23	2063.12	2050.85	2020.43	2053.24	2075.76
18	2067.35	2042.94	2019.68	1992.76	2035.11	2077.00	2072.89	2062.67	2049.99	2019.41	2053.50	2075.76
19	2066.58	2042.15	2018.82	1991.56	2038.14	2077.00	2072.55	2062.48	2049.00	2018.41	2054.12	2075.82
20	2065.79	2041.37	2017.97	1990.35	2041.15	2077.00	2072.23	2062.24	2047.98	2017.38	2054.59	2076.05
21	2064.99	2040.58	2017.11	1989.16	2044.14	2077.00	2071.96	2062.05	2046.84	2019.10	2054.65	2075.99
22	2064.22	2039.80	2016.25	1987.95	2047.14	2077.00	2071.69	2061.71	2045.86	2020.86	2054.92	2076.13
23	2063.42	2039.00	2015.39	1986.74	2048.49	2077.00	2071.41	2061.34	2044.86	2022.46	2055.56	2076.26
24	2063.03	2038.22	2014.54	1985.54	2049.81	2077.00	2071.01	2061.09	2043.86	2024.03	2056.21	2075.86
25	2061.86	2037.43	2013.68	1984.34	2051.05	2077.00	2070.74	2060.67	2042.80	2025.56	2057.14	2075.89
26	2061.05	2036.65	2012.83	1983.14	2052.37	2077.00	2070.28	2060.44	2041.78	2027.13	2058.20	2075.94
27	2060.28	2035.85	2011.98	1981.94	2053.63	2077.00	2069.95	2060.10	2040.84	2028.53	2059.34	2076.05
28	2059.48	2035.07	2011.12	1980.73	2054.71	2077.00	2069.55	2059.82	2039.97	2030.08	2060.35	2076.00
29	2058.71		2010.27	1979.53	2055.91	2077.00	2069.15	2059.48	2038.66	2031.57	2061.37	2075.81
30	2057.91		2009.41	1978.33	2057.23	2077.00	2068.90	2059.34	2037.58	2033.08	2062.55	2075.91
31	2057.11		2008.56		2058.49		2068.69	2059.12		2034.64		2075.91

Table 36. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 5 modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
2	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
3	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
4	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
5	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
6	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
7	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
8	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
9	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
10	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
11	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
12	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
13	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
14	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
15	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
16	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
17	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
18	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
19	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
20	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
21	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
22	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
23	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
24	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
25	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
26	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
27	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
28	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
29	1976.00		1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
30	1976.00		1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00	1976.00
31	1976.00		1976.00		1976.00		1976.00	1976.00		1976.00		1976.00

Table 37. End-of-day (23rd hour) water levels in Brownlee reservoir for Operational Scenario 6 modeled under the extreme high flow year of 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2066.88	2035.49	1995.76	1978.29	1982.95	2060.02	2077.00	2054.19	2014.09	1976.00	2002.31	2036.22
2	2066.67	2034.03	1995.19	1978.29	1986.93	2061.85	2077.00	2052.98	2012.92	1976.03	2004.37	2037.64
3	2071.18	2032.59	1994.60	1978.29	1990.17	2063.69	2077.00	2051.71	2011.83	1976.07	2006.14	2039.08
4	2075.85	2031.14	1994.02	1978.29	1993.20	2065.53	2076.59	2050.47	2010.62	1976.03	2008.04	2040.40
5	2076.47	2029.69	1993.44	1978.29	1996.20	2067.27	2075.72	2049.17	2009.48	1976.00	2009.50	2041.69
6	2073.21	2028.25	1992.86	1978.29	1999.20	2068.99	2075.98	2048.01	2008.16	1976.00	2010.73	2043.04
7	2071.70	2026.79	1992.27	1978.29	2002.20	2070.77	2076.29	2046.82	2006.83	1976.00	2012.12	2044.27
8	2070.25	2025.35	1991.70	1978.29	2005.19	2072.17	2076.42	2045.29	2005.49	1976.00	2013.73	2045.53
9	2068.81	2023.90	1991.11	1978.29	2008.20	2073.98	2076.37	2043.98	2004.12	1976.00	2015.07	2047.05
10	2067.36	2022.45	1990.53	1978.29	2011.11	2076.30	2076.29	2042.72	2002.62	1976.00	2016.44	2048.26
11	2065.91	2021.00	1989.95	1978.29	2014.11	2077.00	2076.19	2041.40	2001.53	1976.00	2018.06	2049.48
12	2064.45	2019.56	1989.37	1978.29	2017.12	2077.00	2076.06	2039.99	2000.05	1976.00	2019.51	2051.27
13	2063.02	2018.10	1988.78	1978.29	2020.12	2077.00	2076.22	2038.78	1998.61	1976.00	2020.46	2052.44
14	2061.56	2016.66	1988.21	1978.29	2023.11	2077.00	2075.69	2037.59	1997.40	1976.00	2021.41	2053.98
15	2060.11	2015.21	1987.62	1978.29	2026.11	2077.00	2074.94	2036.20	1996.37	1976.12	2022.14	2055.35
16	2058.66	2013.76	1987.03	1978.29	2029.11	2077.00	2074.03	2034.81	1995.12	1976.07	2022.77	2056.92
17	2057.21	2012.31	1986.46	1978.29	2032.11	2077.00	2073.05	2033.38	1993.95	1976.00	2023.56	2058.45
18	2055.76	2010.86	1985.87	1978.29	2035.11	2077.00	2071.88	2032.02	1992.86	1976.00	2023.88	2059.96
19	2054.33	2009.42	1985.30	1978.29	2038.14	2077.00	2070.67	2030.89	1991.59	1976.46	2024.66	2061.43
20	2052.87	2007.96	1984.71	1978.29	2041.15	2077.00	2069.45	2029.72	1990.31	1977.45	2025.24	2063.05
21	2051.41	2006.52	1984.12	1978.29	2044.14	2077.00	2068.27	2028.57	1988.83	1979.99	2025.31	2064.32
22	2049.98	2005.07	1983.55	1978.29	2047.15	2077.00	2067.11	2027.25	1987.60	1982.42	2025.65	2065.34
23	2048.53	2003.62	1982.97	1978.29	2048.49	2077.00	2065.90	2025.79	1986.40	1984.63	2026.43	2065.81
24	2047.08	2002.17	1982.38	1978.29	2049.82	2077.00	2064.56	2024.59	1985.14	1986.77	2027.25	2065.37
25	2045.62	2000.73	1981.79	1978.29	2051.05	2077.00	2063.33	2023.27	1983.78	1988.75	2028.40	2065.17
26	2044.18	1999.28	1981.22	1978.29	2052.38	2077.00	2061.89	2022.08	1982.47	1990.78	2029.72	2064.86
27	2042.73	1997.82	1980.63	1978.29	2053.63	2077.00	2060.58	2020.79	1981.28	1992.59	2031.09	2064.52
28	2041.28	1996.38	1980.05	1978.29	2054.71	2077.00	2059.22	2019.57	1980.04	1994.57	2032.31	2063.89
29	2039.83		1979.47	1978.29	2055.91	2077.00	2057.81	2018.25	1978.31	1996.52	2033.53	2063.10
30	2038.38		1978.89	1978.29	2057.23	2077.00	2056.59	2016.97	1977.21	1998.45	2034.90	2062.59
31	2036.94		1978.31		2058.49		2055.44	2015.57		2000.48		2061.97

Table 38. End-of-day (23rd hour) water levels in Brownlee reservoir for Proposed Operations modeled during the high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2077.00	2056.33	2034.22	2007.74	1983.00	2060.47	2077.00	2068.38	2058.86	2036.48	2036.16	2063.75
2	2077.00	2055.55	2033.37	2006.92	1987.04	2062.34	2077.00	2068.15	2058.86	2035.63	2037.80	2064.90
3	2077.00	2054.76	2032.51	2006.10	1990.35	2064.18	2077.00	2067.82	2058.99	2034.68	2039.21	2066.08
4	2077.00	2053.97	2031.66	2005.31	1993.44	2066.05	2076.64	2067.52	2059.02	2033.66	2040.75	2067.13
5	2077.00	2053.18	2030.77	2004.49	1996.46	2067.75	2075.72	2067.19	2059.12	2032.65	2041.90	2068.21
6	2077.00	2052.40	2029.95	2003.67	1999.44	2069.49	2075.99	2066.96	2059.09	2031.60	2042.88	2069.33
7	2077.00	2051.61	2029.07	2002.85	2002.46	2071.30	2076.18	2066.80	2059.02	2030.51	2044.00	2070.34
8	2075.27	2050.82	2028.22	2002.07	2005.48	2072.71	2076.18	2066.28	2058.63	2029.50	2045.28	2071.43
9	2074.45	2050.03	2027.36	2001.25	2008.46	2074.48	2075.92	2065.91	2058.04	2028.54	2046.36	2072.74
10	2073.66	2049.25	2026.51	2000.43	2011.38	2076.81	2075.59	2065.59	2057.19	2027.49	2047.44	2073.72
11	2072.87	2048.46	2025.66	1999.61	2014.40	2077.00	2075.23	2065.29	2056.53	2026.48	2048.79	2074.41
12	2072.08	2047.67	2024.80	1998.79	2017.39	2077.00	2074.81	2064.80	2055.48	2025.39	2049.94	2075.17
13	2071.30	2046.88	2023.95	1997.96	2020.41	2077.00	2074.67	2064.60	2054.46	2024.51	2050.72	2075.23
14	2070.51	2046.10	2023.10	1997.18	2023.39	2077.00	2074.28	2064.37	2053.58	2023.46	2051.51	2075.49
15	2069.72	2045.31	2022.24	1996.36	2026.41	2077.00	2073.92	2063.98	2052.76	2022.57	2052.13	2075.56
16	2069.33	2044.52	2021.39	1995.18	2029.40	2077.00	2073.59	2063.55	2051.81	2021.52	2052.63	2075.72
17	2068.15	2043.73	2020.54	1993.96	2032.42	2077.00	2073.20	2063.13	2050.89	2020.47	2053.32	2075.82
18	2067.36	2042.95	2019.69	1992.75	2035.40	2077.00	2072.84	2062.70	2050.00	2019.46	2053.55	2075.82
19	2066.57	2042.16	2018.83	1991.57	2038.49	2077.00	2072.54	2062.50	2049.02	2018.44	2054.17	2075.89
20	2065.78	2041.37	2017.95	1990.35	2041.47	2077.00	2072.21	2062.27	2048.00	2017.42	2054.66	2076.12
21	2065.00	2040.59	2017.13	1989.14	2044.46	2077.00	2071.92	2062.08	2046.85	2019.19	2054.69	2076.05
22	2064.21	2039.80	2016.24	1987.96	2047.48	2077.00	2071.66	2061.75	2045.87	2020.96	2054.96	2076.18
23	2063.42	2039.01	2015.39	1986.74	2048.82	2077.00	2071.39	2061.35	2044.88	2022.54	2055.61	2076.32
24	2063.03	2038.22	2014.53	1985.53	2050.17	2077.00	2071.00	2061.09	2043.90	2024.11	2056.27	2075.92
25	2061.85	2037.44	2013.68	1984.35	2051.45	2077.00	2070.70	2060.70	2042.82	2025.66	2057.19	2075.95
26	2061.06	2036.65	2012.83	1983.13	2052.76	2077.00	2070.28	2060.47	2041.80	2027.23	2058.27	2075.99
27	2060.27	2035.86	2011.97	1981.95	2054.00	2077.00	2069.92	2060.14	2040.85	2028.61	2059.42	2076.12
28	2059.48	2035.07	2011.12	1980.74	2055.12	2077.00	2069.52	2059.84	2039.99	2030.18	2060.40	2076.05
29	2058.70		2010.27	1979.53	2056.33	2077.00	2069.10	2059.52	2038.68	2031.66	2061.45	2075.86
30	2057.91		2009.42	1978.34	2057.68	2077.00	2068.87	2059.35	2037.60	2033.17	2062.63	2075.95
31	2057.12		2008.56		2058.93		2068.67	2059.12		2034.71		

Table 39. Actual end-of-day (23rd hour) water levels in Brownlee reservoir measured during the high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2076.61	2066.21	2030.81	2004.69	1979.20	2050.20	2076.09	2070.21	2051.61	2020.51	2016.01	2054.30
2	2076.71	2065.39	2028.22	2003.31	1977.00	2053.51	2076.41	2070.11	2051.41	2018.90	2018.11	2055.81
3	2076.81	2063.91	2026.80	2002.30	1977.20	2056.40	2076.61	2069.20	2051.41	2018.01	2020.01	2057.09
4	2076.32	2062.50	2025.79	2001.02	1977.39	2059.19	2076.41	2068.51	2051.51	2016.11	2022.01	2058.50
5	2075.59	2060.50	2024.11	2001.02	1977.59	2060.99	2075.99	2068.01	2051.61	2014.30	2023.79	2059.81
6	2075.79	2058.40	2022.80	2000.59	1977.59	2062.50	2076.18	2067.19	2051.22	2012.50	2024.90	2061.09
7	2075.99	2057.19	2021.29	2000.59	1977.59	2063.91	2075.79	2066.60	2050.99	2010.50	2026.41	2062.40
8	2076.41	2056.10	2019.91	1999.90	1977.00	2065.68	2075.59	2065.68	2051.08	2009.09	2027.99	2063.49
9	2076.09	2054.50	2019.09	1998.19	1977.20	2067.16	2075.20	2064.60	2050.99	2007.32	2029.79	2064.70
10	2076.32	2053.51	2017.59	1997.60	1977.39	2068.21	2075.20	2063.81	2050.89	2005.61	2030.81	2065.29
11	2076.41	2052.59	2016.50	1997.01	1977.69	2069.10	2075.69	2063.58	2050.89	2004.00	2032.91	2065.09
12	2076.61	2051.71	2015.29	1995.60	1981.49	2069.88	2076.18	2062.50	2050.89	2002.30	2034.19	2065.39
13	2076.61	2050.69	2014.99	1994.49	1985.69	2071.00	2076.51	2061.71	2050.79	2000.39	2035.70	2065.59
14	2076.51	2049.31	2014.80	1992.91	1990.81	2071.39	2075.79	2060.70	2050.79	1997.70	2037.01	2066.31
15	2076.18	2047.70	2014.80	1992.91	1994.39	2071.69	2075.59	2059.71	2050.40	1995.01	2037.99	2066.80
16	2075.59	2046.49	2014.60	1993.60	1998.49	2071.89	2075.49	2058.50	2049.51	1991.80	2039.21	2066.60
17	2075.59	2046.10	2014.21	1993.21	2002.98	2072.71	2075.30	2057.81	2048.69	1988.91	2040.09	2066.90
18	2075.59	2045.51	2013.81	1992.91	2007.91	2073.40	2075.59	2057.19	2046.88	1986.09	2040.72	2067.19
19	2075.30	2044.92	2012.40	1992.81	2012.30	2073.59	2075.69	2056.79	2045.41	1987.79	2041.80	2067.39
20	2075.30	2044.19	2011.38	1992.39	2015.81	2073.99	2075.99	2056.20	2043.21	1989.80	2042.39	2067.78
21	2075.40	2043.31	2010.20	1993.21	2018.80	2074.08	2075.69	2055.71	2041.01	1992.72	2042.68	2068.70
22	2075.99	2042.59	2009.42	1993.01	2022.01	2074.08	2075.99	2055.51	2039.21	1995.21	2043.11	2068.60
23	2075.99	2041.50	2008.99	1991.99	2025.20	2074.08	2075.79	2054.79	2037.21	1997.60	2044.19	2069.00
24	2075.30	2040.49	2008.69	1991.30	2028.31	2074.71	2074.81	2054.20	2035.20	1999.51	2045.21	2069.29
25	2074.41	2038.71	2007.18	1990.48	2031.10	2075.30	2074.41	2053.71	2033.30	2001.80	2046.29	2070.11
26	2073.10	2036.81	2008.20	1990.81	2034.29	2076.18	2073.49	2053.61	2031.40	2003.90	2047.61	2070.61
27	2071.98	2034.91	2008.89	1990.81	2037.50	2076.51	2072.90	2053.32	2029.30	2005.41	2048.98	2071.39
28	2070.31	2032.91	2007.91	1989.70	2039.99	2076.51	2072.31	2052.89	2027.40	2007.51	2050.40	2072.71
29	2068.90		2007.32	1985.89	2042.09	2075.99	2071.79	2052.59	2024.90	2009.61	2051.41	2072.41
30	2068.01		2007.18	1983.40	2044.59	2075.89	2071.20	2052.20	2022.70	2011.61	2052.99	2072.41
31	2067.29		2006.40		2047.31		2070.51	2051.81		2013.91		2072.51

Table 40. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1A modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1803.14	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1802.99	1803.19	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1803.20	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.04
19	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
20	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
21	1803.00	1803.00	1802.99	1803.14	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1803.07
22	1803.00	1803.00	1802.99	1803.13	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1803.07
23	1803.00	1803.04	1802.99	1803.14	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1803.06
24	1803.00	1802.99	1802.99	1803.20	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1803.08
25	1803.00	1802.99	1803.01	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1803.08
26	1803.00	1802.99	1803.01	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1803.01	1803.15	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1803.00	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1803.00	1803.14	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1803.16	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
31	1803.00		1803.00		1803.00		1802.99	1802.99		1802.99		1802.99

Table 41. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1B modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1803.02	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1803.02	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.03	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1803.03	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
20	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
21	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
22	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.99	1802.99	1803.04	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1803.00		1802.99	1802.99		1802.99		1802.99

Table 42. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1C modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.04	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
20	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
21	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
22	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1803.00		1802.99	1802.99		1802.99		1802.99

Table 43. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1D modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1803.03	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1803.02	1803.00	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.04	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1803.03	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
20	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
21	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
22	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.99	1802.99	1803.04	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1803.00		1802.99	1803.00		1802.99		1802.99

Table 44. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1E modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.04	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
20	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
21	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
22	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1803.00		1802.99	1803.00		1802.99		1802.99

Table 45. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1F modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1803.02	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1803.02	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.03	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1803.03	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
20	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
21	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
22	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.99	1802.99	1803.04	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1803.00		1802.99	1802.99		1802.99		1802.99

Table 46. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 2 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1803.02	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1803.02	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.03	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1803.03	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
20	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
21	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
22	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.99	1802.99	1803.04	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1803.00		1802.99	1802.99		1802.99		1802.99

Table 47. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 3 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.03	1803.00	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
12	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
13	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
14	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
15	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
16	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
17	1803.00	1802.99	1802.99	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
18	1803.00	1802.99	1802.99	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
20	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
21	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
22	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.98	1802.99	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.98	1802.99	1802.99	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1802.99		1802.99	1803.00		1802.99		1802.99

Table 48. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 4 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99
2	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99
3	1803.00	1803.00	1802.99	1802.99	1803.02	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99
4	1803.00	1803.00	1802.99	1803.02	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99
5	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99	1802.99
6	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
7	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
8	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
9	1803.00	1803.00	1802.99	1802.99	1803.03	1803.00	1803.00	1803.00	1802.99	1802.99	1802.99	1802.99
10	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
11	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
12	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
13	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
14	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
15	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
16	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
17	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
18	1803.00	1803.00	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
19	1803.00	1802.99	1802.99	1803.03	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
20	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
21	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
22	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
23	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
24	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
25	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
26	1803.00	1802.99	1802.99	1803.04	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
27	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
28	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
29	1803.00	1802.99	1802.99	1802.99	1802.99	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
30	1803.00		1802.99	1802.99	1803.00	1803.00	1802.99	1803.00	1802.99	1802.99	1802.99	1802.99
31	1803.00		1802.99		1803.00		1802.99	1803.00		1802.99		1802.99

Table 49. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 5 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
3	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
10	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
29	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
30	1805.00		1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
31	1805.00		1805.00		1805.00		1805.00	1805.00		1805.00		1805.00

Table 50. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 6 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.44	1803.01	1803.01
2	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.42	1803.01	1803.01
3	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.50	1803.01	1803.01
4	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.48	1803.01	1803.01
5	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.47	1803.01	1803.01
6	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.48	1803.01	1803.01
7	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.43	1803.01	1803.01
8	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.44	1803.01	1803.01
9	1803.01	1803.01	1803.00	1803.00	1803.04	1803.01	1803.01	1803.01	1803.01	1802.37	1803.01	1803.01
10	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.41	1803.01	1803.01
11	1803.01	1803.01	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.37	1803.01	1803.01
12	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.39	1803.01	1803.01
13	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.37	1803.01	1803.01
14	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.34	1803.01	1803.01
15	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.37	1803.01	1803.01
16	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.35	1803.01	1803.01
17	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.37	1803.01	1803.01
18	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.35	1803.01	1803.01
19	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.32	1803.01	1803.01
20	1803.01	1802.99	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1802.76	1803.01	1803.01
21	1803.01	1802.99	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
22	1803.01	1802.99	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
23	1803.01	1802.99	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
24	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
25	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
26	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
27	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
28	1803.01	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
29	1803.00	1803.00	1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
30	1803.00		1803.00	1803.00	1803.00	1803.01	1803.01	1803.01	1802.43	1803.01	1803.01	1803.01
31	1803.01		1803.00		1803.01		1803.01	1803.01		1803.01		1803.01

Table 51. End-of-day (23rd hour) water levels in Oxbow reservoir for Proposed Operations modeled during the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
2	1803.01	1803.01	1803.01	1803.04	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
3	1803.01	1803.01	1803.01	1803.04	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
4	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
5	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
6	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
7	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
8	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
9	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
10	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
11	1803.01	1803.01	1803.01	1803.01	1804.12	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
12	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
13	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
14	1803.01	1802.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
15	1803.01	1802.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
16	1803.01	1802.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
17	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
18	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
19	1803.01	1802.98	1803.01	1804.12	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
20	1803.01	1802.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
21	1803.01	1802.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
22	1803.01	1802.98	1803.01	1803.04	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
23	1803.01	1802.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
24	1803.01	1802.84	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
25	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
26	1803.01	1803.01	1803.01	1803.04	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
27	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
28	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
29	1803.01		1803.01	1803.04	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
30	1803.01		1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.01
31	1803.01		1803.01		1803.01		1803.01	1803.01		1803.01		

Table 52. Actual end-of-day (23rd hour) water levels in Oxbow reservoir measured during the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1802.80	1801.86	1802.53	1801.72	1800.96	1801.06	1802.43	1803.50	1801.96	1803.52	1804.08	1803.48
2	1803.04	1802.64	1802.41	1801.41	1801.64	1802.56	1802.93	1803.18	1802.27	1803.48	1804.08	1802.69
3	1803.96	1803.51	1803.71	1802.82	1802.90	1802.20	1802.62	1802.50	1802.27	1802.90	1804.15	1803.04
4	1803.20	1802.94	1803.00	1802.30	1801.66	1801.98	1803.40	1802.60	1803.59	1802.46	1802.10	1802.30
5	1802.28	1802.45	1802.36	1800.31	1803.04	1802.08	1802.80	1803.06	1802.81	1803.90	1803.08	1802.54
6	1803.35	1802.47	1803.34	1801.89	1803.51	1802.20	1803.95	1802.75	1803.01	1802.64	1803.18	1801.77
7	1803.25	1803.65	1802.91	1802.61	1803.19	1801.83	1803.40	1802.59	1802.55	1802.80	1803.33	1803.08
8	1803.28	1802.86	1802.78	1801.58	1802.92	1802.48	1801.78	1802.36	1802.30	1802.92	1803.03	1802.58
9	1803.66	1801.41	1803.42	1802.10	1801.93	1802.32	1803.13	1802.55	1802.39	1803.60	1803.35	1801.90
10	1802.44	1803.24	1803.92	1802.40	1802.20	1801.89	1802.25	1803.69	1802.53	1803.74	1803.22	1802.85
11	1803.46	1803.64	1802.60	1802.00	1802.54	1802.16	1800.78	1802.58	1803.34	1802.52	1802.38	1802.87
12	1803.17	1803.10	1803.82	1801.13	1803.61	1801.38	1803.32	1802.90	1803.12	1802.70	1802.95	1804.03
13	1803.55	1801.97	1801.96	1802.87	1803.28	1801.84	1802.49	1802.91	1803.13	1803.02	1802.54	1803.24
14	1803.42	1804.13	1802.90	1802.99	1802.71	1802.06	1802.39	1802.88	1803.08	1802.62	1802.98	1802.24
15	1801.68	1802.69	1802.48	1803.24	1801.96	1801.03	1801.95	1802.21	1802.06	1802.98	1802.56	1803.76
16	1803.03	1802.70	1803.61	1801.82	1802.46	1800.52	1803.26	1801.62	1803.64	1803.67	1803.34	1803.18
17	1802.19	1803.62	1803.60	1801.13	1802.42	1801.95	1802.79	1803.18	1802.40	1804.09	1803.09	1802.96
18	1803.18	1803.49	1803.54	1801.90	1803.15	1800.99	1802.55	1803.37	1802.89	1803.08	1803.27	1802.90
19	1802.97	1803.63	1801.12	1801.20	1801.90	1802.67	1802.85	1802.82	1802.10	1802.76	1803.30	1803.66
20	1802.84	1804.08	1802.24	1801.03	1802.00	1803.53	1802.27	1802.51	1802.29	1803.01	1803.25	1802.16
21	1803.85	1802.78	1803.25	1802.47	1802.37	1801.88	1802.39	1801.90	1802.80	1803.80	1803.39	1801.56
22	1803.03	1803.48	1802.60	1802.09	1802.17	1802.84	1802.28	1802.42	1803.27	1802.90	1802.34	1802.54
23	1803.67	1802.50	1804.43	1802.43	1802.43	1801.80	1802.92	1801.85	1802.18	1803.82	1804.71	1802.21
24	1803.79	1803.42	1803.77	1802.65	1802.53	1801.12	1802.69	1801.50	1802.12	1804.05	1802.67	1803.07
25	1802.95	1803.53	1803.32	1804.09	1803.59	1802.02	1802.54	1802.79	1801.73	1803.86	1802.09	1803.13
26	1802.62	1803.32	1802.98	1802.74	1802.51	1802.32	1802.38	1803.63	1802.87	1803.14	1802.69	1802.98
27	1802.17	1802.67	1802.18	1803.06	1801.94	1802.18	1803.78	1803.05	1803.19	1803.97	1802.26	1802.07
28	1802.86	1802.54	1802.10	1802.35	1801.65	1801.46	1802.68	1803.39	1803.58	1803.77	1803.12	1802.86
29	1803.46	1802.85	1802.96	1802.60	1801.89	1802.29	1802.67	1802.20	1801.74	1803.31	1802.16	1802.32
30	1803.84		1801.88	1803.49	1801.47	1802.10	1802.83	1803.28	1804.07	1803.76	1803.15	
31	1803.49		1802.83		1800.04		1802.60	1801.70		1803.23		

Table 53. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1A modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.71	1803.14	1803.11	1803.60	1805.00	1804.65	1803.00	1803.01	1803.05	1803.05	1803.00
2	1803.01	1804.62	1803.14	1803.05	1803.71	1805.00	1804.56	1803.00	1803.01	1803.06	1803.05	1803.00
3	1803.01	1804.27	1803.15	1803.37	1803.71	1805.00	1804.00	1803.00	1803.01	1803.06	1803.05	1803.00
4	1803.01	1804.95	1803.09	1803.59	1803.71	1805.00	1803.99	1803.00	1803.01	1803.07	1803.00	1803.00
5	1803.01	1804.00	1803.20	1803.34	1803.87	1805.00	1804.00	1803.00	1803.01	1803.09	1803.00	1803.09
6	1803.01	1803.99	1803.00	1803.71	1803.99	1805.00	1803.38	1803.00	1803.01	1803.10	1803.05	1803.09
7	1803.01	1804.00	1803.15	1803.99	1803.99	1805.00	1803.89	1803.00	1803.01	1803.10	1803.05	1803.09
8	1803.01	1803.00	1803.00	1803.99	1803.99	1805.00	1804.00	1803.00	1803.01	1803.09	1803.05	1803.10
9	1803.01	1803.49	1803.18	1803.99	1803.99	1805.00	1803.99	1803.00	1804.00	1803.11	1803.05	1803.00
10	1803.01	1803.24	1803.36	1803.99	1803.99	1805.00	1804.00	1803.00	1803.99	1803.09	1803.05	1803.00
11	1803.01	1803.65	1804.00	1803.87	1803.99	1805.00	1804.00	1803.00	1803.02	1803.12	1803.00	1803.00
12	1803.01	1803.37	1804.00	1803.79	1803.99	1805.00	1804.00	1803.00	1803.99	1803.31	1803.00	1803.48
13	1803.01	1803.22	1804.00	1803.87	1803.99	1805.00	1803.99	1803.00	1803.99	1803.32	1803.00	1804.00
14	1803.01	1803.22	1804.00	1803.79	1803.99	1805.00	1804.00	1803.01	1803.99	1803.13	1803.00	1803.99
15	1803.01	1803.49	1804.19	1803.99	1803.99	1805.00	1803.99	1803.01	1803.06	1803.14	1803.05	1803.99
16	1803.01	1803.23	1804.00	1803.99	1803.99	1805.00	1804.00	1803.00	1803.01	1803.13	1803.05	1803.99
17	1803.01	1803.22	1804.70	1803.71	1803.99	1805.00	1803.99	1803.00	1803.05	1803.12	1803.05	1803.99
18	1803.01	1803.37	1804.61	1803.65	1803.87	1805.00	1804.00	1803.00	1803.01	1803.30	1803.00	1804.00
19	1803.01	1803.84	1804.53	1803.60	1803.99	1805.00	1803.00	1803.00	1803.01	1803.50	1803.00	1804.00
20	1803.01	1803.36	1805.00	1803.60	1803.99	1805.00	1803.00	1803.00	1803.01	1803.34	1803.05	1803.99
21	1803.01	1803.36	1804.90	1803.34	1803.99	1804.92	1803.00	1803.01	1803.01	1803.01	1803.05	1804.00
22	1803.01	1803.48	1804.82	1803.65	1803.99	1804.81	1804.00	1803.01	1803.01	1803.01	1803.05	1803.72
23	1803.01	1803.48	1804.73	1803.12	1803.99	1805.00	1803.87	1803.01	1803.01	1803.05	1803.05	1803.99
24	1803.01	1802.99	1804.51	1803.22	1803.99	1804.90	1803.00	1803.01	1803.06	1803.05	1803.05	1803.40
25	1803.01	1803.99	1803.99	1803.47	1805.00	1804.81	1803.00	1803.01	1803.08	1803.05	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.60	1805.00	1804.73	1803.00	1803.01	1803.07	1803.05	1803.00	1803.38
27	1803.01	1803.39	1803.24	1803.71	1805.00	1805.00	1803.00	1803.01	1803.08	1803.05	1803.05	1803.37
28	1803.01	1803.49	1803.24	1803.79	1805.00	1804.92	1803.00	1803.01	1803.07	1803.00	1803.05	1803.43
29	1803.00		1803.25	1803.71	1805.00	1804.81	1803.00	1803.01	1803.05	1803.00	1803.11	1803.00
30	1803.00		1803.25	1803.99	1805.00	1804.73	1803.00	1803.01	1803.01	1803.05	1803.09	1803.99
31	1803.01		1803.24		1805.00		1803.00	1803.01		1803.05		1803.99

Table 54. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1B modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.63	1803.00	1803.11	1803.61	1805.00	1804.91	1803.00	1803.01	1803.00	1803.00	1803.00
2	1803.01	1804.54	1803.10	1802.99	1803.72	1805.00	1804.82	1803.00	1803.01	1803.00	1803.01	1803.00
3	1803.01	1804.16	1803.15	1803.37	1803.72	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
4	1803.01	1804.93	1803.05	1802.99	1803.72	1805.00	1803.99	1803.00	1803.01	1803.00	1803.00	1803.00
5	1803.01	1804.00	1803.20	1803.36	1804.00	1805.00	1804.00	1803.00	1803.00	1803.00	1803.00	1803.00
6	1803.01	1803.99	1803.02	1803.72	1804.00	1805.00	1804.00	1803.00	1803.00	1803.00	1803.00	1803.00
7	1803.01	1804.00	1803.00	1804.00	1804.00	1805.00	1804.00	1803.00	1803.00	1803.00	1803.00	1803.00
8	1803.01	1803.69	1803.00	1804.00	1804.00	1805.00	1804.00	1803.00	1803.00	1803.00	1803.00	1803.00
9	1803.01	1803.37	1803.18	1804.00	1804.00	1805.00	1804.14	1803.00	1804.00	1803.20	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1804.00	1803.00	1803.99	1803.21	1803.00	1803.00
11	1803.01	1803.64	1804.00	1803.88	1804.00	1805.00	1804.00	1803.00	1803.00	1803.17	1803.00	1803.00
12	1803.01	1803.37	1804.00	1803.80	1804.00	1805.00	1803.99	1803.00	1803.99	1803.31	1803.00	1803.48
13	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1804.13	1803.00	1803.99	1803.31	1803.00	1804.00
14	1803.01	1803.00	1803.99	1803.80	1803.88	1805.00	1803.99	1803.00	1803.99	1803.06	1803.00	1803.99
15	1803.01	1803.00	1804.15	1804.00	1804.00	1805.00	1803.99	1803.00	1803.00	1803.09	1803.00	1803.99
16	1803.01	1803.00	1803.99	1804.00	1804.00	1805.00	1804.00	1803.00	1803.00	1803.22	1803.00	1803.99
17	1803.01	1803.01	1804.67	1803.72	1804.00	1805.00	1803.99	1803.00	1803.00	1803.19	1803.00	1803.99
18	1803.01	1803.37	1804.58	1803.66	1804.00	1805.00	1804.00	1803.00	1803.00	1803.29	1803.00	1803.99
19	1803.01	1802.99	1805.00	1803.61	1804.00	1805.00	1803.00	1803.00	1803.00	1803.24	1803.00	1804.00
20	1803.01	1803.36	1804.90	1803.00	1803.99	1805.00	1803.00	1803.00	1803.00	1803.34	1803.00	1803.99
21	1803.01	1803.36	1805.00	1803.36	1803.99	1804.92	1803.00	1803.00	1803.00	1803.00	1803.00	1804.00
22	1803.01	1803.48	1804.88	1803.66	1804.00	1804.82	1804.00	1803.00	1803.00	1803.00	1803.00	1803.71
23	1803.01	1802.99	1804.50	1803.13	1804.00	1805.00	1803.86	1803.00	1803.00	1803.00	1803.00	1803.98
24	1803.01	1802.99	1803.99	1803.24	1804.00	1804.90	1803.00	1803.00	1803.00	1803.00	1803.00	1803.40
25	1803.01	1803.99	1804.00	1803.49	1805.00	1804.81	1803.00	1803.00	1803.00	1803.00	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.61	1805.00	1804.73	1803.00	1803.00	1803.00	1803.00	1803.00	1803.38
27	1803.01	1803.39	1803.17	1803.72	1805.00	1805.00	1803.00	1803.00	1803.00	1803.00	1803.00	1803.37
28	1803.01	1803.49	1803.27	1803.80	1805.00	1804.92	1803.00	1803.00	1803.00	1803.00	1803.00	1803.43
29	1803.00		1803.25	1803.72	1805.00	1804.81	1803.00	1803.00	1803.00	1803.00	1803.00	1803.00
30	1803.00		1803.25	1803.99	1805.00	1805.00	1803.00	1803.01	1803.00	1803.00	1803.00	1803.99
31	1803.01		1803.24		1805.00		1803.00	1803.01		1803.00		1803.99

Table 55. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1C modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.64	1803.10	1803.12	1803.61	1805.00	1804.90	1803.00	1803.01	1803.01	1803.00	1802.99
2	1803.01	1804.55	1803.15	1802.99	1803.72	1805.00	1804.84	1803.00	1803.01	1803.01	1803.00	1802.99
3	1803.01	1804.49	1803.15	1803.37	1803.72	1805.00	1804.00	1803.00	1803.01	1803.01	1803.00	1803.00
4	1803.01	1805.00	1803.09	1802.99	1803.72	1805.00	1803.99	1803.00	1803.01	1803.01	1803.00	1803.00
5	1803.01	1804.00	1803.19	1803.36	1803.88	1805.00	1803.99	1803.00	1803.01	1803.01	1803.00	1803.00
6	1803.01	1804.00	1803.01	1803.72	1803.88	1805.00	1804.00	1803.00	1803.01	1803.01	1803.00	1803.00
7	1803.01	1804.00	1803.00	1803.88	1803.88	1805.00	1804.00	1803.00	1803.01	1803.02	1803.00	1803.00
8	1803.01	1803.40	1803.00	1804.00	1804.00	1805.00	1803.99	1803.00	1803.01	1803.00	1803.00	1803.00
9	1803.01	1803.49	1803.18	1804.00	1804.00	1805.00	1804.14	1803.00	1804.00	1803.20	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1804.00	1803.00	1804.00	1803.00	1803.00	1803.00
11	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1804.00	1803.00	1803.01	1803.17	1803.00	1802.99
12	1803.01	1803.37	1804.00	1803.80	1804.00	1805.00	1804.00	1803.00	1803.99	1803.31	1803.00	1803.47
13	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1804.00	1803.00	1803.99	1803.32	1803.00	1803.99
14	1803.01	1803.02	1803.99	1803.80	1804.00	1805.00	1804.00	1803.01	1803.99	1803.06	1803.00	1803.99
15	1803.01	1803.00	1804.13	1804.00	1804.00	1805.00	1804.00	1803.01	1803.01	1803.09	1803.00	1803.99
16	1803.01	1803.01	1803.99	1804.00	1803.88	1805.00	1804.00	1803.00	1803.01	1803.21	1803.00	1803.99
17	1803.01	1803.00	1804.64	1803.72	1804.00	1805.00	1803.99	1803.00	1803.01	1803.20	1803.00	1803.99
18	1803.01	1803.45	1804.55	1803.66	1804.00	1805.00	1804.00	1803.00	1803.01	1803.29	1803.00	1803.99
19	1803.01	1802.99	1805.00	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.24	1803.00	1803.99
20	1803.01	1803.36	1804.90	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.34	1803.00	1803.99
21	1803.01	1803.48	1805.00	1803.48	1803.99	1804.92	1803.00	1803.01	1803.01	1803.00	1803.00	1804.00
22	1803.01	1803.48	1804.85	1803.72	1804.00	1804.81	1804.00	1803.01	1803.01	1803.00	1803.00	1803.88
23	1803.01	1802.99	1804.35	1803.13	1804.00	1805.00	1803.86	1803.01	1803.01	1803.00	1803.00	1804.00
24	1803.01	1803.85	1803.99	1803.24	1804.00	1804.90	1803.00	1803.01	1803.01	1803.00	1803.00	1803.40
25	1803.01	1804.00	1804.00	1802.99	1805.00	1804.81	1803.00	1803.01	1803.01	1803.00	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.61	1805.00	1804.73	1803.00	1803.01	1803.01	1803.00	1803.00	1803.43
27	1803.01	1803.39	1803.17	1803.72	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.37
28	1803.01	1803.63	1803.34	1803.80	1805.00	1804.92	1803.00	1803.01	1803.01	1803.00	1803.00	1803.43
29	1803.00		1803.29	1803.72	1805.00	1804.81	1803.00	1803.01	1803.01	1803.00	1803.00	1803.00
30	1803.00		1803.27	1804.00	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.99
31	1803.01		1803.26		1805.00		1803.00	1803.01		1803.00		1803.99

Table 56. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1D modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.79	1803.10	1803.11	1803.61	1805.00	1804.90	1803.00	1803.01	1803.01	1803.01	1803.00
2	1803.01	1804.70	1803.13	1802.99	1803.72	1805.00	1804.82	1803.00	1803.01	1803.01	1803.01	1803.00
3	1803.01	1805.00	1803.15	1803.37	1803.72	1805.00	1804.00	1803.00	1803.01	1803.20	1803.01	1803.00
4	1803.01	1805.00	1803.05	1802.99	1803.72	1805.00	1804.00	1803.00	1803.01	1803.00	1803.01	1803.00
5	1803.01	1804.00	1803.20	1803.36	1804.00	1805.00	1803.81	1803.00	1803.00	1803.01	1803.01	1803.00
6	1803.01	1803.99	1803.02	1803.72	1804.00	1805.00	1803.47	1803.00	1803.00	1803.01	1803.01	1803.00
7	1803.01	1804.00	1803.00	1804.00	1804.00	1805.00	1803.04	1803.00	1803.00	1803.01	1803.01	1803.00
8	1803.01	1803.40	1803.00	1804.00	1804.00	1805.00	1803.40	1803.00	1803.00	1803.01	1803.01	1803.00
9	1803.01	1803.49	1803.18	1804.00	1804.00	1805.00	1804.14	1803.00	1803.00	1803.01	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1802.95	1803.00	1803.00	1803.01	1803.00	1803.00
11	1803.01	1803.49	1804.00	1803.88	1804.00	1805.00	1803.78	1803.00	1803.01	1803.01	1803.00	1803.00
12	1803.01	1803.25	1804.00	1803.80	1804.00	1805.00	1802.77	1803.00	1803.31	1803.00	1803.00	1803.48
13	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1802.59	1803.00	1803.30	1803.01	1803.00	1804.00
14	1803.01	1803.00	1803.99	1803.80	1803.88	1805.00	1802.99	1803.00	1803.30	1803.01	1803.00	1803.99
15	1803.01	1803.09	1804.15	1804.00	1804.00	1805.00	1802.98	1803.00	1803.01	1803.08	1803.00	1803.99
16	1803.01	1803.00	1803.99	1804.00	1804.00	1805.00	1803.25	1803.00	1803.01	1803.21	1803.00	1804.00
17	1803.01	1803.00	1804.68	1803.72	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
18	1803.01	1803.49	1804.59	1803.66	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
19	1803.01	1802.99	1805.00	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1803.99
20	1803.01	1803.36	1804.90	1803.00	1803.99	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1803.99
21	1803.01	1803.48	1805.00	1803.36	1803.99	1804.92	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
22	1803.01	1803.48	1804.88	1803.66	1804.00	1804.81	1803.00	1803.00	1803.01	1803.01	1803.00	1803.40
23	1803.01	1802.99	1804.50	1803.13	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
24	1803.01	1803.83	1803.99	1803.24	1804.00	1804.90	1803.00	1803.00	1803.01	1803.01	1803.00	1803.40
25	1803.01	1804.14	1803.99	1803.49	1805.00	1804.81	1803.00	1803.00	1803.01	1803.01	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.61	1805.00	1804.73	1803.00	1803.00	1803.37	1803.01	1803.00	1803.43
27	1803.01	1803.39	1803.17	1803.72	1805.00	1805.00	1803.00	1803.00	1803.37	1803.01	1803.00	1803.37
28	1803.01	1803.59	1803.27	1803.80	1805.00	1804.92	1803.00	1803.00	1803.01	1803.01	1803.00	1803.49
29	1803.00		1803.25	1803.72	1805.00	1804.81	1803.00	1803.00	1803.01	1803.01	1803.00	1803.30
30	1803.00		1803.25	1803.99	1805.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1803.36
31	1803.01		1803.24		1805.00		1803.00	1803.01		1803.01		1803.99

Table 57. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1E modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.79	1803.10	1803.12	1803.61	1805.00	1804.90	1803.00	1803.01	1803.01	1803.01	1803.00
2	1803.01	1804.70	1803.15	1802.99	1803.72	1805.00	1804.82	1803.00	1803.01	1803.01	1803.01	1803.00
3	1803.01	1805.00	1803.15	1803.37	1803.72	1805.00	1804.00	1803.00	1803.01	1803.20	1803.01	1803.00
4	1803.01	1805.00	1803.09	1802.99	1803.72	1805.00	1804.00	1803.00	1803.01	1803.00	1803.01	1803.00
5	1803.01	1804.00	1803.19	1803.36	1803.88	1805.00	1803.81	1803.00	1803.01	1803.01	1803.01	1803.00
6	1803.01	1803.99	1803.01	1803.72	1803.88	1805.00	1803.47	1803.00	1803.00	1803.01	1803.01	1803.00
7	1803.01	1804.00	1803.00	1803.88	1803.88	1805.00	1803.04	1803.00	1803.00	1803.01	1803.01	1803.00
8	1803.01	1803.40	1803.00	1804.00	1804.00	1805.00	1803.40	1803.00	1803.00	1803.01	1803.01	1803.00
9	1803.01	1803.49	1803.18	1804.00	1804.00	1805.00	1804.14	1803.00	1803.00	1803.01	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1802.95	1803.00	1803.00	1803.01	1803.00	1803.00
11	1803.01	1803.49	1804.00	1803.88	1804.00	1805.00	1803.78	1803.00	1803.01	1803.01	1803.00	1803.00
12	1803.01	1803.25	1803.88	1803.80	1804.00	1805.00	1802.77	1803.00	1803.31	1803.00	1803.00	1803.48
13	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1802.59	1803.00	1803.30	1803.01	1803.00	1804.00
14	1803.01	1803.00	1803.99	1803.80	1804.00	1805.00	1802.99	1803.00	1803.30	1803.01	1803.00	1803.99
15	1803.01	1803.09	1804.13	1804.00	1804.00	1805.00	1802.98	1803.00	1803.01	1803.08	1803.00	1803.99
16	1803.01	1803.00	1803.99	1804.00	1803.88	1805.00	1803.25	1803.00	1803.01	1803.21	1803.00	1804.00
17	1803.01	1803.00	1804.64	1803.72	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
18	1803.01	1803.49	1804.55	1803.66	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
19	1803.01	1802.99	1805.00	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1803.99
20	1803.01	1803.36	1804.91	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1803.99
21	1803.01	1803.48	1805.00	1803.48	1803.99	1804.92	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
22	1803.01	1803.48	1804.85	1803.72	1804.00	1804.81	1803.00	1803.00	1803.01	1803.01	1803.00	1803.40
23	1803.01	1802.99	1804.35	1803.13	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
24	1803.01	1803.83	1803.99	1803.24	1804.00	1804.90	1803.00	1803.00	1803.01	1803.01	1803.00	1803.40
25	1803.01	1804.14	1804.00	1802.99	1805.00	1804.81	1803.00	1803.00	1803.01	1803.01	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.61	1805.00	1804.73	1803.00	1803.00	1803.37	1803.01	1803.00	1803.43
27	1803.01	1803.39	1803.17	1803.72	1805.00	1805.00	1803.00	1803.00	1803.37	1803.01	1803.00	1803.37
28	1803.01	1803.59	1803.34	1803.80	1805.00	1804.92	1803.00	1803.00	1803.01	1803.01	1803.00	1803.49
29	1803.00		1803.29	1803.72	1805.00	1804.81	1803.00	1803.01	1803.01	1803.01	1803.00	1803.30
30	1803.00		1803.27	1804.00	1805.00	1805.00	1803.00	1803.01	1803.01	1803.01	1803.00	1803.36
31	1803.01		1803.26		1805.00		1803.00	1803.01		1803.01		1803.99

Table 58. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1F modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.64	1803.00	1803.11	1803.61	1805.00	1804.90	1803.00	1803.01	1803.01	1803.01	1803.00
2	1803.01	1804.56	1803.10	1802.99	1803.72	1805.00	1804.84	1803.00	1803.01	1803.01	1803.01	1803.00
3	1803.01	1804.50	1803.15	1803.37	1803.72	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
4	1803.01	1805.00	1803.05	1802.99	1803.72	1805.00	1803.99	1803.00	1803.01	1803.00	1803.00	1803.00
5	1803.01	1804.00	1803.20	1803.36	1804.00	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
6	1803.01	1804.00	1803.02	1803.72	1804.00	1805.00	1804.00	1803.00	1803.01	1803.21	1803.00	1803.00
7	1803.01	1804.00	1803.00	1804.00	1804.00	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
8	1803.01	1803.67	1803.00	1804.00	1804.00	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
9	1803.01	1803.37	1803.18	1804.00	1804.00	1805.00	1804.14	1803.00	1804.00	1803.20	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1804.00	1803.00	1803.99	1803.21	1803.00	1803.00
11	1803.01	1803.63	1804.00	1803.88	1804.00	1805.00	1804.00	1803.00	1803.01	1803.16	1803.00	1803.00
12	1803.01	1803.37	1804.00	1803.80	1804.00	1805.00	1804.00	1803.00	1803.99	1803.29	1803.00	1803.48
13	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1804.14	1803.00	1803.99	1803.30	1803.00	1804.00
14	1803.01	1803.00	1803.99	1803.80	1803.88	1805.00	1804.14	1803.00	1803.99	1803.00	1803.00	1803.99
15	1803.01	1803.00	1804.15	1804.00	1804.00	1805.00	1803.99	1803.00	1803.01	1803.09	1803.00	1803.99
16	1803.01	1803.00	1803.99	1804.00	1804.00	1805.00	1804.00	1803.00	1803.01	1803.22	1803.00	1803.99
17	1803.01	1803.00	1804.67	1803.72	1804.00	1805.00	1803.99	1803.00	1803.01	1803.17	1803.00	1803.99
18	1803.01	1803.37	1804.58	1803.66	1804.00	1805.00	1804.00	1803.00	1803.00	1803.28	1803.00	1803.99
19	1803.01	1802.99	1805.00	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.22	1803.00	1804.00
20	1803.01	1803.36	1804.90	1803.00	1803.99	1805.00	1803.00	1803.00	1803.01	1803.33	1803.00	1803.99
21	1803.01	1803.36	1805.00	1803.36	1803.99	1804.92	1803.00	1803.00	1803.01	1803.00	1803.00	1804.00
22	1803.01	1803.48	1804.88	1803.66	1804.00	1804.81	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
23	1803.01	1802.99	1804.50	1803.13	1804.00	1805.00	1803.86	1803.01	1803.01	1803.00	1803.00	1803.95
24	1803.01	1802.99	1803.99	1803.24	1804.00	1804.90	1803.00	1803.01	1803.01	1803.00	1803.00	1803.79
25	1803.01	1803.99	1804.00	1803.49	1805.00	1804.81	1803.00	1803.00	1803.01	1803.00	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.61	1805.00	1804.73	1803.00	1803.01	1803.01	1803.00	1803.00	1803.38
27	1803.01	1803.39	1803.17	1803.72	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.37
28	1803.01	1803.49	1803.27	1803.80	1805.00	1804.92	1803.00	1803.01	1803.01	1803.00	1803.00	1803.43
29	1803.00		1803.25	1803.72	1805.00	1804.81	1803.00	1803.01	1803.01	1803.00	1803.00	1803.00
30	1803.00		1803.25	1803.99	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.99
31	1803.01		1803.24		1805.00		1803.00	1803.01		1803.00		1803.99

Table 59. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 2 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.79	1803.10	1803.11	1803.61	1805.00	1805.00	1803.00	1803.01	1803.01	1803.01	1803.00
2	1803.01	1804.70	1803.13	1802.99	1803.72	1805.00	1804.91	1803.00	1803.01	1803.01	1803.01	1803.00
3	1803.01	1805.00	1803.15	1803.37	1803.72	1805.00	1804.81	1803.00	1803.01	1803.01	1803.00	1803.00
4	1803.01	1805.00	1803.05	1802.99	1803.72	1805.00	1804.73	1803.00	1803.01	1803.01	1803.00	1803.00
5	1803.01	1804.00	1803.20	1803.36	1804.00	1805.00	1804.65	1803.00	1803.00	1803.01	1803.00	1803.00
6	1803.01	1803.99	1803.02	1803.72	1804.00	1805.00	1804.56	1803.00	1803.00	1803.01	1803.00	1803.00
7	1803.01	1804.00	1803.00	1804.00	1804.00	1805.00	1804.48	1803.00	1803.00	1803.01	1803.00	1803.00
8	1803.01	1803.40	1803.00	1804.00	1804.00	1805.00	1804.39	1803.00	1803.00	1803.01	1803.00	1803.00
9	1803.01	1803.49	1803.18	1804.00	1804.00	1805.00	1804.29	1803.00	1803.00	1803.01	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1804.21	1803.00	1803.01	1803.01	1803.00	1803.00
11	1803.01	1803.49	1804.00	1803.88	1804.00	1805.00	1804.12	1803.00	1803.01	1803.01	1803.00	1803.00
12	1803.01	1803.25	1804.00	1803.80	1804.00	1805.00	1804.04	1803.00	1803.01	1803.00	1803.00	1803.35
13	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1803.88	1803.00	1803.01	1803.01	1803.00	1804.00
14	1803.01	1803.00	1803.99	1803.80	1803.88	1805.00	1804.07	1803.00	1803.01	1803.01	1803.00	1804.00
15	1803.01	1803.09	1804.15	1804.00	1804.00	1805.00	1804.00	1803.00	1803.01	1803.01	1803.00	1804.00
16	1803.01	1803.00	1803.99	1804.00	1804.00	1805.00	1803.99	1803.00	1803.01	1803.01	1803.00	1803.99
17	1803.01	1803.00	1804.68	1803.72	1804.00	1805.00	1803.99	1803.00	1803.01	1803.01	1803.00	1803.99
18	1803.01	1803.49	1804.59	1803.66	1804.00	1805.00	1803.37	1803.00	1803.01	1803.01	1803.00	1804.00
19	1803.01	1802.99	1805.00	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1803.99
20	1803.01	1803.36	1804.90	1803.00	1803.99	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1803.99
21	1803.01	1803.48	1805.00	1803.36	1803.99	1805.00	1803.49	1803.00	1803.01	1803.01	1803.00	1804.00
22	1803.01	1803.48	1804.88	1803.66	1804.00	1804.92	1803.00	1803.00	1803.01	1803.00	1803.00	1803.84
23	1803.01	1802.99	1804.50	1803.13	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
24	1803.01	1803.83	1803.99	1803.24	1804.00	1804.90	1803.00	1803.00	1803.01	1803.01	1803.00	1803.40
25	1803.01	1804.14	1803.99	1803.49	1805.00	1804.81	1803.00	1803.00	1803.01	1803.00	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.61	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.43
27	1803.01	1803.39	1803.17	1803.72	1805.00	1804.92	1803.00	1803.01	1803.01	1803.00	1803.00	1803.37
28	1803.01	1803.59	1803.27	1803.80	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.49
29	1803.00		1803.25	1803.72	1805.00	1804.92	1803.00	1803.01	1803.01	1803.00	1803.00	1803.30
30	1803.00		1803.25	1803.99	1805.00	1804.81	1803.00	1803.01	1803.01	1803.00	1803.00	1803.36
31	1803.01		1803.24		1805.00		1803.00	1803.01		1803.00		1803.99

Table 60. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 3 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.88	1803.36	1803.12	1804.00	1805.00	1804.90	1803.00	1803.01	1803.01	1803.01	1803.00
2	1803.01	1804.78	1803.15	1802.99	1803.72	1805.00	1804.87	1803.00	1803.01	1803.01	1803.01	1803.00
3	1803.01	1805.00	1803.18	1803.37	1803.80	1805.00	1804.00	1803.00	1803.01	1803.01	1803.01	1803.00
4	1803.01	1805.00	1803.10	1802.99	1803.72	1805.00	1804.00	1803.00	1803.01	1803.00	1803.01	1803.00
5	1803.01	1803.99	1803.21	1803.42	1804.00	1805.00	1804.13	1803.00	1803.00	1803.00	1803.00	1803.00
6	1803.01	1804.00	1803.00	1803.72	1804.00	1805.00	1803.69	1803.00	1803.00	1803.00	1803.00	1803.00
7	1803.01	1804.00	1803.01	1804.00	1803.88	1805.00	1803.53	1803.00	1803.00	1803.05	1803.00	1803.00
8	1803.01	1803.82	1803.00	1804.00	1804.00	1805.00	1803.99	1803.00	1803.00	1803.05	1803.00	1803.00
9	1803.01	1803.49	1803.20	1804.00	1803.88	1805.00	1804.14	1803.00	1803.00	1803.17	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1802.95	1803.00	1803.01	1803.01	1803.00	1803.00
11	1803.01	1803.71	1804.00	1803.88	1804.00	1805.00	1803.78	1803.00	1803.01	1803.20	1803.00	1803.00
12	1803.01	1803.37	1804.00	1803.80	1804.00	1805.00	1803.78	1803.00	1803.01	1803.32	1803.00	1803.48
13	1803.01	1803.00	1803.88	1803.88	1804.00	1805.00	1802.99	1803.00	1803.01	1803.33	1803.00	1804.00
14	1803.01	1803.01	1803.99	1803.80	1804.00	1805.00	1802.42	1803.00	1803.01	1803.08	1803.00	1804.00
15	1803.01	1803.00	1804.31	1804.00	1804.00	1805.00	1803.00	1803.00	1803.01	1803.11	1803.00	1804.00
16	1803.01	1803.01	1804.00	1804.00	1803.88	1805.00	1803.25	1803.00	1803.01	1803.25	1803.00	1804.00
17	1803.01	1803.00	1804.58	1803.72	1804.00	1805.00	1803.00	1803.00	1803.01	1803.21	1803.00	1804.00
18	1803.01	1803.45	1804.54	1803.66	1804.00	1805.00	1803.00	1803.00	1803.01	1803.31	1803.00	1803.99
19	1803.01	1803.87	1805.00	1804.00	1804.00	1805.00	1803.00	1803.00	1803.01	1803.26	1803.00	1803.99
20	1803.01	1803.36	1804.90	1803.00	1804.00	1805.00	1803.00	1803.00	1803.01	1803.36	1803.00	1803.99
21	1803.01	1803.36	1805.00	1803.36	1804.00	1804.92	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
22	1803.01	1803.48	1804.84	1802.99	1804.00	1804.81	1803.00	1803.00	1803.01	1803.01	1803.00	1803.83
23	1803.01	1803.62	1804.34	1803.49	1804.00	1805.00	1803.00	1803.00	1803.01	1803.01	1803.00	1804.00
24	1803.01	1803.81	1804.00	1803.36	1804.00	1804.90	1803.00	1803.00	1803.01	1803.01	1803.00	1803.90
25	1803.01	1804.14	1804.00	1803.00	1805.00	1804.81	1803.00	1803.00	1803.01	1803.01	1803.00	1803.44
26	1803.01	1803.99	1804.00	1802.96	1805.00	1804.73	1803.00	1803.00	1803.01	1803.00	1803.00	1803.43
27	1803.01	1803.87	1803.17	1803.72	1805.00	1805.00	1803.00	1803.00	1803.01	1803.00	1803.00	1803.37
28	1803.01	1803.59	1803.26	1803.80	1805.00	1804.92	1803.00	1803.00	1803.01	1803.00	1803.00	1803.44
29	1803.00		1803.28	1803.72	1805.00	1804.81	1803.00	1803.00	1803.01	1803.00	1803.00	1803.00
30	1803.00		1803.27	1804.00	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.27
31	1803.01		1803.26		1805.00		1803.00	1803.01		1803.01		1803.99

Table 61. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 4 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.64	1803.00	1803.11	1803.61	1805.00	1804.90	1803.00	1803.01	1803.01	1803.01	1803.00
2	1803.01	1804.56	1803.10	1802.99	1803.72	1805.00	1804.84	1803.00	1803.01	1803.01	1803.01	1803.00
3	1803.01	1804.50	1803.15	1803.37	1803.72	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
4	1803.01	1805.00	1803.05	1802.99	1803.72	1805.00	1803.99	1803.00	1803.01	1803.00	1803.00	1803.00
5	1803.01	1804.00	1803.20	1803.36	1804.00	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
6	1803.01	1804.00	1803.02	1803.72	1804.00	1805.00	1804.00	1803.00	1803.01	1803.21	1803.00	1803.00
7	1803.01	1804.00	1803.00	1804.00	1804.00	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
8	1803.01	1803.67	1803.00	1804.00	1804.00	1805.00	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
9	1803.01	1803.37	1803.18	1804.00	1804.00	1805.00	1804.14	1803.00	1804.00	1803.20	1803.00	1803.00
10	1803.01	1803.24	1803.36	1804.00	1804.00	1805.00	1804.00	1803.00	1803.99	1803.21	1803.00	1803.00
11	1803.01	1803.63	1804.00	1803.88	1804.00	1805.00	1804.00	1803.00	1803.01	1803.16	1803.00	1803.00
12	1803.01	1803.37	1804.00	1803.80	1804.00	1805.00	1804.00	1803.00	1803.99	1803.29	1803.00	1803.48
13	1803.01	1803.00	1804.00	1803.88	1804.00	1805.00	1804.14	1803.00	1803.99	1803.30	1803.00	1804.00
14	1803.01	1803.00	1803.99	1803.80	1803.88	1805.00	1804.14	1803.00	1803.99	1803.00	1803.00	1803.99
15	1803.01	1803.00	1804.15	1804.00	1804.00	1805.00	1803.99	1803.00	1803.01	1803.09	1803.00	1803.99
16	1803.01	1803.00	1803.99	1804.00	1804.00	1805.00	1804.00	1803.00	1803.01	1803.22	1803.00	1803.99
17	1803.01	1803.00	1804.67	1803.72	1804.00	1805.00	1803.99	1803.00	1803.01	1803.17	1803.00	1803.99
18	1803.01	1803.37	1804.58	1803.66	1804.00	1805.00	1804.00	1803.00	1803.00	1803.28	1803.00	1803.99
19	1803.01	1802.99	1805.00	1803.61	1804.00	1805.00	1803.00	1803.00	1803.01	1803.22	1803.00	1804.00
20	1803.01	1803.36	1804.90	1803.00	1803.99	1805.00	1803.00	1803.00	1803.01	1803.33	1803.00	1803.99
21	1803.01	1803.36	1805.00	1803.36	1803.99	1804.92	1803.00	1803.00	1803.01	1803.00	1803.00	1804.00
22	1803.01	1803.48	1804.88	1803.66	1804.00	1804.81	1804.00	1803.00	1803.01	1803.00	1803.00	1803.00
23	1803.01	1802.99	1804.50	1803.13	1804.00	1805.00	1803.86	1803.01	1803.01	1803.00	1803.00	1803.95
24	1803.01	1802.99	1803.99	1803.24	1804.00	1804.90	1803.00	1803.01	1803.01	1803.00	1803.00	1803.79
25	1803.01	1803.99	1804.00	1803.49	1805.00	1804.81	1803.00	1803.00	1803.01	1803.00	1803.00	1803.43
26	1803.01	1803.99	1804.00	1803.61	1805.00	1804.73	1803.00	1803.01	1803.01	1803.00	1803.00	1803.38
27	1803.01	1803.39	1803.17	1803.72	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.37
28	1803.01	1803.49	1803.27	1803.80	1805.00	1804.92	1803.00	1803.01	1803.01	1803.00	1803.00	1803.43
29	1803.00		1803.25	1803.72	1805.00	1804.81	1803.00	1803.01	1803.01	1803.00	1803.00	1803.00
30	1803.00		1803.25	1803.99	1805.00	1805.00	1803.00	1803.01	1803.01	1803.00	1803.00	1803.99
31	1803.01		1803.24		1805.00		1803.00	1803.01		1803.00		1803.99

Table 62. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 5 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
2	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
3	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
4	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
5	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
6	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
7	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
8	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
9	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
10	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
11	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
12	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
13	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
14	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
15	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
16	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
17	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
18	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
19	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
20	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
21	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
22	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
23	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
24	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
25	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
26	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
27	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
28	1803.01	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
29	1803.00		1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
30	1803.00		1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
31	1803.01		1805.00		1805.00		1805.00	1805.00		1805.00		1805.00

Table 63. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 6 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.59	1802.99	1802.99	1803.68	1804.00	1804.81	1803.00	1803.00	1802.11	1803.00	1802.99
2	1803.01	1805.00	1803.16	1802.99	1803.44	1804.00	1804.85	1803.00	1802.90	1802.08	1803.00	1802.99
3	1803.01	1805.00	1803.00	1802.99	1803.12	1803.12	1803.99	1803.00	1803.00	1802.07	1803.00	1802.65
4	1803.01	1805.00	1803.00	1802.99	1803.38	1804.00	1803.75	1803.00	1803.00	1802.07	1803.00	1803.00
5	1803.01	1803.99	1803.00	1803.00	1804.00	1803.99	1804.00	1803.37	1803.00	1802.06	1803.00	1803.00
6	1803.01	1804.00	1803.00	1804.00	1804.00	1804.00	1803.74	1803.12	1803.00	1802.04	1803.00	1803.00
7	1803.01	1803.99	1803.00	1802.98	1804.00	1803.88	1803.99	1803.00	1803.00	1802.14	1803.00	1803.00
8	1803.01	1804.00	1803.00	1804.00	1804.00	1804.00	1804.00	1803.00	1803.00	1802.34	1803.00	1803.00
9	1803.01	1804.00	1803.00	1805.00	1804.28	1804.00	1804.00	1803.00	1803.05	1802.04	1803.00	1803.00
10	1803.01	1804.00	1804.00	1804.00	1804.19	1804.00	1803.99	1803.00	1803.31	1802.04	1803.00	1803.00
11	1803.01	1804.00	1804.00	1804.23	1804.11	1804.00	1804.00	1803.00	1803.00	1801.99	1803.00	1803.00
12	1803.01	1804.00	1804.00	1803.99	1805.00	1804.00	1804.24	1803.00	1803.00	1802.06	1803.00	1802.74
13	1803.01	1803.00	1803.99	1804.13	1805.00	1804.00	1804.30	1803.00	1803.00	1802.03	1803.00	1802.98
14	1803.01	1803.49	1804.75	1804.13	1804.90	1803.99	1804.00	1803.00	1803.00	1802.40	1803.00	1802.99
15	1803.01	1803.37	1804.66	1804.24	1804.82	1805.00	1804.00	1803.00	1803.00	1802.37	1803.00	1802.75
16	1803.01	1803.49	1805.00	1804.23	1804.73	1805.00	1804.00	1803.00	1803.00	1802.10	1803.00	1802.99
17	1803.01	1803.70	1805.00	1804.23	1804.65	1805.00	1803.99	1803.00	1803.00	1802.23	1803.00	1802.99
18	1803.01	1804.00	1804.91	1804.00	1804.56	1805.00	1804.00	1803.00	1803.00	1802.01	1803.00	1802.99
19	1803.01	1804.00	1805.00	1803.83	1804.48	1805.00	1804.00	1803.00	1803.00	1802.00	1803.00	1802.99
20	1803.01	1803.99	1805.00	1803.78	1804.39	1805.00	1803.25	1803.00	1803.00	1803.00	1803.00	1803.12
21	1803.01	1804.00	1805.00	1803.26	1804.29	1805.00	1803.12	1803.00	1803.00	1803.00	1803.00	1804.00
22	1803.01	1804.00	1804.91	1803.90	1804.21	1804.92	1804.14	1803.00	1803.00	1803.00	1803.00	1803.99
23	1803.01	1804.00	1805.00	1803.90	1804.12	1805.00	1803.98	1803.00	1803.00	1803.00	1803.00	1803.99
24	1803.01	1804.00	1804.91	1803.35	1804.04	1804.90	1803.12	1803.00	1803.19	1803.00	1803.00	1803.99
25	1803.01	1804.00	1803.99	1803.82	1803.99	1805.00	1803.00	1803.00	1803.00	1803.00	1803.00	1803.99
26	1803.01	1804.00	1804.16	1802.96	1803.99	1805.00	1803.00	1803.00	1803.00	1803.00	1803.00	1803.99
27	1803.01	1804.00	1803.39	1803.99	1803.88	1804.92	1803.00	1803.00	1803.00	1803.00	1803.00	1803.99
28	1803.01	1804.00	1803.39	1804.00	1804.00	1805.00	1803.00	1803.00	1803.00	1803.00	1803.00	1803.99
29	1803.00		1803.24	1804.13	1803.99	1805.00	1803.33	1803.00	1803.00	1803.00	1803.00	1803.99
30	1803.00		1802.99	1803.99	1803.99	1804.92	1803.74	1803.00	1803.00	1803.00	1803.00	1803.99
31	1803.01		1802.99		1803.99		1803.00	1803.00		1803.00		1803.99

Table 64. End-of-day (23rd hour) water levels in Oxbow reservoir for Proposed Operations modeled during the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1803.01	1804.39	1802.98	1802.98	1803.30	1805.01	1805.01	1803.01	1803.01	1803.01	1803.01	1803.01
2	1803.01	1804.39	1803.07	1802.98	1803.37	1805.01	1804.98	1803.01	1803.01	1803.01	1803.01	1803.01
3	1803.01	1803.76	1803.11	1803.24	1803.37	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.01
4	1803.01	1804.39	1803.01	1802.98	1803.37	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.01
5	1803.01	1803.76	1803.14	1803.40	1803.43	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.07
6	1803.01	1803.76	1802.98	1803.37	1803.50	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.07
7	1803.01	1803.76	1802.98	1803.50	1803.50	1805.01	1803.27	1803.01	1803.01	1803.01	1803.01	1803.07
8	1803.01	1803.53	1802.98	1803.50	1803.50	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.07
9	1803.27	1803.37	1803.11	1803.50	1803.50	1805.01	1803.27	1803.01	1803.01	1803.66	1803.01	1803.01
10	1803.73	1803.11	1803.43	1803.50	1803.50	1805.01	1803.24	1803.01	1803.24	1803.04	1803.01	1803.01
11	1803.76	1803.50	1803.73	1803.43	1803.50	1805.01	1803.24	1803.01	1803.01	1803.04	1803.01	1803.01
12	1803.76	1803.24	1803.73	1803.40	1803.50	1805.01	1803.24	1803.01	1803.01	1803.07	1803.01	1803.37
13	1804.68	1803.01	1803.73	1803.43	1803.50	1805.01	1803.27	1803.01	1803.01	1803.07	1803.01	1803.76
14	1804.98	1803.01	1803.73	1803.40	1803.50	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.76
15	1804.98	1803.01	1804.03	1803.50	1803.50	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.76
16	1803.76	1803.01	1803.66	1803.50	1803.43	1805.01	1803.20	1803.01	1803.01	1803.07	1803.01	1803.76
17	1803.76	1803.01	1804.68	1803.37	1803.50	1805.01	1802.75	1803.01	1803.01	1803.04	1803.01	1803.76
18	1803.01	1803.24	1804.68	1803.34	1803.43	1805.01	1803.01	1803.01	1803.01	1803.07	1803.01	1803.76
19	1803.01	1803.63	1805.01	1803.30	1803.50	1805.01	1803.01	1803.01	1803.01	1803.07	1803.01	1803.76
20	1803.01	1803.24	1804.98	1803.30	1803.50	1805.01	1803.01	1803.01	1803.01	1803.11	1803.01	1803.73
21	1803.20	1803.24	1805.01	1803.11	1803.50	1805.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.76
22	1803.01	1803.37	1804.98	1803.34	1803.50	1805.01	1803.24	1803.01	1803.01	1803.01	1803.01	1803.53
23	1803.07	1803.34	1804.65	1803.07	1803.50	1805.01	1803.20	1803.01	1803.01	1803.01	1803.01	1803.73
24	1803.01	1802.98	1803.76	1803.01	1803.50	1804.98	1803.01	1803.01	1803.01	1803.01	1803.01	1802.88
25	1803.01	1803.73	1803.76	1803.24	1805.01	1804.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.24
26	1803.01	1803.73	1803.76	1803.30	1805.01	1805.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.27
27	1803.01	1802.98	1803.07	1803.37	1805.01	1805.01	1803.01	1803.01	1803.01	1803.01	1803.01	1803.27
28	1803.01	1803.37	1803.20	1803.40	1805.01	1804.98	1803.01	1803.01	1803.01	1803.01	1803.01	1803.34
29	1803.01		1803.20	1803.37	1805.01	1804.98	1803.01	1803.01	1803.01	1803.01	1803.04	1803.01
30	1803.76		1803.20	1803.50	1805.01	1805.01	1803.01	1803.01	1803.01	1803.01	1803.04	1803.73
31	1803.37		1803.17		1805.01		1803.01	1803.01		1803.01		

Table 65. Actual end-of-day (23rd hour) water levels in Oxbow reservoir measured during the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1801.20	1802.52	1803.60	1803.50	1801.79	1802.81	1803.01	1802.09	1802.91	1802.91	1802.52	1802.52
2	1801.99	1803.60	1802.09	1802.29	1802.52	1801.60	1803.30	1802.19	1803.40	1801.99	1801.89	1803.11
3	1801.10	1802.29	1803.40	1801.50	1803.30	1802.29	1803.20	1802.52	1802.19	1801.01	1801.89	1802.81
4	1802.61	1802.81	1803.01	1803.70	1804.29	1803.01	1802.91	1802.29	1800.61	1801.50	1801.60	1801.89
5	1802.52	1802.81	1802.52	1803.70	1802.19	1803.01	1803.80	1802.09	1801.70	1803.01	1800.91	1802.29
6	1803.11	1802.71	1801.79	1802.38	1802.52	1803.01	1803.11	1801.89	1802.71	1802.91	1801.70	1801.79
7	1802.52	1803.20	1801.89	1803.11	1800.19	1803.40	1803.89	1802.38	1802.91	1803.01	1802.91	1801.89
8	1802.52	1803.01	1802.61	1802.71	1800.61	1801.70	1802.91	1802.09	1803.80	1803.20	1801.50	1803.01
9	1802.61	1802.52	1803.01	1802.38	1801.10	1803.50	1803.40	1801.79	1802.71	1803.20	1803.20	1801.79
10	1803.20	1802.71	1803.01	1801.50	1802.71	1803.30	1802.71	1801.60	1801.20	1802.09	1803.60	1802.09
11	1802.29	1802.19	1803.01	1801.30	1803.60	1802.52	1801.40	1804.29	1802.19	1803.01	1801.30	1801.99
12	1802.29	1803.99	1803.20	1802.61	1801.20	1803.20	1803.50	1802.38	1802.38	1802.61	1801.99	1801.99
13	1803.40	1802.91	1800.61	1802.61	1801.10	1802.91	1802.38	1802.81	1801.50	1802.81	1801.40	1801.50
14	1803.01	1802.29	1803.40	1800.91	1803.50	1803.50	1803.60	1802.19	1802.19	1802.71	1802.09	1801.70
15	1802.81	1801.99	1803.60	1802.09	1800.28	1800.91	1802.09	1803.70	1802.38	1803.30	1802.19	1799.89
16	1804.09	1801.79	1802.81	1802.71	1803.89	1802.81	1802.91	1802.81	1802.81	1801.50	1802.29	1801.30
17	1802.91	1803.30	1801.79	1802.71	1801.89	1802.29	1803.01	1801.99	1802.52	1802.29	1800.91	1800.28
18	1801.89	1800.51	1802.29	1802.81	1801.30	1802.52	1800.91	1802.09	1802.91	1802.91	1802.09	1800.19
19	1803.30	1801.50	1802.09	1803.30	1800.71	1802.71	1801.20	1802.81	1802.52	1802.19	1802.38	1801.20
20	1803.60	1802.81	1801.79	1801.99	1803.01	1803.50	1803.20	1802.71	1802.61	1801.20	1801.20	1802.38
21	1801.40	1803.30	1801.50	1802.09	1802.81	1801.89	1802.52	1802.52	1803.01	1801.50	1801.40	1803.50
22	1803.01	1803.20	1802.71	1802.81	1800.28	1803.20	1803.20	1802.38	1802.52	1801.01	1799.79	1802.61
23	1803.50	1802.81	1801.30	1801.01	1801.01	1803.30	1803.11	1802.71	1802.61	1802.19	1801.60	1804.48
24	1802.29	1803.70	1802.52	1802.29	1802.29	1803.20	1801.50	1801.99	1803.30	1801.20	1801.79	1802.61
25	1801.20	1802.71	1802.61	1801.50	1800.28	1802.91	1801.60	1803.50	1802.81	1801.89	1802.19	1802.61
26	1801.89	1801.89	1802.29	1802.81	1803.01	1801.30	1801.20	1803.50	1802.09	1802.09	1803.70	1802.19
27	1803.01	1803.60	1800.61	1801.50	1803.11	1803.30	1801.79	1802.19	1802.91	1802.52	1802.38	1802.19
28	1803.01	1803.60	1801.20	1803.01	1802.81	1803.50	1802.91	1802.61	1802.38	1803.20	1802.52	1801.40
29	1803.01		1801.50	1802.29	1802.61	1803.20	1801.50	1802.91	1801.01	1802.91	1803.11	1801.01
30	1802.38		1802.61	1801.60	1801.99	1802.91	1802.91	1803.01	1803.50	1803.60	1802.81	1803.20
31	1801.99		1803.50		1803.01		1802.09	1802.61		1800.28		

Table 66. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1A modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.38	1803.99	1803.00	1803.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.16	1803.99	1803.00	1803.00
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.16	1803.88	1803.00	1803.00
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.20	1803.99	1803.00	1803.00
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.70	1803.99	1803.00	1803.00
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.99	1804.14	1803.99	1803.00	1803.00
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.99	1803.99	1803.99	1803.00	1803.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1803.99	1803.99	1803.00	1803.00
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.88	1803.00	1803.00
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1803.99	1803.07	1803.99	1803.99	1803.00	1803.00
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.14	1803.09	1803.99	1803.99	1803.00	1803.00
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.10	1803.99	1803.99	1803.02	1803.14
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.09	1803.99	1803.99	1803.00	1803.25
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.08	1803.99	1803.99	1803.00	1803.43
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.10	1803.99	1803.99	1803.00	1803.37
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.44
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.99	1803.00	1803.50
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.22	1803.99	1803.99	1803.00	1803.87
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.99	1803.00	1803.50
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.53	1803.99	1803.99	1803.00	1803.56
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.00	1803.00	1803.48
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.70	1803.99	1803.00	1803.00	1803.52
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.09
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.62
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1804.00	1803.99	1803.00	1803.00	1803.62
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.16	1803.99	1803.00	1803.00	1803.67
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.37	1803.99	1803.00	1803.00	1803.31
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.38	1803.99	1803.00	1803.00	1803.37
29	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1803.38	1803.99	1803.00	1803.00	1803.54
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.54
31	1805.00		1805.00		1805.00		1804.00	1803.99		1803.00		1803.51

Table 67. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1B modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.38	1804.00	1803.01	1803.01
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.01	1803.01
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.13	1803.99	1803.01	1803.01
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.25	1803.99	1803.01	1803.01
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.19	1803.99	1803.01	1803.01
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.99	1803.99	1803.99	1803.01	1803.01
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.99	1804.00	1803.99	1803.01	1803.01
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1803.99	1803.99	1803.01	1803.01
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.01	1803.99	1803.99	1803.01	1803.01
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1803.99	1803.01	1803.99	1803.99	1803.01	1803.01
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.14	1803.01	1804.00	1803.99	1803.01	1803.01
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.01	1803.99	1803.99	1803.01	1803.64
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.01	1803.99	1803.99	1803.01	1803.25
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.01	1803.99	1803.99	1803.01	1803.44
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.99	1803.01	1803.38
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.99	1803.01	1803.44
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.99	1803.01	1803.50
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.99	1803.01	1803.86
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.99	1803.01	1803.50
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.99	1803.01	1804.00
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1804.00	1803.01	1803.01	1803.02
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.19	1803.99	1803.01	1803.01	1803.18
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1804.00	1803.88	1803.01	1803.01	1803.25
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.01	1803.01	1803.25
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.01	1803.00	1803.25
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.01	1803.01	1803.18
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.32	1803.99	1803.01	1803.01	1803.26
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.38	1804.00	1803.01	1803.01	1803.38
29	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1803.38	1803.99	1803.01	1803.01	1803.18
30	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1803.99	1803.01	1803.01	1803.06
31	1805.00		1805.00		1805.00		1804.00	1804.00		1803.00		1803.18

Table 68. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1C modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.38	1803.99	1803.00	1803.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.25	1803.99	1803.00	1803.01
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.25	1803.99	1803.00	1803.01
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.25	1803.99	1803.00	1803.01
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.19	1803.99	1803.00	1803.01
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.99	1804.00	1803.99	1803.00	1803.01
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.99	1803.99	1803.99	1803.00	1803.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1803.99	1803.99	1803.00	1803.00
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.01	1804.00	1803.99	1803.00	1803.00
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1804.00	1803.00	1804.00	1803.99	1803.00	1803.01
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1804.00	1803.99	1803.00	1803.01
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.05
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.25
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.44
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.38
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.50
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.99	1803.00	1803.00
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.94
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.13	1803.99	1803.99	1803.00	1803.01
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.99	1803.00	1803.99
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.13	1803.99	1803.01	1803.00	1803.02
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.19	1803.99	1803.01	1803.00	1803.18
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.01	1803.00	1803.25
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.01	1803.00	1803.25
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.01	1803.00	1803.25
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.25	1803.99	1803.01	1803.00	1803.18
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.37	1803.99	1803.01	1803.00	1803.31
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.38	1803.99	1803.01	1803.00	1803.38
29	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1803.43	1803.99	1803.00	1803.00	1803.18
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.12
31	1805.00		1805.00		1805.00		1804.00	1803.99		1803.00		1803.18

Table 69. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1D modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.69	1803.37	1803.88	1803.00	1803.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.80	1803.00	1803.99	1803.00	1803.00
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.19	1803.51	1803.99	1803.00	1803.00
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1802.17	1803.99	1803.00	1803.00
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.77	1803.00	1803.99	1803.00	1803.36
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.49	1802.57	1803.99	1803.00	1803.00
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.01	1803.00	1803.99	1803.00	1803.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.40	1803.43	1803.00	1803.99	1803.00	1803.36
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.60	1803.01	1803.99	1803.99	1803.00	1803.36
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1802.80	1803.01	1803.99	1803.99	1803.00	1803.36
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.80	1803.01	1803.99	1803.99	1803.00	1803.00
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.98	1803.49	1803.99	1803.99	1803.00	1803.04
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.48	1803.43	1803.99	1803.99	1803.00	1802.85
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.45	1803.43	1803.99	1803.99	1803.00	1803.37
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.43	1803.99	1803.99	1803.00	1803.37
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1803.99	1803.99	1803.00	1803.49
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.48	1803.99	1803.99	1803.00	1803.60
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.68	1803.01	1803.99	1803.99	1803.00	1803.69
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.07	1803.01	1803.99	1803.99	1803.00	1803.00
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.25	1803.01	1803.99	1803.99	1803.00	1803.27
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1803.99	1803.00	1803.00	1803.02
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1803.99	1803.00	1803.00	1803.18
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.03	1803.99	1803.00	1803.00	1803.10
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.97	1803.99	1803.00	1803.00	1803.00
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.12	1803.99	1803.00	1803.00	1803.00
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.00	1803.99	1803.00	1803.00	1803.00
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.39	1803.99	1803.00	1803.00	1802.19
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.41	1803.99	1803.00	1803.00	1803.37
29	1805.00		1805.00	1805.00	1805.00	1805.00	1803.68	1803.39	1803.99	1803.00	1803.00	1803.18
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.68	1803.04	1803.99	1803.00	1803.00	1803.00
31	1805.00		1805.00		1805.00		1803.00	1803.25		1803.00		1803.00

Table 70. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1E modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.69	1803.37	1803.88	1803.00	1803.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.80	1803.00	1803.99	1803.00	1803.00
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.19	1803.51	1803.99	1803.00	1803.00
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1802.17	1803.99	1803.00	1803.00
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.77	1803.00	1803.99	1803.00	1803.36
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.49	1802.57	1803.99	1803.00	1803.00
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.01	1803.00	1803.99	1803.00	1803.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.40	1803.43	1803.00	1803.99	1803.00	1803.36
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.60	1803.01	1803.99	1803.99	1803.00	1803.36
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1802.80	1803.01	1803.99	1803.99	1803.00	1803.36
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.80	1803.01	1803.99	1803.99	1803.00	1803.00
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.98	1803.49	1803.99	1803.99	1803.00	1803.04
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.48	1803.43	1803.99	1803.99	1803.00	1802.85
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.45	1803.43	1803.99	1803.99	1803.00	1803.37
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.43	1803.99	1803.99	1803.00	1803.37
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1803.99	1803.99	1803.00	1803.49
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.48	1803.99	1803.99	1803.00	1803.60
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.68	1803.01	1803.99	1803.99	1803.00	1803.69
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.07	1803.01	1803.99	1803.99	1803.00	1803.00
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.25	1803.01	1803.99	1803.99	1803.00	1803.27
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1803.99	1803.00	1803.00	1803.02
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1803.99	1803.00	1803.00	1803.18
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.03	1803.99	1803.00	1803.00	1803.10
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.97	1803.99	1803.00	1803.00	1803.00
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.12	1803.99	1803.00	1803.00	1803.00
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.00	1803.99	1803.00	1803.00	1803.00
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.39	1803.99	1803.00	1803.00	1802.19
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.41	1803.99	1803.00	1803.00	1803.37
29	1805.00		1805.00	1805.00	1805.00	1805.00	1803.68	1803.39	1803.99	1803.00	1803.00	1803.18
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.68	1803.04	1803.99	1803.00	1803.00	1803.00
31	1805.00		1805.00		1805.00		1803.00	1803.25		1803.00		1803.00

Table 71. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 1F modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.37	1803.99	1803.00	1803.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.00	1803.00
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.13	1803.99	1803.00	1803.00
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.25	1803.99	1803.00	1803.00
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.19	1803.99	1803.00	1803.00
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.99	1803.99	1803.99	1803.00	1803.00
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.99	1803.99	1803.99	1803.00	1803.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1803.99	1803.99	1803.00	1803.00
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.00
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.00
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.14	1803.00	1803.99	1803.99	1803.00	1803.00
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.05
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.25
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.43
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.37
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.44
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.99	1803.00	1803.50
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.84
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.50
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.99	1803.00	1804.00
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.00	1803.00	1803.02
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.19	1803.88	1803.00	1803.00	1803.18
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.25
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.25
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.00	1803.00	1803.25
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.00	1803.00	1803.18
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.31	1803.99	1803.00	1803.00	1803.25
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.37	1803.99	1803.00	1803.00	1803.37
29	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1803.38	1803.99	1803.00	1803.00	1803.18
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.00
31	1805.00		1805.00		1805.00		1804.00	1803.99		1803.00		1803.18

Table 72. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 2 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1803.25	1804.00	1803.00	1803.01
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1803.01	1804.00	1803.01	1803.01
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1803.01	1803.99	1803.01	1803.01
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1803.01	1804.00	1803.01	1803.01
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1803.01	1803.99	1803.01	1803.35
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.01	1802.68	1803.99	1803.01	1803.01
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.92	1803.01	1803.13	1804.00	1803.01	1803.01
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.82	1803.01	1803.44	1803.99	1803.00	1803.35
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.73	1803.01	1804.11	1803.99	1803.01	1803.35
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1804.60	1803.01	1804.00	1803.99	1803.01	1803.35
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.56	1803.01	1804.00	1803.99	1803.01	1803.01
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.47	1803.01	1804.00	1803.99	1803.01	1803.01
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.39	1803.01	1804.00	1803.99	1803.01	1802.86
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.99	1803.01	1803.38
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.99	1803.01	1803.38
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1804.00	1803.01	1803.50
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1804.00	1803.99	1803.01	1803.01
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.10	1803.01	1804.00	1803.99	1803.01	1803.76
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.20	1803.01	1804.00	1803.99	1803.01	1803.63
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.01	1804.00	1803.99	1803.01	1803.61
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.01	1803.99	1803.01	1803.01	1802.99
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1803.99	1803.01	1803.01	1803.18
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.01	1804.00	1803.01	1803.01	1803.11
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.31	1804.00	1803.01	1803.01	1803.01
25	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1803.00	1803.01	1804.00	1803.01	1803.00	1803.01
26	1805.00	1805.00	1805.00	1805.00	1804.82	1805.00	1803.03	1803.01	1804.00	1803.01	1803.01	1803.01
27	1805.00	1805.00	1805.00	1805.00	1804.73	1805.00	1803.00	1803.01	1803.99	1803.01	1803.00	1802.20
28	1805.00	1805.00	1805.00	1805.00	1804.65	1805.00	1803.31	1803.01	1804.00	1803.01	1803.01	1803.38
29	1805.00		1805.00	1805.00	1805.00	1805.00	1803.65	1803.01	1803.99	1803.01	1803.01	1803.18
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.54	1803.46	1803.88	1803.00	1803.01	1803.01
31	1805.00		1805.00		1805.00		1803.00	1803.85		1803.00		1803.01

Table 73. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 3 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.34	1803.98	1802.97	1802.97
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.04	1803.22	1803.98	1802.97	1802.97
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.24	1803.22	1803.98	1802.97	1802.97
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.22	1803.98	1802.97	1802.97
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1802.97	1803.98	1802.97	1802.97
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.00	1802.97	1803.86	1802.97	1802.97
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.00	1803.87	1803.98	1802.97	1802.97
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.40	1803.00	1803.00	1803.98	1802.97	1802.97
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.59	1803.00	1803.98	1803.98	1802.97	1802.97
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1803.04	1803.00	1803.98	1803.98	1802.97	1802.97
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.04	1803.00	1803.98	1803.98	1802.97	1802.97
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.63	1803.00	1803.98	1803.98	1802.97	1803.03
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.51	1803.00	1803.98	1803.98	1802.97	1803.10
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.00	1803.98	1803.98	1802.97	1803.41
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.00	1803.98	1803.98	1802.97	1803.35
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.00	1803.98	1803.98	1802.97	1803.46
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.48	1803.98	1803.98	1802.97	1803.47
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.00	1803.98	1803.98	1802.97	1803.90
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.53	1803.00	1803.98	1803.98	1802.97	1803.59
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.25	1803.00	1803.98	1803.98	1802.97	1803.20
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.00	1803.86	1802.97	1802.97	1803.98
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.07	1803.98	1802.97	1802.97	1803.16
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.98	1803.98	1802.97	1802.97	1803.22
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.97	1803.98	1802.97	1802.97	1803.22
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.12	1803.86	1802.97	1802.97	1803.22
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.24	1803.86	1802.97	1802.97	1803.16
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.36	1803.98	1802.97	1802.97	1803.28
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.37	1803.98	1802.97	1802.97	1803.34
29	1805.00		1805.00	1805.00	1805.00	1805.00	1803.00	1803.42	1803.86	1802.97	1802.97	1803.16
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.00	1803.97	1803.98	1802.97	1802.97	1803.12
31	1805.00		1805.00		1805.00		1803.00	1803.25		1802.97		1803.16

Table 74. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 4 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.37	1803.99	1803.00	1803.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.00	1803.00
3	1805.31	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.13	1803.99	1803.00	1803.00
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.25	1803.99	1803.00	1803.00
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.19	1803.99	1803.00	1803.00
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1803.99	1803.99	1803.99	1803.00	1803.00
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.96	1803.99	1803.99	1803.99	1803.00	1803.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1803.99	1803.99	1803.00	1803.00
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.00
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.00
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.14	1803.00	1803.99	1803.99	1803.00	1803.00
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.05
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.25
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.00	1803.99	1803.99	1803.00	1803.43
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.37
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.44
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.99	1803.00	1803.50
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.84
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.99	1803.00	1803.50
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.99	1803.00	1804.00
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.00	1803.99	1803.00	1803.00	1803.02
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.19	1803.88	1803.00	1803.00	1803.18
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.25
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.25
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.00	1803.00	1803.25
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.13	1803.99	1803.00	1803.00	1803.18
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.31	1803.99	1803.00	1803.00	1803.25
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1803.37	1803.99	1803.00	1803.00	1803.37
29	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1803.38	1803.99	1803.00	1803.00	1803.18
30	1805.00		1805.00	1805.00	1805.00	1805.00	1803.99	1803.99	1803.99	1803.00	1803.00	1803.00
31	1805.00		1805.00		1805.00		1804.00	1803.99		1803.00		1803.18

Table 75. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 5 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
3	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
10	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
29	1805.00		1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
30	1805.00		1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00
31	1805.00		1805.00		1805.00		1805.00	1805.00		1805.00		1805.00

Table 76. End-of-day (23rd hour) water levels in Oxbow reservoir for Operational Scenario 6 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1803.02	1803.01	1803.01
2	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1802.39	1803.01	1803.01
3	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1804.00	1802.40	1803.01	1803.01
4	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1804.00	1802.66	1803.01	1803.01
5	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1802.78	1803.01	1803.01
6	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1800.85	1804.00	1804.00	1802.43	1803.01	1803.01
7	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.63	1804.00	1803.99	1802.41	1803.01	1803.01
8	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.31	1803.99	1803.99	1802.39	1803.01	1803.01
9	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1804.00	1804.00	1802.27	1803.01	1803.01
10	1805.00	1805.00	1805.00	1805.00	1804.90	1805.00	1803.00	1803.99	1803.99	1802.39	1803.35	1803.01
11	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1804.00	1803.99	1802.35	1803.37	1803.01
12	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.99	1804.00	1803.36	1803.01	1803.01
13	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.00	1803.19	1803.99	1802.92	1803.01	1803.01
14	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1802.90	1803.18	1804.00	1802.26	1803.01	1803.01
15	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.44	1803.99	1802.43	1803.01	1803.01
16	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.76	1804.00	1804.00	1802.75	1803.01	1803.01
17	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1804.00	1802.66	1803.01	1803.01
18	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1804.00	1802.74	1803.01	1803.01
19	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1804.00	1804.13	1803.38	1803.01	1803.01
20	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1804.00	1803.99	1803.01	1803.01	1803.01
21	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1803.99	1804.00	1804.00	1803.01	1803.01	1803.01
22	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1804.00	1803.01	1803.01	1803.01
23	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1804.00	1803.01	1803.01	1803.06
24	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1804.00	1803.01	1803.01	1803.25
25	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1804.00	1803.01	1803.01	1803.40
26	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1804.00	1803.01	1803.01	1804.00
27	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1803.99	1803.01	1803.01	1803.99
28	1805.00	1805.00	1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1803.67	1803.01	1803.01	1804.00
29	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1804.00	1804.07	1803.01	1803.01	1804.00
30	1805.00		1805.00	1805.00	1805.00	1805.00	1804.00	1803.99	1804.09	1803.01	1803.01	1804.00
31	1805.00		1805.00		1805.00		1804.00	1803.99		1803.00		1804.00

Table 77. End-of-day (23rd hour) water levels in Oxbow reservoir for Proposed Operations modeled during the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.11	1803.20	1803.24	1803.01	1803.01
2	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.01	1803.01
3	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.01	1803.01
4	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.14	1803.14	1803.24	1803.01	1803.01
5	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.04	1803.11	1803.24	1803.01	1803.01
6	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1801.96	1803.01	1803.50	1803.24	1803.01	1803.01
7	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.50	1803.24	1803.01	1803.01
8	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1802.71	1803.01	1803.01
9	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.01
10	1805.01	1805.01	1805.01	1805.01	1804.98	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.01
11	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.57	1803.01	1803.20	1803.24	1803.01	1803.01
12	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.01
13	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.07
14	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.11
15	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.11
16	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.11
17	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.01	1803.50	1803.24	1803.24	1803.01	1803.14
18	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.04	1803.01	1803.24	1803.24	1803.01	1803.20
19	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.24	1803.01	1803.14
20	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.07	1803.24	1803.24	1803.01	1803.24
21	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.01	1803.01	1803.24	1803.01	1803.01	1803.24
22	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1802.81	1803.11	1803.24	1803.01	1803.01	1803.04
23	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.07	1803.50	1803.20	1803.01	1803.01	1803.07
24	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.01	1803.50	1803.24	1803.01	1803.01	1803.07
25	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.01	1803.01	1803.20	1803.01	1803.01	1803.07
26	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.50	1803.01	1803.24	1803.01	1803.01	1803.04
27	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1803.01	1803.20	1803.24	1803.01	1803.01	1803.07
28	1805.01	1805.01	1805.01	1805.01	1805.01	1805.01	1802.81	1803.20	1803.24	1803.01	1803.01	1803.11
29	1805.01		1805.01	1805.01	1805.01	1805.01	1803.20	1803.20	1803.24	1803.01	1803.01	1803.04
30	1805.01		1805.01	1805.01	1805.01	1805.01	1803.24	1803.50	1803.24	1803.01	1803.01	1803.01
31	1805.01		1805.01		1805.01		1801.93	1803.50		1803.01		

Table 78. Actual end-of-day (23rd hour) water levels in Oxbow reservoir measured during the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1801.10	1801.80	1799.90	1802.80	1801.00	1802.60	1802.80	1803.40	1803.50	1802.80	1801.20	1802.90
2	1801.80	1801.60	1801.50	1802.70	1803.50	1802.30	1803.50	1802.10	1803.10	1802.90	1801.10	1801.90
3	1802.00	1800.00	1802.30	1799.70	1802.60	1802.00	1803.20	1802.90	1803.50	1799.40	1800.10	1802.90
4	1801.10	1800.40	1801.50	1802.90	1803.10	1800.80	1803.70	1803.10	1803.80	1802.40	1800.80	1804.40
5	1802.90	1799.90	1802.20	1801.80	1803.50	1803.40	1804.30	1803.90	1800.70	1802.70	1802.30	1802.30
6	1801.00	1802.10	1800.60	1801.30	1802.50	1803.70	1802.40	1804.40	1804.10	1803.30	1803.30	1803.00
7	1800.60	1801.70	1802.00	1801.30	1801.30	1803.20	1802.60	1801.90	1802.80	1803.40	1800.20	1803.50
8	1800.00	1801.60	1803.40	1801.80	1802.70	1803.20	1801.20	1802.60	1802.20	1802.90	1801.60	1803.40
9	1804.00	1801.30	1800.40	1802.50	1801.30	1804.10	1802.50	1804.80	1801.60	1802.70	1800.00	1802.90
10	1800.40	1802.20	1802.10	1803.00	1802.70	1802.90	1803.50	1803.30	1801.80	1802.00	1803.90	1799.60
11	1802.60	1802.40	1802.60	1800.30	1803.10	1802.30	1804.10	1802.00	1801.00	1801.40	1799.50	1802.40
12	1800.70	1803.50	1803.80	1802.40	1801.50	1804.20	1803.60	1803.80	1800.40	1802.00	1801.20	1802.30
13	1800.50	1802.40	1803.90	1801.30	1803.40	1802.90	1799.80	1802.80	1802.50	1803.20	1802.60	1799.90
14	1801.60	1800.90	1802.90	1802.80	1799.60	1802.80	1801.10	1802.80	1802.10	1802.70	1802.20	1800.30
15	1801.70	1803.40	1801.80	1802.50	1800.50	1800.90	1803.20	1802.70	1802.40	1802.60	1803.50	1798.80
16	1802.10	1801.90	1802.10	1801.60	1802.30	1802.30	1804.00	1802.30	1802.20	1802.70	1803.40	1801.00
17	1798.90	1802.00	1803.00	1801.60	1803.20	1801.50	1802.70	1802.80	1800.20	1803.30	1803.80	1802.60
18	1802.30	1802.70	1799.40	1801.80	1803.40	1802.50	1802.40	1803.60	1799.30	1801.50	1802.90	1802.60
19	1802.70	1802.00	1802.00	1801.40	1802.90	1802.70	1803.20	1803.20	1801.70	1801.50	1801.60	1803.30
20	1801.80	1803.10	1801.60	1803.50	1801.80	1802.50	1800.70	1803.20	1801.90	1802.40	1801.00	1801.10
21	1801.30	1803.80	1804.30	1803.20	1802.50	1802.50	1803.20	1802.60	1803.20	1800.70	1801.90	1800.30
22	1803.00	1801.40	1804.40	1801.80	1803.20	1801.50	1801.40	1802.30	1803.00	1801.40	1803.00	1802.80
23	1802.00	1802.30	1801.80	1803.20	1801.00	1803.30	1803.20	1803.20	1802.60	1800.20	1801.10	1799.30
24	1803.50	1800.00	1800.80	1802.10	1802.00	1802.40	1804.40	1803.80	1802.50	1801.00	1800.90	1802.80
25	1803.50	1800.10	1803.40	1800.30	1804.10	1803.90	1803.00	1804.10	1802.60	1801.60	1802.90	1801.90
26	1803.30	1802.40	1801.60	1800.70	1803.50	1802.00	1804.40	1803.60	1801.90	1801.10	1800.30	1803.40
27	1800.20	1801.60	1801.80	1803.20	1801.40	1802.80	1801.60	1802.80	1803.80	1802.80	1803.00	1803.00
28	1800.50	1800.60	1801.30	1802.70	1800.60	1802.80	1803.90	1803.40	1800.80	1802.30	1801.50	1799.20
29	1803.40		1801.80	1801.60	1801.70	1802.30	1803.00	1801.90	1802.80	1801.90	1803.20	1801.00
30	1803.10		1801.50	1800.90	1803.80	1802.40	1803.70	1802.60	1802.10	1801.00	1801.10	1803.20
31	1800.90		1803.00		1803.10		1803.40	1803.40		1801.30		1803.50

Table 79. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1A modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.37	1687.40	1687.42	1687.25	1687.31	1687.16	1687.21	1687.19	1687.20	1687.29	1687.29	1687.29
2	1687.36	1687.39	1687.42	1687.29	1687.30	1687.18	1687.21	1687.19	1687.20	1687.29	1687.29	1687.29
3	1687.36	1687.39	1687.42	1687.28	1687.29	1687.17	1687.21	1687.19	1687.20	1687.28	1687.29	1687.29
4	1687.36	1687.39	1687.44	1687.29	1687.21	1687.17	1687.22	1687.18	1687.20	1687.28	1687.29	1687.29
5	1687.37	1687.38	1687.42	1687.28	1687.30	1687.16	1687.23	1687.18	1687.20	1687.29	1687.29	1687.29
6	1687.37	1687.37	1687.43	1687.21	1687.30	1687.16	1687.24	1687.18	1687.21	1687.29	1687.29	1687.29
7	1687.36	1687.37	1687.42	1687.28	1687.29	1687.15	1687.24	1687.18	1687.22	1687.30	1687.29	1687.29
8	1687.37	1687.37	1687.42	1687.28	1687.29	1687.16	1687.23	1687.18	1687.24	1687.31	1687.29	1687.29
9	1687.38	1687.36	1687.41	1687.28	1687.29	1687.16	1687.23	1687.18	1687.24	1687.31	1687.29	1687.29
10	1687.38	1687.37	1687.40	1687.28	1687.28	1687.17	1687.22	1687.18	1687.25	1687.31	1687.29	1687.29
11	1687.38	1687.38	1687.40	1687.28	1687.28	1687.16	1687.22	1687.19	1687.25	1687.32	1687.29	1687.28
12	1687.38	1687.39	1687.38	1687.28	1687.28	1687.19	1687.22	1687.19	1687.26	1687.32	1687.29	1687.29
13	1687.38	1687.39	1687.38	1687.28	1687.28	1687.21	1687.22	1687.19	1687.27	1687.32	1687.29	1687.32
14	1687.38	1687.40	1687.37	1687.28	1687.28	1687.20	1687.21	1687.19	1687.27	1687.33	1687.29	1687.33
15	1687.38	1687.39	1687.37	1687.28	1687.28	1687.21	1687.21	1687.19	1687.27	1687.33	1687.29	1687.33
16	1687.39	1687.39	1687.37	1687.28	1687.28	1687.21	1687.20	1687.19	1687.28	1687.33	1687.29	1687.33
17	1687.38	1687.39	1687.38	1687.28	1687.28	1687.21	1687.20	1687.19	1687.27	1687.33	1687.29	1687.34
18	1687.39	1687.44	1687.37	1687.29	1687.28	1687.21	1687.21	1687.20	1687.28	1687.33	1687.29	1687.33
19	1687.38	1687.49	1687.38	1687.31	1687.28	1687.21	1687.20	1687.20	1687.28	1687.33	1687.29	1687.36
20	1687.38	1687.52	1687.37	1687.32	1687.28	1687.21	1687.20	1687.20	1687.27	1687.29	1687.29	1687.36
21	1687.38	1687.54	1687.36	1687.24	1687.28	1687.21	1687.20	1687.19	1687.27	1687.29	1687.29	1687.33
22	1687.37	1687.52	1687.36	1687.28	1687.28	1687.21	1687.21	1687.20	1687.27	1687.29	1687.29	1687.33
23	1687.38	1687.48	1687.35	1687.24	1687.28	1687.21	1687.21	1687.20	1687.27	1687.29	1687.29	1687.33
24	1687.38	1687.48	1687.34	1687.23	1687.28	1687.19	1687.21	1687.21	1687.28	1687.29	1687.29	1687.32
25	1687.38	1687.46	1687.31	1687.32	1687.28	1687.16	1687.21	1687.21	1687.28	1687.29	1687.29	1687.32
26	1687.39	1687.45	1687.31	1687.32	1687.28	1687.18	1687.21	1687.21	1687.29	1687.29	1687.29	1687.36
27	1687.40	1687.47	1687.31	1687.25	1687.28	1687.18	1687.21	1687.21	1687.29	1687.29	1687.29	1687.35
28	1687.41	1687.43	1687.31	1687.31	1687.28	1687.21	1687.20	1687.21	1687.29	1687.29	1687.29	1687.33
29	1687.40	1687.43	1687.31	1687.24	1687.28	1687.21	1687.19	1687.21	1687.29	1687.29	1687.29	1687.33
30	1687.41		1687.32	1687.23	1687.28	1687.21	1687.19	1687.20	1687.30	1687.29	1687.29	1687.33
31	1687.40		1687.31		1687.28		1687.19	1687.20		1687.29		1687.33

Table 80. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1B modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1686.94	1687.23	1687.27	1687.01	1686.99	1687.09	1687.15	1687.19	1687.20	1687.05	1686.97	1686.97
2	1686.97	1687.24	1686.80	1687.02	1687.16	1687.12	1687.16	1687.19	1687.20	1687.05	1686.97	1686.97
3	1686.97	1686.91	1686.86	1687.14	1687.15	1687.10	1687.16	1687.19	1687.19	1687.16	1686.97	1686.97
4	1687.21	1686.92	1686.79	1687.15	1686.98	1687.10	1687.13	1687.19	1687.20	1687.16	1686.97	1686.97
5	1687.23	1686.95	1686.85	1687.16	1687.01	1687.09	1687.08	1687.18	1687.20	1687.04	1686.97	1686.97
6	1686.94	1686.94	1686.79	1686.99	1687.00	1687.09	1687.03	1687.18	1687.21	1687.05	1686.97	1686.97
7	1686.96	1686.96	1687.25	1687.27	1686.99	1687.09	1686.96	1687.18	1687.05	1687.04	1686.97	1686.97
8	1686.96	1687.21	1687.27	1687.03	1687.00	1687.10	1687.05	1687.18	1686.96	1687.04	1686.97	1686.97
9	1686.97	1687.22	1686.85	1687.17	1687.14	1687.09	1687.05	1687.18	1687.04	1687.02	1686.97	1686.97
10	1686.94	1686.93	1686.90	1687.04	1687.16	1687.10	1687.06	1687.18	1687.04	1687.17	1686.97	1687.05
11	1687.23	1686.93	1686.90	1687.24	1687.02	1687.09	1687.22	1687.19	1687.24	1687.18	1686.97	1687.12
12	1687.23	1686.91	1686.91	1687.16	1687.15	1687.13	1687.22	1687.19	1687.16	1687.00	1686.97	1687.17
13	1686.92	1686.92	1686.92	1687.02	1687.09	1687.17	1687.22	1687.19	1687.17	1687.02	1686.97	1687.18
14	1686.96	1686.91	1687.22	1687.05	1687.13	1687.17	1687.21	1687.19	1687.03	1687.01	1686.97	1686.99
15	1686.95	1687.23	1687.22	1687.04	1687.10	1687.12	1687.21	1687.20	1687.04	1687.00	1686.97	1687.00
16	1686.94	1687.24	1686.90	1687.04	1687.22	1687.13	1687.21	1687.20	1687.04	1687.01	1686.97	1687.00
17	1686.93	1686.89	1686.94	1687.01	1687.16	1687.14	1687.21	1687.20	1687.04	1687.20	1686.97	1686.99
18	1687.23	1686.80	1686.93	1687.16	1687.07	1687.15	1687.21	1687.20	1687.04	1687.20	1686.97	1686.97
19	1687.23	1686.70	1686.92	1687.17	1687.11	1687.15	1687.21	1687.20	1687.18	1687.00	1686.97	1687.22
20	1686.94	1686.51	1686.95	1686.99	1687.02	1687.18	1687.21	1687.20	1687.17	1686.97	1686.97	1687.23
21	1686.96	1687.31	1687.21	1686.99	1687.09	1687.18	1687.21	1687.19	1687.03	1686.97	1686.97	1686.95
22	1686.96	1687.34	1687.22	1686.94	1687.09	1687.17	1687.21	1687.20	1687.26	1686.97	1686.97	1686.96
23	1686.95	1687.34	1686.97	1686.99	1687.21	1687.20	1687.21	1687.21	1687.03	1686.97	1686.97	1686.97
24	1686.96	1686.62	1686.98	1686.97	1687.16	1687.18	1687.21	1687.21	1687.04	1686.97	1686.97	1686.95
25	1687.23	1686.77	1687.01	1687.18	1687.07	1687.15	1687.21	1687.21	1687.03	1686.97	1686.97	1686.96
26	1687.24	1686.76	1687.02	1687.17	1687.12	1687.17	1687.21	1687.21	1687.19	1686.97	1686.97	1687.21
27	1686.90	1686.72	1687.00	1686.98	1687.10	1687.17	1687.21	1687.21	1687.19	1686.97	1686.97	1687.21
28	1686.91	1686.84	1687.17	1686.99	1687.13	1687.17	1687.20	1687.21	1687.04	1686.97	1686.97	1686.98
29	1686.89	1687.26	1687.18	1686.99	1687.13	1687.15	1687.20	1687.21	1687.04	1686.97	1686.97	1687.00
30	1686.89		1687.00	1686.99	1687.24	1687.16	1687.20	1687.20	1687.04	1686.97	1686.97	1687.02
31	1686.90		1687.02		1687.20		1687.19	1687.20		1686.97		1687.00

Table 81. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1C modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1686.57	1686.94	1686.95	1686.62	1686.77	1687.11	1687.15	1687.19	1687.20	1686.72	1686.63	1686.63
2	1686.62	1686.94	1686.44	1687.24	1687.07	1687.13	1687.16	1687.19	1687.20	1686.72	1686.63	1686.63
3	1686.62	1686.52	1686.51	1687.03	1687.04	1687.12	1687.16	1687.19	1687.19	1686.91	1686.63	1686.63
4	1686.92	1686.58	1686.43	1687.10	1686.70	1687.11	1687.14	1687.19	1687.20	1686.91	1686.63	1686.63
5	1686.93	1686.56	1686.50	1687.20	1687.03	1687.11	1686.98	1687.18	1687.20	1686.70	1686.63	1686.63
6	1686.57	1686.58	1686.46	1686.62	1686.77	1687.11	1686.82	1687.18	1687.21	1686.71	1686.63	1686.63
7	1686.61	1686.59	1686.94	1686.92	1686.96	1687.10	1686.96	1687.18	1687.00	1686.69	1686.63	1686.63
8	1686.59	1686.92	1686.95	1687.19	1686.85	1687.11	1686.95	1687.18	1686.87	1686.69	1686.63	1686.63
9	1686.58	1686.93	1686.49	1687.09	1687.18	1687.11	1687.08	1687.18	1686.93	1686.69	1686.63	1686.63
10	1686.57	1686.56	1686.52	1687.12	1687.15	1687.12	1687.06	1687.18	1686.74	1686.91	1686.63	1686.71
11	1686.93	1686.58	1686.54	1687.22	1687.06	1687.11	1687.22	1687.19	1687.23	1686.91	1686.63	1686.78
12	1686.94	1686.57	1686.57	1687.17	1687.14	1687.14	1687.22	1687.19	1686.96	1686.65	1686.63	1687.27
13	1686.58	1686.56	1686.56	1686.97	1687.11	1687.17	1687.22	1687.19	1686.96	1686.67	1686.63	1686.91
14	1686.58	1686.54	1686.92	1687.10	1687.14	1687.17	1687.21	1687.19	1686.70	1686.66	1686.63	1686.63
15	1686.57	1686.93	1686.93	1687.03	1687.11	1687.13	1687.21	1687.20	1686.70	1686.66	1686.63	1686.71
16	1686.56	1686.94	1686.55	1687.07	1687.22	1687.13	1687.21	1687.20	1686.70	1686.66	1686.63	1686.66
17	1686.57	1686.52	1686.55	1686.92	1687.18	1687.15	1687.20	1687.20	1686.70	1686.91	1686.63	1686.62
18	1686.93	1686.45	1686.55	1687.11	1687.08	1687.16	1687.21	1687.20	1686.70	1686.92	1686.63	1686.64
19	1686.94	1686.36	1686.58	1686.90	1687.12	1687.16	1687.20	1687.20	1686.97	1686.62	1686.63	1686.93
20	1686.58	1686.23	1686.58	1686.61	1687.03	1687.18	1687.21	1687.20	1686.97	1686.63	1686.63	1686.93
21	1686.59	1686.13	1686.92	1686.96	1687.10	1687.18	1687.21	1687.19	1686.70	1686.63	1686.63	1686.58
22	1686.59	1687.00	1686.93	1686.57	1687.10	1687.17	1687.21	1687.20	1687.25	1686.63	1686.63	1686.61
23	1686.58	1687.01	1686.58	1687.06	1687.22	1687.20	1687.21	1687.21	1686.70	1686.63	1686.63	1686.61
24	1686.58	1686.26	1686.61	1686.60	1687.18	1687.18	1687.21	1687.21	1686.70	1686.63	1686.63	1686.60
25	1686.93	1686.41	1686.95	1687.04	1687.08	1687.15	1687.21	1687.21	1686.70	1686.63	1686.63	1686.60
26	1686.94	1686.42	1686.66	1686.91	1687.13	1687.17	1687.21	1687.21	1686.98	1686.63	1686.63	1686.92
27	1686.53	1686.40	1686.90	1686.61	1687.12	1687.17	1687.21	1687.21	1686.98	1686.63	1686.63	1686.92
28	1686.53	1686.47	1686.97	1686.98	1687.14	1687.17	1687.20	1687.21	1686.69	1686.63	1686.63	1686.62
29	1686.53	1686.95	1686.94	1686.69	1687.14	1687.16	1687.20	1687.21	1686.70	1686.63	1686.63	1686.70
30	1686.53		1686.64	1686.83	1687.24	1687.17	1687.20	1687.20	1686.69	1686.63	1686.63	1686.64
31	1686.55		1686.97		1687.22		1687.19	1687.20		1686.63		1686.69

Table 82. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1D modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1685.86	1686.46	1687.27	1687.01	1686.99	1687.11	1687.15	1687.19	1687.20	1686.69	1686.17	1686.17
2	1686.76	1686.47	1686.78	1687.02	1687.16	1687.13	1687.17	1687.19	1687.20	1686.37	1686.17	1686.17
3	1686.12	1685.87	1686.87	1687.14	1687.15	1687.12	1687.15	1687.19	1687.19	1686.83	1686.17	1686.17
4	1686.85	1686.17	1686.78	1687.15	1686.98	1687.12	1687.15	1687.19	1687.20	1686.60	1686.17	1686.17
5	1686.47	1686.13	1686.86	1687.16	1687.01	1687.11	1687.02	1687.18	1687.20	1686.38	1686.17	1686.17
6	1686.27	1686.28	1686.84	1686.99	1687.00	1687.11	1686.82	1687.18	1687.21	1686.50	1686.17	1686.17
7	1686.44	1686.24	1687.25	1687.27	1686.99	1687.10	1686.97	1687.18	1687.02	1686.19	1686.17	1686.17
8	1686.12	1686.73	1687.27	1687.03	1687.00	1687.12	1686.96	1687.18	1686.86	1686.37	1686.17	1686.17
9	1686.32	1686.46	1686.86	1687.17	1687.14	1687.11	1687.08	1687.18	1686.94	1686.16	1686.17	1686.17
10	1686.10	1686.14	1686.89	1687.04	1687.16	1687.12	1687.07	1687.18	1686.77	1686.54	1686.17	1686.26
11	1686.68	1685.95	1686.90	1687.24	1687.02	1687.11	1687.22	1687.19	1687.23	1686.49	1686.17	1686.33
12	1686.47	1686.08	1686.91	1687.16	1687.15	1687.15	1687.22	1687.19	1686.84	1686.10	1686.17	1686.84
13	1685.91	1685.86	1686.91	1687.02	1687.09	1687.17	1687.22	1687.19	1686.90	1686.16	1686.17	1687.05
14	1686.46	1685.86	1687.22	1687.05	1687.13	1687.17	1687.21	1687.19	1686.44	1686.13	1686.17	1686.45
15	1685.86	1686.50	1687.22	1687.04	1687.10	1687.14	1687.21	1687.19	1686.72	1686.14	1686.17	1686.89
16	1686.35	1686.46	1686.90	1687.04	1687.22	1687.14	1687.21	1687.20	1686.52	1686.13	1686.17	1686.57
17	1685.87	1685.81	1686.94	1687.01	1687.16	1687.15	1687.20	1687.20	1686.72	1686.49	1686.17	1686.55
18	1686.72	1685.77	1686.93	1687.16	1687.07	1687.16	1687.21	1687.20	1686.53	1686.48	1686.17	1686.46
19	1686.47	1685.66	1686.92	1687.17	1687.11	1687.16	1687.20	1687.20	1686.87	1686.11	1686.17	1686.67
20	1686.08	1685.45	1686.95	1686.99	1687.02	1687.19	1687.21	1687.20	1686.84	1686.17	1686.17	1686.52
21	1686.38	1685.46	1687.21	1686.99	1687.09	1687.18	1687.21	1687.19	1686.50	1686.17	1686.17	1686.24
22	1686.15	1686.45	1687.22	1686.94	1687.09	1687.17	1687.21	1687.20	1687.24	1686.17	1686.17	1686.47
23	1686.31	1686.46	1686.97	1686.99	1687.21	1687.20	1687.21	1687.21	1686.13	1686.17	1686.17	1686.29
24	1686.18	1685.54	1686.98	1686.97	1687.16	1687.18	1687.21	1687.21	1686.90	1686.17	1686.17	1686.36
25	1686.58	1685.71	1687.01	1687.18	1687.07	1687.15	1687.21	1687.21	1686.21	1686.17	1686.17	1686.33
26	1686.47	1685.71	1687.02	1687.17	1687.12	1687.17	1687.21	1687.21	1686.91	1686.17	1686.17	1686.81
27	1685.82	1685.62	1687.00	1686.98	1687.10	1687.17	1687.21	1687.21	1686.64	1686.17	1686.17	1686.62
28	1685.85	1685.80	1687.17	1686.99	1687.13	1687.17	1687.20	1687.21	1686.21	1686.17	1686.17	1686.69
29	1685.84	1687.23	1687.18	1686.99	1687.13	1687.16	1687.20	1687.21	1686.53	1686.17	1686.17	1686.69
30	1685.84		1687.00	1686.99	1687.24	1687.17	1687.20	1687.20	1686.13	1686.17	1686.17	1686.69
31	1685.86		1687.02		1687.22		1687.19	1687.20		1686.17		1686.69

Table 83. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1E modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1685.86	1686.46	1686.95	1686.62	1686.77	1687.11	1687.15	1687.19	1687.20	1686.69	1686.17	1686.17
2	1686.76	1686.47	1686.44	1687.24	1687.07	1687.13	1687.17	1687.19	1687.20	1686.37	1686.17	1686.17
3	1686.12	1685.87	1686.51	1687.03	1687.04	1687.12	1687.15	1687.19	1687.19	1686.83	1686.17	1686.17
4	1686.85	1686.17	1686.43	1687.10	1686.70	1687.12	1687.15	1687.19	1687.20	1686.60	1686.17	1686.17
5	1686.47	1686.13	1686.50	1687.20	1687.03	1687.11	1687.02	1687.18	1687.20	1686.38	1686.17	1686.17
6	1686.27	1686.28	1686.46	1686.62	1686.77	1687.11	1686.82	1687.18	1687.21	1686.50	1686.17	1686.17
7	1686.44	1686.24	1686.94	1686.92	1686.96	1687.10	1686.97	1687.18	1687.02	1686.19	1686.17	1686.17
8	1686.12	1686.73	1686.95	1687.19	1686.85	1687.12	1686.96	1687.18	1686.86	1686.37	1686.17	1686.17
9	1686.32	1686.46	1686.49	1687.09	1687.18	1687.11	1687.08	1687.18	1686.94	1686.16	1686.17	1686.17
10	1686.10	1686.14	1686.52	1687.12	1687.15	1687.12	1687.07	1687.18	1686.77	1686.54	1686.17	1686.26
11	1686.68	1685.95	1686.54	1687.22	1687.06	1687.11	1687.22	1687.19	1687.23	1686.49	1686.17	1686.33
12	1686.47	1686.08	1686.57	1687.17	1687.14	1687.15	1687.22	1687.19	1686.84	1686.10	1686.17	1686.84
13	1685.91	1685.86	1686.56	1686.97	1687.11	1687.17	1687.22	1687.19	1686.90	1686.16	1686.17	1687.05
14	1686.46	1685.86	1686.92	1687.10	1687.14	1687.17	1687.21	1687.19	1686.44	1686.13	1686.17	1686.45
15	1685.86	1686.50	1686.93	1687.03	1687.11	1687.14	1687.21	1687.19	1686.72	1686.14	1686.17	1686.89
16	1686.35	1686.46	1686.55	1687.07	1687.22	1687.14	1687.21	1687.20	1686.52	1686.13	1686.17	1686.57
17	1685.87	1685.81	1686.55	1686.92	1687.18	1687.15	1687.20	1687.20	1686.72	1686.49	1686.17	1686.55
18	1686.72	1685.77	1686.55	1687.11	1687.08	1687.16	1687.21	1687.20	1686.53	1686.48	1686.17	1686.46
19	1686.47	1685.66	1686.58	1686.90	1687.12	1687.16	1687.20	1687.20	1686.87	1686.11	1686.17	1686.67
20	1686.08	1685.45	1686.58	1686.61	1687.03	1687.19	1687.21	1687.20	1686.84	1686.17	1686.17	1686.52
21	1686.38	1685.46	1686.92	1686.96	1687.10	1687.18	1687.21	1687.19	1686.50	1686.17	1686.17	1686.24
22	1686.15	1686.45	1686.93	1686.57	1687.10	1687.17	1687.21	1687.20	1687.24	1686.17	1686.17	1686.47
23	1686.31	1686.46	1686.58	1687.06	1687.22	1687.20	1687.21	1687.21	1686.13	1686.17	1686.17	1686.29
24	1686.18	1685.54	1686.61	1686.60	1687.18	1687.18	1687.21	1687.21	1686.90	1686.17	1686.17	1686.36
25	1686.58	1685.71	1686.95	1687.04	1687.08	1687.15	1687.21	1687.21	1686.21	1686.17	1686.17	1686.33
26	1686.47	1685.71	1686.66	1686.91	1687.13	1687.17	1687.21	1687.21	1686.91	1686.17	1686.17	1686.81
27	1685.82	1685.62	1686.90	1686.61	1687.12	1687.17	1687.21	1687.21	1686.64	1686.17	1686.17	1686.62
28	1685.85	1685.80	1686.97	1686.98	1687.14	1687.17	1687.20	1687.21	1686.21	1686.17	1686.17	1686.69
29	1685.84	1686.94	1686.94	1686.69	1687.14	1687.16	1687.20	1687.21	1686.53	1686.17	1686.17	1686.69
30	1685.84		1686.64	1686.83	1687.24	1687.17	1687.20	1687.20	1686.13	1686.17	1686.17	1686.69
31	1685.86		1686.97		1687.22		1687.19	1687.20		1686.17		1686.69

Table 84. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1F modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1686.65	1686.94	1687.27	1687.01	1686.99	1687.11	1687.15	1687.19	1687.20	1686.77	1686.70	1686.70
2	1686.69	1686.94	1686.80	1687.02	1687.16	1687.13	1687.16	1687.19	1687.20	1686.77	1686.70	1686.70
3	1686.69	1686.63	1686.86	1687.14	1687.15	1687.12	1687.16	1687.19	1687.19	1686.91	1686.70	1686.70
4	1686.93	1686.65	1686.79	1687.15	1686.98	1687.11	1687.14	1687.19	1687.20	1686.91	1686.70	1686.70
5	1686.93	1686.66	1686.85	1687.16	1687.01	1687.11	1686.98	1687.18	1687.20	1686.76	1686.70	1686.70
6	1686.67	1686.67	1686.79	1686.99	1687.00	1687.11	1686.82	1687.18	1687.21	1686.76	1686.70	1686.70
7	1686.68	1686.67	1687.25	1687.27	1686.99	1687.10	1686.96	1687.18	1687.00	1686.75	1686.70	1686.70
8	1686.67	1686.92	1687.27	1687.03	1687.00	1687.11	1686.95	1687.18	1686.87	1686.74	1686.70	1686.70
9	1686.67	1686.93	1686.85	1687.17	1687.14	1687.11	1687.08	1687.18	1686.93	1686.74	1686.70	1686.70
10	1686.67	1686.66	1686.90	1687.04	1687.16	1687.12	1687.06	1687.18	1686.74	1686.91	1686.70	1686.79
11	1686.93	1686.65	1686.90	1687.24	1687.02	1687.11	1687.22	1687.19	1687.23	1686.91	1686.70	1686.85
12	1686.94	1686.65	1686.91	1687.16	1687.15	1687.14	1687.22	1687.19	1686.96	1686.71	1686.70	1687.25
13	1686.65	1686.64	1686.91	1687.02	1687.09	1687.17	1687.22	1687.19	1686.96	1686.72	1686.70	1686.91
14	1686.67	1686.63	1687.22	1687.05	1687.13	1687.17	1687.21	1687.19	1686.71	1686.71	1686.70	1686.70
15	1686.66	1686.93	1687.22	1687.04	1687.10	1687.13	1687.21	1687.20	1686.71	1686.71	1686.70	1686.72
16	1686.66	1686.94	1686.90	1687.04	1687.22	1687.13	1687.21	1687.20	1686.71	1686.71	1686.70	1686.71
17	1686.66	1686.62	1686.94	1687.01	1687.16	1687.15	1687.20	1687.20	1686.70	1686.91	1686.70	1686.70
18	1686.93	1686.59	1686.93	1687.16	1687.07	1687.16	1687.21	1687.20	1686.71	1686.92	1686.70	1686.69
19	1686.94	1686.53	1686.92	1687.17	1687.11	1687.16	1687.20	1687.20	1686.97	1686.70	1686.70	1686.93
20	1686.66	1686.50	1686.95	1686.99	1687.02	1687.18	1687.21	1687.20	1686.97	1686.71	1686.70	1686.93
21	1686.67	1686.44	1687.21	1686.99	1687.09	1687.18	1687.21	1687.19	1686.71	1686.71	1686.70	1686.67
22	1686.67	1687.00	1687.22	1686.94	1687.09	1687.17	1687.21	1687.20	1687.25	1686.71	1686.70	1686.68
23	1686.67	1687.01	1686.97	1686.99	1687.21	1687.20	1687.21	1687.21	1686.71	1686.71	1686.70	1686.68
24	1686.67	1686.51	1686.98	1686.97	1687.16	1687.18	1687.21	1687.21	1686.71	1686.70	1686.70	1686.68
25	1686.93	1686.55	1687.01	1687.18	1687.07	1687.15	1687.21	1687.21	1686.71	1686.70	1686.70	1686.68
26	1686.94	1686.57	1687.02	1687.17	1687.12	1687.17	1687.21	1687.21	1686.98	1686.70	1686.70	1686.92
27	1686.63	1686.54	1687.00	1686.98	1687.10	1687.17	1687.21	1687.21	1686.98	1686.70	1686.70	1686.92
28	1686.63	1686.59	1687.17	1686.99	1687.13	1687.17	1687.20	1687.21	1686.70	1686.70	1686.70	1686.70
29	1686.63	1687.25	1687.18	1686.99	1687.13	1687.16	1687.20	1687.21	1686.71	1686.70	1686.70	1686.71
30	1686.63		1687.00	1686.99	1687.24	1687.17	1687.20	1687.20	1686.71	1686.70	1686.70	1686.71
31	1686.63		1687.02		1687.22		1687.19	1687.20		1686.70		1686.71

Table 85. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 2 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1685.86	1686.46	1687.27	1687.01	1686.99	1687.11	1685.97	1687.20	1687.19	1687.19	1687.27	1687.27
2	1686.76	1686.47	1686.78	1687.02	1687.16	1687.13	1685.96	1687.19	1687.20	1687.21	1687.27	1687.27
3	1686.12	1685.87	1686.87	1687.14	1687.15	1687.12	1685.89	1687.18	1687.19	1687.20	1687.27	1687.27
4	1686.85	1686.17	1686.78	1687.15	1686.98	1687.12	1686.62	1687.18	1687.20	1687.19	1687.27	1687.27
5	1686.47	1686.13	1686.86	1687.16	1687.01	1687.11	1686.63	1687.17	1687.19	1687.21	1687.27	1687.27
6	1686.27	1686.28	1686.84	1686.99	1687.00	1687.11	1685.81	1687.17	1687.20	1687.19	1687.27	1687.27
7	1686.44	1686.24	1687.25	1687.27	1686.99	1687.10	1685.91	1687.17	1687.20	1687.18	1687.27	1687.27
8	1686.12	1686.73	1687.27	1687.03	1687.00	1687.12	1685.90	1687.17	1687.19	1687.21	1687.27	1687.27
9	1686.32	1686.46	1686.86	1687.17	1687.14	1687.11	1685.94	1687.17	1687.21	1687.20	1687.27	1687.27
10	1686.10	1686.14	1686.89	1687.04	1687.16	1687.12	1685.96	1687.17	1687.20	1687.19	1687.27	1687.29
11	1686.68	1685.95	1686.90	1687.24	1687.02	1687.11	1687.32	1687.17	1687.19	1687.21	1687.27	1687.21
12	1686.47	1686.08	1686.91	1687.16	1687.15	1687.15	1687.37	1687.17	1687.19	1687.20	1687.27	1687.27
13	1685.91	1685.86	1686.91	1687.02	1687.09	1687.17	1687.36	1687.18	1687.19	1687.19	1687.27	1687.25
14	1686.46	1685.86	1687.22	1687.05	1687.13	1687.17	1687.35	1687.17	1687.21	1687.21	1687.27	1687.19
15	1685.86	1686.50	1687.22	1687.04	1687.10	1687.14	1687.35	1687.19	1687.20	1687.20	1687.27	1687.26
16	1686.35	1686.46	1686.90	1687.04	1687.22	1687.14	1687.34	1687.18	1687.19	1687.19	1687.27	1687.20
17	1685.87	1685.81	1686.94	1687.01	1687.16	1687.15	1687.34	1687.18	1687.21	1687.21	1687.27	1687.27
18	1686.72	1685.77	1686.93	1687.16	1687.07	1687.16	1687.35	1687.19	1687.20	1687.20	1687.27	1687.21
19	1686.47	1685.66	1686.92	1687.17	1687.11	1687.16	1687.34	1687.18	1687.19	1687.19	1687.27	1687.27
20	1686.08	1685.45	1686.95	1686.99	1687.02	1687.19	1687.34	1687.19	1687.19	1687.27	1687.27	1687.25
21	1686.38	1685.46	1687.21	1686.99	1687.09	1687.18	1687.34	1687.19	1687.21	1687.27	1687.27	1687.21
22	1686.15	1686.45	1687.22	1686.94	1687.09	1686.84	1687.35	1687.18	1687.21	1687.27	1687.27	1687.27
23	1686.31	1686.46	1686.97	1686.99	1687.21	1686.88	1687.35	1687.18	1687.20	1687.27	1687.27	1687.20
24	1686.18	1685.54	1686.98	1686.97	1687.16	1687.25	1687.35	1687.19	1687.19	1687.27	1687.27	1687.27
25	1686.58	1685.71	1687.01	1687.18	1687.07	1687.27	1687.34	1687.20	1687.21	1687.27	1687.27	1687.21
26	1686.47	1685.71	1687.02	1687.17	1687.12	1687.28	1687.34	1687.21	1687.20	1687.27	1687.27	1687.27
27	1685.82	1685.62	1687.00	1686.98	1687.10	1687.26	1687.34	1687.18	1687.20	1687.27	1687.27	1687.25
28	1685.85	1685.80	1687.17	1686.99	1687.13	1686.47	1687.33	1687.20	1687.18	1687.27	1687.27	1687.22
29	1685.84	1687.23	1687.18	1686.99	1687.13	1686.04	1687.28	1687.21	1687.21	1687.27	1687.27	1687.02
30	1685.84		1687.00	1686.99	1687.24	1686.02	1687.24	1687.19	1687.20	1687.27	1687.27	1687.13
31	1685.86		1687.02		1687.22		1687.22	1687.20		1687.27		1687.06

Table 86. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 3 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1686.23	1686.27	1686.04	1686.98	1687.05	1687.16	1687.22	1687.15	1687.18	1687.10	1686.97	1686.97
2	1686.89	1686.39	1686.05	1687.26	1686.99	1687.15	1687.24	1687.15	1687.18	1687.19	1686.97	1686.97
3	1686.59	1686.35	1686.05	1687.26	1687.13	1687.14	1687.25	1687.15	1687.19	1686.99	1686.97	1686.97
4	1686.65	1686.43	1686.04	1687.04	1687.05	1687.16	1687.26	1687.15	1687.19	1687.00	1686.97	1686.97
5	1686.58	1686.53	1686.05	1687.23	1687.12	1687.15	1687.26	1687.15	1687.12	1686.85	1686.97	1686.97
6	1686.66	1686.54	1686.05	1687.04	1687.09	1687.14	1687.26	1687.13	1687.15	1686.98	1686.97	1686.97
7	1686.65	1686.61	1686.04	1687.25	1687.10	1687.14	1687.25	1687.10	1687.07	1686.85	1686.97	1686.97
8	1686.54	1686.58	1686.04	1687.29	1687.11	1687.14	1687.23	1687.11	1687.06	1686.98	1686.97	1686.97
9	1686.55	1686.61	1686.22	1687.29	1687.11	1687.13	1687.23	1687.06	1687.11	1687.04	1686.97	1686.97
10	1686.50	1686.57	1686.17	1687.25	1687.19	1687.14	1687.20	1687.06	1687.10	1686.97	1686.97	1687.05
11	1686.53	1686.35	1686.30	1687.17	1687.27	1687.14	1687.19	1687.03	1687.05	1687.02	1686.97	1687.12
12	1686.54	1686.40	1686.42	1687.20	1687.27	1687.15	1687.18	1687.05	1687.04	1686.99	1686.97	1687.18
13	1686.52	1686.36	1686.37	1687.24	1687.28	1687.18	1687.18	1687.05	1686.89	1687.00	1686.97	1686.92
14	1686.56	1686.21	1686.51	1687.22	1687.29	1687.19	1687.18	1687.06	1686.94	1686.97	1686.97	1686.95
15	1686.45	1686.38	1686.44	1687.23	1687.27	1687.22	1687.18	1687.12	1687.00	1686.98	1686.97	1686.95
16	1686.48	1686.32	1686.46	1687.23	1687.18	1687.23	1687.17	1687.07	1687.04	1686.95	1686.97	1686.95
17	1686.49	1686.37	1686.40	1687.18	1687.21	1687.24	1687.17	1687.11	1687.13	1686.83	1686.97	1686.73
18	1686.45	1686.04	1686.51	1687.04	1687.28	1687.26	1687.16	1687.09	1687.01	1686.87	1686.97	1686.84
19	1686.55	1686.04	1686.39	1686.84	1687.27	1687.25	1687.16	1687.09	1686.94	1686.95	1686.97	1686.61
20	1686.54	1685.99	1686.64	1686.91	1687.23	1687.25	1687.16	1687.11	1687.07	1686.97	1686.97	1686.69
21	1686.66	1685.97	1686.51	1687.09	1687.25	1687.24	1687.17	1687.15	1687.08	1686.97	1686.97	1686.62
22	1686.67	1686.06	1686.64	1686.52	1687.24	1687.22	1687.16	1687.13	1687.03	1686.97	1686.97	1686.66
23	1686.56	1686.06	1686.73	1687.28	1687.18	1687.20	1687.16	1687.03	1687.01	1686.97	1686.97	1686.65
24	1686.55	1686.01	1686.78	1686.68	1687.20	1687.19	1687.17	1686.97	1686.86	1686.97	1686.97	1686.62
25	1686.45	1686.02	1687.12	1687.05	1687.28	1687.17	1687.18	1687.11	1686.99	1686.97	1686.97	1686.64
26	1686.44	1686.03	1686.98	1686.87	1687.27	1687.17	1687.18	1687.18	1686.89	1686.97	1686.97	1686.69
27	1686.33	1686.01	1687.03	1686.98	1687.28	1687.16	1687.18	1687.10	1687.02	1686.97	1686.97	1686.77
28	1686.17	1686.05	1686.98	1687.08	1687.29	1687.18	1687.17	1687.15	1687.05	1686.97	1686.97	1686.98
29	1686.22	1686.05	1687.00	1687.04	1687.28	1687.19	1687.17	1687.15	1687.02	1686.97	1686.97	1686.88
30	1686.22		1687.00	1687.00	1687.22	1687.20	1687.16	1687.18	1687.02	1686.97	1686.97	1686.96
31	1686.31		1687.06		1687.16		1687.15	1687.17		1686.97		1686.94

Table 87. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 4 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1686.65	1686.94	1687.27	1687.01	1686.99	1687.16	1687.15	1687.15	1687.17	1687.00	1686.70	1686.70
2	1686.69	1686.94	1686.80	1687.02	1687.16	1687.16	1687.18	1687.15	1687.18	1687.03	1686.70	1686.70
3	1686.69	1686.63	1686.86	1687.14	1687.15	1687.15	1687.20	1687.15	1687.17	1687.02	1686.70	1686.70
4	1686.93	1686.65	1686.79	1687.15	1686.98	1687.15	1687.21	1687.15	1687.19	1686.96	1686.70	1686.70
5	1686.93	1686.66	1686.85	1687.16	1687.01	1687.15	1687.21	1687.15	1687.10	1686.76	1686.70	1686.70
6	1686.67	1686.67	1686.79	1686.99	1687.00	1687.15	1687.22	1687.08	1687.14	1686.77	1686.70	1686.70
7	1686.68	1686.67	1687.25	1687.27	1686.99	1687.14	1687.23	1687.09	1686.92	1686.75	1686.70	1686.70
8	1686.67	1686.92	1687.27	1687.03	1687.00	1687.14	1687.22	1687.09	1686.94	1686.74	1686.70	1686.70
9	1686.67	1686.93	1686.85	1687.17	1687.14	1687.13	1687.21	1687.04	1686.98	1686.86	1686.70	1686.70
10	1686.67	1686.66	1686.90	1687.04	1687.16	1687.14	1687.20	1686.99	1686.92	1686.99	1686.70	1686.79
11	1686.93	1686.65	1686.90	1687.24	1687.02	1687.14	1687.19	1686.97	1686.90	1686.95	1686.70	1686.85
12	1686.94	1686.65	1686.91	1687.16	1687.15	1687.05	1687.18	1687.00	1687.03	1686.71	1686.70	1687.25
13	1686.65	1686.64	1686.91	1687.02	1687.09	1687.07	1687.18	1686.99	1686.97	1686.82	1686.70	1686.91
14	1686.67	1686.63	1687.22	1687.05	1687.13	1687.08	1687.18	1687.02	1686.71	1686.71	1686.70	1686.70
15	1686.66	1686.93	1687.22	1687.04	1687.10	1687.08	1687.18	1687.13	1686.84	1686.76	1686.70	1686.72
16	1686.66	1686.94	1686.90	1687.04	1687.22	1687.13	1687.17	1687.05	1686.91	1686.71	1686.70	1686.71
17	1686.66	1686.62	1686.94	1687.01	1687.16	1687.18	1687.17	1687.07	1686.99	1686.91	1686.70	1686.70
18	1686.93	1686.59	1686.93	1687.16	1687.07	1687.19	1687.16	1687.03	1686.86	1686.92	1686.70	1686.69
19	1686.94	1686.53	1686.92	1687.17	1687.11	1687.20	1687.17	1687.02	1686.98	1686.70	1686.70	1686.93
20	1686.66	1686.50	1686.95	1686.99	1687.02	1687.21	1687.16	1687.06	1687.03	1686.71	1686.70	1686.93
21	1686.67	1686.44	1687.21	1686.99	1687.09	1687.21	1687.17	1687.14	1686.89	1686.71	1686.70	1686.67
22	1686.67	1687.00	1687.22	1686.94	1687.09	1687.21	1687.16	1687.12	1686.90	1686.71	1686.70	1686.68
23	1686.67	1687.01	1686.97	1686.99	1687.21	1687.21	1687.16	1686.98	1686.80	1686.71	1686.70	1686.68
24	1686.67	1686.51	1686.98	1686.97	1687.16	1687.18	1687.17	1686.78	1686.71	1686.70	1686.70	1686.68
25	1686.93	1686.55	1687.01	1687.18	1687.07	1687.16	1687.18	1687.10	1686.78	1686.70	1686.70	1686.68
26	1686.94	1686.57	1687.02	1687.17	1687.12	1687.14	1687.18	1687.11	1686.98	1686.70	1686.70	1686.92
27	1686.63	1686.54	1687.00	1686.98	1687.10	1687.14	1687.18	1687.03	1686.98	1686.70	1686.70	1686.92
28	1686.63	1686.59	1687.17	1686.99	1687.13	1687.10	1687.17	1687.08	1686.76	1686.70	1686.70	1686.70
29	1686.63	1687.25	1687.18	1686.99	1687.13	1687.12	1687.17	1687.16	1686.91	1686.70	1686.70	1686.71
30	1686.63		1687.00	1686.99	1687.24	1687.13	1687.16	1687.18	1686.76	1686.70	1686.70	1686.71
31	1686.63		1687.02		1687.18		1687.15	1687.14		1686.70		1686.71

Table 88. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 5 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
9	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
10	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
11	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
21	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
22	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
29	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
30	1688.00		1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
31	1688.00		1688.00		1688.00		1688.00	1688.00		1688.00		1688.00

Table 89. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 6 modeled under the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.30	1687.20	1687.14	1687.20	1687.03	1687.12	1685.92	1687.37	1687.35	1687.16	1686.54	1686.54
2	1687.30	1687.23	1687.20	1687.20	1686.98	1687.14	1685.89	1687.36	1687.35	1686.70	1686.54	1686.54
3	1687.30	1687.29	1687.19	1687.23	1687.12	1687.13	1685.88	1687.36	1687.34	1687.13	1686.54	1686.54
4	1687.24	1687.30	1687.19	1687.00	1687.04	1687.12	1686.31	1687.36	1687.35	1687.01	1686.54	1686.54
5	1687.26	1687.27	1687.18	1687.24	1687.11	1687.12	1686.33	1687.35	1687.35	1687.08	1686.54	1686.54
6	1687.29	1687.29	1686.63	1687.27	1687.09	1687.12	1685.86	1687.35	1687.36	1687.07	1686.54	1686.54
7	1687.31	1687.30	1686.56	1687.28	1687.10	1687.11	1685.87	1687.35	1685.90	1686.82	1686.54	1686.54
8	1687.30	1687.21	1686.36	1687.30	1687.11	1687.12	1685.88	1687.35	1685.94	1687.02	1686.54	1686.54
9	1687.30	1687.23	1686.44	1687.27	1687.11	1687.12	1685.88	1687.35	1685.94	1686.49	1686.54	1686.54
10	1687.30	1687.29	1686.37	1687.26	1687.19	1687.13	1685.89	1687.34	1685.94	1686.95	1686.54	1686.54
11	1687.24	1687.30	1686.38	1687.17	1687.27	1687.12	1687.38	1687.35	1687.31	1686.48	1686.54	1686.62
12	1687.26	1687.27	1686.45	1687.20	1687.27	1687.15	1687.43	1687.35	1686.28	1686.95	1686.54	1686.70
13	1687.29	1687.26	1686.45	1687.24	1687.28	1687.17	1687.43	1687.35	1686.27	1686.57	1686.54	1686.77
14	1687.32	1687.25	1686.44	1687.23	1687.29	1687.17	1687.42	1687.35	1685.92	1686.58	1686.54	1686.84
15	1687.30	1687.18	1686.46	1687.23	1687.27	1687.20	1687.42	1687.35	1685.93	1686.77	1686.54	1686.91
16	1687.30	1687.20	1686.42	1687.20	1687.18	1687.18	1687.41	1687.35	1685.93	1686.54	1686.54	1686.99
17	1687.30	1687.27	1686.44	1687.04	1687.21	1687.20	1687.41	1687.35	1685.93	1686.69	1686.54	1687.06
18	1687.25	1687.27	1686.48	1687.03	1687.28	1687.19	1687.41	1687.35	1685.93	1686.53	1686.54	1687.13
19	1687.26	1687.26	1686.53	1686.80	1687.27	1687.19	1687.40	1687.35	1686.27	1686.48	1686.54	1687.20
20	1687.30	1686.99	1686.55	1686.90	1687.23	1687.15	1687.40	1687.35	1686.27	1686.54	1686.54	1687.27
21	1687.30	1687.06	1686.60	1686.93	1687.24	1687.19	1687.40	1687.34	1685.93	1686.54	1686.54	1687.30
22	1687.30	1686.96	1686.66	1686.89	1687.24	1687.20	1687.40	1687.34	1687.31	1686.54	1686.54	1687.30
23	1687.30	1687.08	1686.82	1686.96	1687.18	1687.20	1687.40	1687.35	1685.90	1686.54	1686.54	1687.30
24	1687.30	1687.17	1686.91	1686.95	1687.20	1687.18	1687.40	1687.35	1685.95	1686.54	1686.54	1687.30
25	1687.25	1687.17	1686.94	1686.89	1687.28	1687.16	1687.40	1687.35	1685.93	1686.54	1686.54	1687.30
26	1687.26	1687.18	1686.98	1686.96	1687.27	1687.18	1687.39	1685.90	1686.27	1686.54	1686.54	1687.24
27	1687.29	1687.18	1686.99	1687.04	1687.28	1687.18	1687.39	1687.30	1686.27	1686.54	1686.54	1687.26
28	1687.30	1687.18	1686.93	1687.08	1687.29	1687.18	1687.38	1687.36	1685.92	1686.54	1686.54	1687.29
29	1687.26	1687.12	1686.99	1686.97	1687.28	1687.21	1687.38	1687.36	1685.94	1686.54	1686.54	1687.32
30	1687.26		1687.02	1686.99	1687.22	1686.28	1687.38	1687.36	1686.01	1686.54	1686.54	1687.30
31	1687.26		1687.09		1687.23		1687.37	1687.35		1686.54		1687.30

Table 90. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Proposed Operations modeled during the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.19	1687.19	1687.25	1687.22	1687.12	1687.16	1687.06	1687.06	1687.06	1687.06	1687.16	1687.16
2	1687.19	1687.19	1687.25	1687.19	1687.12	1687.09	1687.06	1687.06	1687.06	1687.06	1687.16	1687.25
3	1687.19	1687.19	1687.19	1687.19	1687.16	1687.09	1687.06	1687.06	1687.06	1687.06	1687.16	1687.25
4	1687.22	1687.19	1687.22	1687.22	1687.16	1687.09	1687.06	1687.02	1687.02	1687.06	1687.16	1687.25
5	1687.22	1687.19	1687.22	1687.12	1687.12	1687.09	1687.06	1687.06	1687.02	1687.09	1687.16	1687.25
6	1687.19	1687.19	1687.25	1687.12	1687.12	1687.09	1687.06	1687.06	1687.06	1687.09	1687.16	1687.25
7	1687.19	1687.19	1687.22	1687.16	1687.12	1687.09	1687.02	1687.06	1687.09	1687.09	1687.16	1687.25
8	1687.19	1687.19	1687.25	1687.12	1687.09	1687.09	1687.02	1687.02	1687.06	1687.09	1687.16	1687.25
9	1687.19	1687.19	1687.22	1687.16	1687.12	1687.09	1687.06	1687.06	1687.06	1687.09	1687.16	1687.25
10	1687.19	1687.19	1687.19	1687.16	1687.12	1687.09	1687.06	1687.06	1687.06	1687.09	1687.16	1687.25
11	1687.19	1687.19	1687.19	1687.16	1686.63	1687.09	1687.06	1687.06	1687.06	1687.09	1687.16	1687.25
12	1687.19	1687.19	1687.19	1687.12	1687.16	1687.09	1687.06	1687.06	1687.06	1687.09	1687.16	1687.22
13	1687.19	1687.19	1687.19	1687.12	1687.16	1687.09	1687.06	1687.02	1687.06	1687.09	1687.16	1687.22
14	1687.19	1687.19	1687.19	1687.16	1687.16	1687.12	1687.06	1687.02	1687.09	1687.06	1687.16	1687.19
15	1687.19	1687.19	1687.22	1687.16	1687.16	1687.12	1687.06	1687.02	1687.06	1687.06	1687.16	1687.16
16	1687.19	1687.19	1687.22	1687.16	1687.16	1687.12	1687.06	1687.06	1687.06	1687.09	1687.16	1687.19
17	1687.19	1687.19	1687.19	1687.16	1687.16	1687.12	1687.06	1687.06	1687.06	1687.06	1687.16	1687.19
18	1687.19	1687.19	1687.19	1687.16	1687.16	1687.12	1687.06	1687.02	1687.06	1687.09	1687.16	1687.19
19	1687.19	1687.25	1687.19	1686.63	1687.16	1687.12	1687.06	1687.02	1687.06	1687.09	1687.16	1687.19
20	1687.19	1687.25	1687.19	1687.12	1687.16	1687.12	1687.06	1687.06	1687.09	1687.09	1687.16	1687.22
21	1687.19	1687.25	1687.19	1687.12	1687.16	1687.12	1687.06	1687.06	1687.09	1687.09	1687.16	1687.22
22	1687.19	1687.29	1687.19	1687.12	1687.16	1687.12	1687.06	1687.09	1687.06	1687.09	1687.16	1687.19
23	1687.19	1687.29	1687.19	1687.12	1687.16	1687.12	1687.06	1687.06	1687.06	1687.09	1687.16	1687.19
24	1687.19	1687.25	1687.19	1687.12	1687.12	1687.12	1687.06	1687.06	1687.06	1687.16	1687.16	1687.19
25	1687.19	1687.25	1687.19	1687.12	1687.12	1687.06	1687.06	1687.06	1687.06	1687.16	1687.16	1687.19
26	1687.19	1687.25	1687.16	1687.12	1687.16	1687.06	1687.06	1687.06	1687.06	1687.16	1687.16	1687.19
27	1687.19	1687.25	1687.19	1687.12	1687.16	1687.06	1687.06	1687.02	1687.06	1687.16	1687.16	1687.19
28	1687.19	1687.22	1687.22	1687.12	1687.16	1687.06	1687.06	1687.02	1687.09	1687.16	1687.16	1687.19
29	1687.19		1687.22	1687.12	1687.16	1687.06	1687.06	1687.02	1687.06	1687.16	1687.16	1687.16
30	1687.19		1687.22	1687.12	1687.16	1687.06	1687.06	1687.06	1687.06	1687.16	1687.16	1687.19
31	1687.19		1687.22		1687.16		1687.02	1687.06		1687.16		

Table 91. Actual end-of-day (23rd hour) water levels in Hells Canyon reservoir measured during the extreme low flow year of 1992 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1686.62	1684.96	1687.07	1685.88	1686.47	1685.68	1686.13	1686.48	1687.01	1686.88	1686.39	1685.99
2	1687.40	1683.27	1687.35	1686.72	1686.39	1685.96	1687.30	1687.40	1686.65	1685.47	1686.63	1685.94
3	1686.78	1685.78	1687.42	1687.09	1686.85	1685.98	1686.23	1686.95	1685.93	1683.68	1687.41	1686.54
4	1686.64	1686.17	1686.94	1686.56	1686.40	1686.15	1685.24	1685.64	1686.50	1680.13	1686.47	1686.48
5	1686.87	1685.61	1686.95	1685.19	1685.30	1685.48	1686.21	1684.29	1686.75	1678.54	1686.78	1686.82
6	1687.38	1686.86	1687.14	1685.43	1686.50	1684.79	1687.21	1684.61	1685.26	1678.31	1686.86	1685.48
7	1686.90	1687.00	1686.63	1686.41	1687.13	1684.56	1686.89	1686.07	1684.85	1678.18	1686.84	1686.77
8	1686.45	1687.01	1685.42	1686.89	1686.28	1684.95	1686.21	1686.41	1686.52	1678.37	1687.46	1685.59
9	1687.77	1685.50	1686.49	1687.00	1684.93	1685.15	1687.09	1686.89	1686.65	1678.24	1687.15	1686.38
10	1686.78	1686.81	1685.96	1686.66	1683.07	1684.72	1686.90	1686.91	1685.24	1678.56	1687.29	1686.65
11	1687.09	1686.70	1686.32	1685.23	1683.88	1686.31	1684.78	1686.82	1685.94	1678.62	1686.50	1687.10
12	1686.60	1687.42	1686.96	1683.68	1685.94	1686.86	1686.22	1686.76	1686.83	1678.27	1686.36	1687.09
13	1686.86	1685.84	1686.97	1685.33	1687.09	1685.80	1686.26	1686.81	1685.55	1678.42	1686.28	1686.16
14	1686.88	1687.69	1686.69	1685.84	1686.42	1683.62	1685.75	1687.23	1687.17	1678.63	1686.32	1686.39
15	1686.68	1687.31	1686.23	1686.40	1686.18	1682.29	1686.43	1686.40	1686.26	1679.16	1686.61	1687.00
16	1686.71	1686.91	1686.81	1686.66	1685.82	1684.34	1686.61	1684.49	1686.27	1679.83	1686.71	1687.48
17	1686.74	1686.96	1686.69	1685.32	1684.85	1685.96	1687.31	1685.05	1685.29	1681.38	1686.68	1687.03
18	1687.08	1686.81	1686.63	1686.77	1687.23	1687.04	1686.37	1686.47	1686.68	1682.49	1686.24	1686.35
19	1687.27	1686.82	1685.63	1684.09	1686.66	1687.18	1686.50	1686.81	1685.68	1683.23	1686.81	1686.37
20	1686.89	1687.35	1686.79	1683.09	1686.09	1686.66	1686.43	1686.39	1685.27	1684.17	1685.97	1686.20
21	1686.97	1686.81	1687.15	1686.72	1687.02	1685.27	1686.19	1686.23	1686.08	1684.07	1686.27	1685.56
22	1686.45	1687.71	1687.39	1686.66	1686.64	1686.32	1686.84	1685.16	1686.92	1684.68	1685.29	1686.89
23	1687.36	1686.61	1686.37	1686.64	1685.86	1686.75	1685.73	1686.02	1686.89	1685.74	1686.75	1686.54
24	1687.39	1687.04	1684.95	1686.16	1685.34	1685.73	1686.82	1685.71	1686.21	1687.12	1686.45	1685.73
25	1686.04	1686.95	1685.53	1687.52	1686.90	1685.46	1687.12	1685.90	1686.58	1686.43	1686.24	1686.45
26	1686.55	1687.00	1687.21	1686.56	1687.02	1685.84	1685.08	1686.37	1686.47	1686.26	1684.71	1687.67
27	1686.94	1686.28	1687.14	1687.40	1686.65	1685.91	1686.03	1686.98	1686.82	1687.48	1685.56	1687.47
28	1686.49	1686.27	1685.88	1686.67	1686.43	1684.44	1686.06	1686.20	1686.97	1687.08	1685.03	1686.39
29	1686.94	1686.53	1683.87	1686.54	1686.88	1683.72	1685.98	1686.64	1686.98	1687.21	1685.80	1686.88
30	1686.63		1684.59	1686.95	1686.29	1685.64	1685.51	1686.11	1687.16	1686.88	1686.79	1687.31
31	1686.64		1685.23		1685.09		1685.27	1686.91		1687.39		1686.75

Table 92. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1A modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.34	1687.00	1687.51	1687.56	1686.81	1688.00	1687.00	1687.40	1687.39	1687.50	1687.35	1687.35
2	1687.34	1687.00	1687.48	1687.53	1686.83	1688.00	1687.00	1687.40	1687.38	1687.50	1687.35	1687.35
3	1687.34	1687.00	1687.48	1687.50	1686.83	1688.00	1686.97	1687.39	1687.39	1687.50	1687.35	1687.36
4	1687.36	1687.00	1687.50	1687.34	1686.86	1688.00	1686.88	1687.39	1687.40	1687.50	1687.37	1687.36
5	1687.37	1686.94	1687.45	1687.50	1686.93	1688.00	1686.83	1687.40	1687.40	1687.50	1687.37	1687.32
6	1687.43	1687.06	1687.51	1686.85	1687.00	1688.00	1687.37	1687.39	1687.40	1687.50	1687.35	1687.32
7	1687.47	1687.19	1687.44	1686.94	1687.01	1688.00	1687.27	1687.39	1687.41	1687.50	1687.35	1687.32
8	1687.50	1687.69	1687.53	1686.96	1687.01	1688.00	1687.15	1687.39	1687.45	1687.50	1687.35	1687.32
9	1687.49	1687.45	1687.50	1686.94	1687.01	1688.00	1686.77	1687.38	1686.85	1687.50	1687.35	1687.36
10	1686.84	1687.54	1687.49	1686.98	1687.00	1688.00	1686.80	1687.38	1686.84	1687.50	1687.35	1687.36
11	1686.89	1687.35	1686.83	1686.91	1687.00	1688.00	1686.79	1687.38	1687.50	1687.50	1687.37	1687.53
12	1687.00	1687.47	1686.87	1686.87	1687.00	1688.00	1686.79	1687.38	1686.84	1687.42	1687.37	1687.45
13	1687.00	1687.52	1686.92	1686.89	1687.00	1688.00	1686.77	1687.38	1686.79	1687.42	1687.37	1686.83
14	1687.00	1687.50	1686.98	1686.87	1687.00	1688.00	1686.75	1687.39	1686.81	1687.50	1687.37	1686.89
15	1687.00	1687.38	1687.00	1686.91	1687.00	1688.00	1686.72	1687.39	1687.50	1687.50	1687.35	1686.88
16	1686.94	1687.50	1686.98	1686.85	1687.00	1688.00	1686.76	1687.40	1687.52	1687.50	1687.35	1686.87
17	1686.89	1687.52	1687.00	1686.86	1687.00	1688.00	1686.82	1687.40	1687.50	1687.50	1687.35	1686.85
18	1687.69	1687.47	1687.00	1686.82	1687.00	1688.00	1686.94	1687.40	1687.51	1687.43	1687.37	1686.95
19	1687.41	1687.27	1687.00	1686.80	1687.00	1688.00	1687.48	1687.40	1687.52	1687.33	1687.37	1687.09
20	1687.39	1687.50	1688.00	1686.83	1687.00	1688.00	1687.46	1687.40	1687.51	1687.41	1687.35	1687.01
21	1687.49	1687.50	1687.04	1687.50	1687.00	1687.04	1687.45	1687.40	1687.51	1687.37	1687.35	1687.17
22	1687.50	1687.45	1687.00	1686.76	1687.00	1687.00	1686.96	1687.40	1687.52	1687.37	1687.35	1687.36
23	1687.50	1687.46	1687.00	1686.83	1687.00	1688.00	1687.05	1687.39	1687.52	1687.35	1687.35	1687.23
24	1687.50	1687.69	1687.00	1687.55	1687.00	1687.04	1687.42	1687.38	1687.50	1687.35	1687.35	1687.48
25	1687.50	1686.91	1686.91	1687.46	1688.00	1687.00	1687.40	1687.39	1687.50	1687.35	1687.37	1687.46
26	1687.50	1686.95	1686.80	1686.80	1688.00	1687.00	1687.40	1687.39	1687.50	1687.35	1687.37	1687.49
27	1687.50	1687.51	1687.54	1686.83	1688.00	1688.00	1687.39	1687.39	1687.50	1687.35	1687.35	1687.48
28	1687.50	1687.45	1687.54	1686.87	1688.00	1687.04	1687.40	1687.39	1687.50	1687.37	1687.35	1687.47
29	1687.50		1687.50	1686.80	1688.00	1687.00	1687.40	1687.40	1687.50	1687.37	1687.32	1687.68
30	1687.25		1687.47	1686.94	1688.00	1687.00	1687.41	1687.39	1687.52	1687.35	1687.32	1686.97
31	1686.93		1687.47		1688.00		1687.41	1687.39		1687.35		1686.97

Table 93. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1B modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.28	1686.65	1687.36	1687.38	1686.58	1688.00	1686.86	1686.90	1686.93	1687.36	1687.17	1687.15
2	1687.15	1686.74	1687.28	1687.39	1686.58	1688.00	1686.83	1686.90	1687.26	1686.55	1687.17	1687.16
3	1687.27	1686.74	1687.26	1687.27	1686.58	1688.00	1685.83	1686.92	1687.27	1686.65	1687.17	1687.16
4	1686.96	1686.78	1687.33	1687.39	1686.61	1688.00	1686.60	1686.91	1686.89	1686.63	1687.17	1687.16
5	1686.96	1686.73	1687.27	1687.26	1686.68	1688.00	1686.59	1687.26	1686.90	1686.58	1687.17	1687.16
6	1686.87	1686.83	1686.52	1686.60	1686.77	1688.00	1686.59	1687.27	1686.90	1686.58	1687.17	1687.16
7	1687.30	1686.97	1686.63	1686.68	1686.78	1688.00	1686.87	1686.90	1686.89	1687.35	1687.17	1687.17
8	1687.37	1687.15	1687.30	1686.74	1686.64	1688.00	1686.87	1686.92	1686.80	1687.38	1687.17	1687.17
9	1687.26	1687.27	1687.29	1686.71	1686.74	1688.00	1686.62	1686.94	1686.72	1687.26	1687.17	1687.17
10	1686.60	1687.31	1687.26	1686.10	1686.64	1688.00	1686.57	1686.94	1686.71	1687.25	1687.17	1687.17
11	1686.64	1687.16	1686.62	1686.64	1686.67	1688.00	1686.57	1686.94	1686.58	1687.27	1687.17	1687.53
12	1686.74	1687.28	1686.67	1686.62	1686.65	1688.00	1686.57	1687.26	1685.97	1687.21	1687.17	1687.23
13	1686.69	1687.40	1686.68	1686.64	1686.78	1688.00	1686.55	1687.26	1685.89	1687.21	1687.17	1686.59
14	1686.78	1687.39	1686.48	1686.62	1686.78	1688.00	1686.52	1686.90	1685.91	1687.35	1687.17	1686.65
15	1686.79	1687.39	1686.71	1686.69	1686.74	1688.00	1686.57	1686.92	1686.63	1687.34	1687.17	1686.64
16	1686.70	1687.39	1686.60	1686.64	1686.60	1688.00	1686.62	1686.90	1687.36	1687.24	1687.17	1686.67
17	1686.64	1687.40	1686.69	1686.61	1686.62	1688.00	1686.61	1686.90	1687.39	1687.26	1687.17	1686.65
18	1687.46	1687.28	1686.78	1686.58	1686.74	1688.00	1685.96	1686.90	1686.56	1687.21	1687.17	1686.73
19	1687.19	1687.46	1687.23	1686.57	1686.66	1688.00	1686.75	1687.26	1686.65	1687.24	1687.17	1686.87
20	1687.40	1687.27	1686.76	1686.64	1686.78	1688.00	1686.76	1687.28	1686.65	1687.20	1687.17	1686.80
21	1687.31	1687.27	1687.62	1687.27	1686.78	1686.86	1686.78	1686.89	1686.65	1687.17	1687.17	1686.95
22	1687.40	1687.22	1686.78	1686.56	1686.74	1686.75	1686.82	1686.91	1686.64	1687.17	1687.17	1687.14
23	1687.35	1687.46	1686.66	1686.64	1686.69	1688.00	1686.92	1686.91	1687.36	1687.17	1687.17	1687.04
24	1687.34	1687.46	1686.53	1687.32	1686.64	1686.90	1686.81	1686.94	1687.39	1687.17	1687.17	1687.29
25	1687.34	1686.72	1686.68	1687.23	1688.00	1686.79	1686.90	1686.93	1687.34	1687.17	1687.17	1687.24
26	1687.34	1686.76	1686.61	1686.56	1688.00	1686.75	1686.90	1687.26	1686.52	1687.17	1687.17	1687.26
27	1687.34	1687.29	1687.35	1686.59	1688.00	1688.00	1686.91	1687.27	1686.62	1687.17	1687.17	1687.26
28	1687.37	1687.23	1687.30	1686.62	1688.00	1686.86	1686.90	1686.90	1686.62	1687.17	1687.17	1687.24
29	1687.42		1687.29	1686.60	1688.00	1686.75	1687.27	1686.91	1686.63	1687.17	1687.17	1687.46
30	1687.02		1687.26	1686.72	1688.00	1687.64	1687.29	1686.91	1687.36	1687.17	1687.16	1686.78
31	1685.95		1687.27		1688.00		1686.87	1686.92		1687.17		1686.78

Table 94. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1C modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.29	1686.21	1686.09	1686.98	1684.59	1688.00	1686.51	1686.52	1686.56	1687.03	1686.12	1686.09
2	1687.19	1686.22	1686.18	1687.02	1684.68	1688.00	1686.47	1686.52	1687.01	1686.27	1686.12	1686.10
3	1687.32	1686.23	1686.15	1685.43	1684.65	1688.00	1686.07	1686.56	1687.02	1686.29	1686.12	1686.11
4	1686.98	1686.33	1686.97	1686.06	1684.55	1688.00	1685.40	1686.53	1686.50	1686.28	1686.12	1686.11
5	1686.99	1686.31	1686.92	1685.65	1685.12	1688.00	1684.73	1687.01	1686.53	1686.26	1686.12	1686.11
6	1686.46	1685.15	1686.25	1684.58	1686.29	1688.00	1684.94	1687.02	1686.52	1686.25	1686.12	1686.11
7	1686.97	1685.15	1686.29	1685.57	1686.35	1688.00	1685.25	1686.51	1686.50	1687.01	1686.12	1686.11
8	1687.03	1685.68	1686.25	1686.27	1686.21	1688.00	1686.49	1686.56	1686.45	1687.03	1686.12	1686.11
9	1685.68	1685.66	1686.00	1686.28	1686.22	1688.00	1686.29	1686.56	1686.45	1686.06	1686.12	1686.11
10	1684.72	1685.84	1685.73	1686.17	1686.20	1688.00	1684.70	1686.57	1686.44	1686.27	1686.12	1686.11
11	1685.27	1687.07	1686.21	1685.73	1686.20	1688.00	1684.87	1686.57	1686.25	1686.18	1686.12	1687.49
12	1686.13	1686.91	1686.25	1684.82	1686.22	1688.00	1684.83	1687.01	1685.56	1686.08	1686.12	1685.61
13	1686.22	1685.99	1686.02	1684.49	1686.34	1688.00	1684.91	1687.02	1685.51	1686.09	1686.12	1684.91
14	1686.35	1686.07	1686.16	1684.54	1686.35	1688.00	1685.00	1686.51	1685.53	1687.00	1686.12	1685.53
15	1686.35	1686.09	1686.27	1686.23	1686.22	1688.00	1686.23	1686.54	1686.28	1686.99	1686.12	1685.76
16	1686.11	1686.06	1686.19	1686.21	1686.21	1688.00	1686.33	1686.52	1687.07	1686.07	1686.12	1686.22
17	1685.77	1686.08	1686.22	1684.83	1686.22	1688.00	1685.31	1686.51	1687.12	1686.19	1686.12	1686.21
18	1685.75	1686.86	1686.35	1684.69	1686.22	1688.00	1685.67	1686.52	1686.24	1686.10	1686.12	1685.22
19	1685.52	1687.07	1687.36	1684.84	1686.21	1688.00	1686.35	1687.02	1686.28	1686.15	1686.12	1685.04
20	1686.05	1685.55	1686.89	1684.86	1686.34	1688.00	1686.42	1687.03	1686.29	1686.06	1686.12	1684.94
21	1686.90	1685.67	1687.70	1685.67	1686.35	1686.97	1686.43	1686.50	1686.28	1686.12	1686.12	1685.19
22	1687.03	1685.62	1686.99	1686.16	1686.22	1686.24	1686.57	1686.53	1686.28	1686.12	1686.12	1685.44
23	1686.08	1685.83	1686.35	1686.26	1686.22	1688.00	1686.66	1686.53	1687.08	1686.12	1686.12	1686.58
24	1686.27	1685.39	1686.18	1685.52	1686.21	1686.98	1686.45	1686.56	1687.12	1686.12	1686.12	1686.90
25	1686.24	1686.20	1686.27	1685.84	1688.00	1686.38	1686.52	1686.56	1686.20	1686.12	1686.12	1685.61
26	1686.24	1686.39	1686.21	1684.73	1688.00	1686.20	1686.52	1687.01	1686.27	1686.12	1686.12	1685.79
27	1686.24	1685.47	1685.70	1684.67	1688.00	1688.00	1686.53	1687.02	1686.26	1686.12	1686.12	1685.81
28	1687.03	1685.59	1685.80	1684.54	1688.00	1686.97	1686.53	1686.51	1686.27	1686.12	1686.12	1685.78
29	1687.06		1685.93	1686.15	1688.00	1686.24	1687.02	1686.53	1686.28	1686.12	1686.12	1685.88
30	1685.23		1685.96	1686.29	1688.00	1687.20	1687.04	1686.53	1687.08	1686.12	1686.11	1686.31
31	1685.96		1685.96		1688.00		1686.45	1686.54		1686.12		1686.40

Table 95. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1D modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.29	1686.02	1687.27	1687.38	1686.58	1688.00	1686.78	1685.91	1685.93	1686.49	1685.50	1685.47
2	1687.20	1686.27	1687.26	1687.39	1686.58	1688.00	1686.55	1685.90	1686.62	1685.47	1685.50	1685.48
3	1687.32	1686.48	1687.26	1687.27	1686.58	1688.00	1685.38	1685.92	1686.63	1685.50	1685.50	1685.49
4	1686.99	1686.77	1687.33	1687.39	1686.61	1688.00	1685.08	1685.90	1685.87	1685.56	1685.50	1685.49
5	1687.03	1685.62	1687.27	1687.26	1686.68	1688.00	1685.38	1686.62	1685.92	1685.54	1685.50	1685.49
6	1685.68	1685.35	1687.31	1686.60	1686.77	1688.00	1685.10	1686.63	1685.90	1685.52	1685.50	1685.49
7	1686.71	1685.41	1687.31	1686.68	1686.78	1688.00	1685.16	1685.86	1685.87	1686.48	1685.50	1685.49
8	1686.49	1685.71	1687.33	1686.74	1686.64	1688.00	1686.32	1685.92	1685.81	1686.49	1685.50	1685.49
9	1685.67	1685.60	1687.29	1686.71	1686.74	1688.00	1685.76	1685.93	1686.63	1685.46	1685.50	1685.49
10	1685.15	1685.54	1687.26	1686.10	1686.64	1688.00	1685.67	1685.94	1686.65	1685.55	1685.50	1685.49
11	1685.25	1686.26	1686.62	1686.64	1686.67	1688.00	1684.83	1685.95	1685.63	1685.49	1685.50	1687.46
12	1685.37	1686.38	1686.67	1686.62	1686.65	1688.00	1684.98	1686.62	1685.54	1685.46	1685.50	1685.87
13	1685.49	1685.53	1686.68	1686.64	1686.78	1688.00	1685.32	1686.62	1685.53	1685.47	1685.50	1685.17
14	1685.87	1685.33	1686.48	1686.62	1686.78	1688.00	1684.71	1685.87	1685.53	1686.48	1685.50	1685.32
15	1686.37	1685.34	1686.71	1686.69	1686.74	1688.00	1686.46	1685.91	1685.67	1686.46	1685.50	1685.28
16	1685.39	1685.35	1686.72	1686.64	1686.60	1688.00	1686.57	1685.90	1686.64	1685.33	1685.50	1685.56
17	1685.27	1685.30	1686.74	1686.61	1686.62	1688.00	1685.52	1685.89	1686.66	1685.51	1685.50	1685.56
18	1685.55	1686.25	1686.78	1686.58	1686.74	1688.00	1685.69	1685.90	1685.61	1685.47	1685.50	1685.28
19	1685.52	1686.50	1687.23	1686.57	1686.66	1688.00	1685.72	1686.62	1685.69	1685.49	1685.50	1685.35
20	1685.32	1685.71	1686.76	1686.64	1686.78	1688.00	1685.75	1686.63	1685.69	1685.53	1685.50	1685.23
21	1686.48	1685.62	1687.62	1687.27	1686.78	1686.99	1685.79	1685.86	1685.69	1685.50	1685.50	1685.35
22	1686.49	1685.63	1686.78	1686.56	1686.74	1686.38	1686.62	1685.90	1685.68	1685.50	1685.50	1685.69
23	1685.36	1685.88	1686.66	1686.64	1686.69	1688.00	1686.62	1685.91	1686.64	1685.50	1685.50	1685.99
24	1685.49	1685.48	1686.73	1687.32	1686.64	1687.00	1685.80	1685.94	1686.66	1685.50	1685.50	1686.32
25	1685.47	1685.83	1686.69	1687.23	1688.00	1686.70	1685.91	1685.92	1685.58	1685.50	1685.50	1685.65
26	1685.46	1685.74	1686.61	1686.56	1688.00	1686.39	1685.90	1686.62	1685.49	1685.50	1685.50	1685.48
27	1685.47	1685.81	1687.35	1686.59	1688.00	1688.00	1685.90	1686.63	1685.47	1685.50	1685.50	1685.44
28	1686.47	1685.61	1687.30	1686.62	1688.00	1686.99	1685.92	1685.86	1685.66	1685.50	1685.50	1685.42
29	1686.49		1687.29	1686.60	1688.00	1686.36	1686.62	1685.91	1685.67	1685.50	1685.49	1685.70
30	1685.52		1687.26	1686.72	1688.00	1687.32	1686.63	1685.90	1686.64	1685.50	1685.49	1686.22
31	1685.32		1687.27		1688.00		1685.82	1685.91		1685.50		1685.78

Table 96. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1E modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.29	1686.02	1686.08	1686.98	1684.59	1688.00	1686.78	1685.91	1685.93	1686.49	1685.50	1685.47
2	1687.20	1686.27	1686.18	1687.02	1684.68	1688.00	1686.55	1685.90	1686.62	1685.47	1685.50	1685.48
3	1687.32	1686.48	1686.15	1685.43	1684.65	1688.00	1685.38	1685.92	1686.63	1685.50	1685.50	1685.49
4	1686.99	1686.77	1686.97	1686.06	1684.55	1688.00	1685.08	1685.90	1685.87	1685.56	1685.50	1685.49
5	1687.03	1685.62	1686.92	1685.65	1685.12	1688.00	1685.38	1686.62	1685.92	1685.54	1685.50	1685.49
6	1685.68	1685.35	1686.25	1684.58	1686.29	1688.00	1685.10	1686.63	1685.90	1685.52	1685.50	1685.49
7	1686.71	1685.41	1686.29	1685.57	1686.35	1688.00	1685.16	1685.86	1685.87	1686.48	1685.50	1685.49
8	1686.49	1685.71	1686.25	1686.27	1686.21	1688.00	1686.32	1685.92	1685.81	1686.49	1685.50	1685.49
9	1685.67	1685.60	1686.00	1686.28	1686.22	1688.00	1685.76	1685.93	1686.63	1685.46	1685.50	1685.49
10	1685.15	1685.54	1685.73	1686.17	1686.20	1688.00	1685.67	1685.94	1686.65	1685.55	1685.50	1685.49
11	1685.25	1686.26	1686.21	1685.73	1686.20	1688.00	1684.83	1685.95	1685.63	1685.49	1685.50	1687.46
12	1685.37	1686.38	1686.25	1684.82	1686.22	1688.00	1684.98	1686.62	1685.54	1685.46	1685.50	1685.87
13	1685.49	1685.53	1686.02	1684.49	1686.34	1688.00	1685.32	1686.62	1685.53	1685.47	1685.50	1685.17
14	1685.87	1685.33	1686.16	1684.54	1686.35	1688.00	1684.71	1685.87	1685.53	1686.48	1685.50	1685.32
15	1686.37	1685.34	1686.27	1686.23	1686.22	1688.00	1686.46	1685.91	1685.67	1686.46	1685.50	1685.28
16	1685.39	1685.35	1686.19	1686.21	1686.21	1688.00	1686.57	1685.90	1686.64	1685.33	1685.50	1685.56
17	1685.27	1685.30	1686.22	1684.83	1686.22	1688.00	1685.52	1685.89	1686.66	1685.51	1685.50	1685.56
18	1685.55	1686.25	1686.35	1684.69	1686.22	1688.00	1685.69	1685.90	1685.61	1685.47	1685.50	1685.28
19	1685.52	1686.50	1687.36	1684.84	1686.21	1688.00	1685.72	1686.62	1685.69	1685.49	1685.50	1685.35
20	1685.32	1685.71	1686.89	1684.86	1686.34	1688.00	1685.75	1686.63	1685.69	1685.53	1685.50	1685.23
21	1686.48	1685.62	1687.70	1685.67	1686.35	1686.99	1685.79	1685.86	1685.69	1685.50	1685.50	1685.35
22	1686.49	1685.63	1686.99	1686.16	1686.22	1686.38	1686.62	1685.90	1685.68	1685.50	1685.50	1685.69
23	1685.36	1685.88	1686.35	1686.26	1686.22	1688.00	1686.62	1685.91	1686.64	1685.50	1685.50	1685.99
24	1685.49	1685.48	1686.18	1685.52	1686.21	1687.00	1685.80	1685.94	1686.66	1685.50	1685.50	1686.32
25	1685.47	1685.83	1686.27	1685.84	1688.00	1686.70	1685.91	1685.92	1685.58	1685.50	1685.50	1685.65
26	1685.46	1685.74	1686.21	1684.73	1688.00	1686.39	1685.90	1686.62	1685.49	1685.50	1685.50	1685.48
27	1685.47	1685.81	1685.70	1684.67	1688.00	1688.00	1685.90	1686.63	1685.47	1685.50	1685.50	1685.44
28	1686.47	1685.61	1685.80	1684.54	1688.00	1686.99	1685.92	1685.86	1685.66	1685.50	1685.50	1685.42
29	1686.49		1685.93	1686.15	1688.00	1686.36	1686.62	1685.91	1685.67	1685.50	1685.49	1685.70
30	1685.52		1685.96	1686.29	1688.00	1687.32	1686.63	1685.90	1686.64	1685.50	1685.49	1686.22
31	1685.32		1685.96		1688.00		1685.82	1685.91		1685.50		1685.78

Table 97. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1F modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.29	1686.28	1687.34	1687.38	1686.58	1688.00	1686.51	1686.58	1686.61	1687.03	1686.37	1686.34
2	1687.19	1686.22	1687.28	1687.39	1686.58	1688.00	1686.47	1686.58	1687.01	1686.52	1686.37	1686.35
3	1687.32	1686.22	1687.26	1687.27	1686.58	1688.00	1686.07	1686.60	1687.02	1686.52	1686.37	1686.36
4	1686.98	1686.33	1687.33	1687.39	1686.61	1688.00	1686.10	1686.59	1686.58	1686.51	1686.37	1686.36
5	1686.99	1686.31	1687.27	1687.26	1686.68	1688.00	1686.11	1687.02	1686.59	1686.53	1686.37	1686.36
6	1686.60	1686.38	1686.52	1686.60	1686.77	1688.00	1686.14	1687.02	1686.58	1686.43	1686.37	1686.36
7	1686.97	1686.53	1686.63	1686.68	1686.78	1688.00	1686.44	1686.57	1686.58	1687.03	1686.37	1686.36
8	1687.03	1686.70	1687.30	1686.74	1686.64	1688.00	1686.57	1686.60	1686.54	1687.03	1686.37	1686.36
9	1686.81	1686.81	1687.29	1686.71	1686.74	1688.00	1686.29	1686.61	1686.45	1686.41	1686.37	1686.36
10	1686.10	1686.86	1687.26	1686.10	1686.64	1688.00	1686.11	1686.61	1686.44	1686.43	1686.37	1686.36
11	1686.14	1686.79	1686.62	1686.64	1686.67	1688.00	1686.09	1686.62	1686.45	1686.45	1686.37	1687.49
12	1686.21	1686.91	1686.67	1686.62	1686.65	1688.00	1686.09	1687.01	1685.78	1686.36	1686.37	1686.77
13	1686.23	1686.98	1686.68	1686.64	1686.78	1688.00	1686.07	1687.02	1685.72	1686.36	1686.37	1686.08
14	1686.35	1686.97	1686.48	1686.62	1686.78	1688.00	1686.04	1686.58	1685.74	1687.03	1686.37	1686.15
15	1686.35	1686.96	1686.71	1686.69	1686.74	1688.00	1686.26	1686.59	1686.46	1686.99	1686.37	1686.14
16	1686.12	1686.97	1686.60	1686.64	1686.60	1688.00	1686.33	1686.58	1687.08	1686.38	1686.37	1686.24
17	1686.13	1686.98	1686.69	1686.61	1686.62	1688.00	1686.18	1686.57	1687.12	1686.43	1686.37	1686.21
18	1687.00	1686.91	1686.78	1686.58	1686.74	1688.00	1685.90	1686.58	1686.49	1686.37	1686.37	1686.26
19	1686.77	1687.07	1687.23	1686.57	1686.66	1688.00	1686.49	1687.02	1686.47	1686.42	1686.37	1686.42
20	1686.98	1686.81	1686.76	1686.64	1686.78	1688.00	1686.51	1687.03	1686.46	1686.34	1686.37	1686.35
21	1686.95	1686.81	1687.62	1687.27	1686.78	1686.97	1686.52	1686.57	1686.46	1686.37	1686.37	1686.51
22	1687.03	1686.77	1686.78	1686.56	1686.74	1686.24	1686.57	1686.59	1686.47	1686.37	1686.37	1687.00
23	1686.92	1687.00	1686.66	1686.64	1686.69	1688.00	1686.66	1686.59	1687.09	1686.37	1686.37	1686.66
24	1686.47	1687.01	1686.53	1687.32	1686.64	1686.98	1686.54	1686.61	1687.12	1686.37	1686.37	1686.72
25	1686.51	1686.35	1686.68	1687.23	1688.00	1686.38	1686.58	1686.60	1686.47	1686.37	1686.37	1686.78
26	1686.49	1686.39	1686.61	1686.56	1688.00	1686.20	1686.58	1687.01	1686.46	1686.37	1686.37	1686.81
27	1686.50	1686.84	1687.35	1686.59	1688.00	1688.00	1686.59	1687.02	1686.45	1686.37	1686.37	1686.81
28	1687.02	1686.77	1687.30	1686.62	1688.00	1686.97	1686.59	1686.57	1686.46	1686.37	1686.37	1686.78
29	1687.06		1687.29	1686.60	1688.00	1686.24	1687.02	1686.59	1686.47	1686.37	1686.36	1687.00
30	1686.57		1687.26	1686.72	1688.00	1687.20	1687.04	1686.59	1687.09	1686.37	1686.36	1686.40
31	1686.06		1687.27		1688.00		1686.56	1686.60		1686.37		1686.40

Table 98. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 2 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.29	1686.02	1687.27	1687.38	1686.58	1688.00	1688.00	1685.88	1685.95	1686.47	1685.72	1685.70
2	1687.20	1686.27	1687.26	1687.39	1686.58	1688.00	1686.99	1685.90	1686.62	1685.77	1685.72	1685.70
3	1687.32	1686.48	1687.26	1687.27	1686.58	1688.00	1686.28	1685.94	1686.62	1685.86	1685.72	1685.71
4	1686.99	1686.77	1687.33	1687.39	1686.61	1688.00	1685.61	1685.95	1685.87	1685.82	1685.72	1685.71
5	1687.03	1685.62	1687.27	1687.26	1686.68	1688.00	1685.41	1686.62	1685.92	1685.80	1685.72	1685.71
6	1685.68	1685.35	1687.31	1686.60	1686.77	1688.00	1685.41	1686.62	1685.90	1685.78	1685.72	1685.71
7	1686.71	1685.41	1687.31	1686.68	1686.78	1688.00	1685.39	1685.90	1685.88	1686.47	1685.72	1685.71
8	1686.49	1685.71	1687.33	1686.74	1686.64	1688.00	1685.87	1685.97	1685.88	1686.46	1685.72	1685.72
9	1685.67	1685.60	1687.29	1686.71	1686.74	1688.00	1685.90	1685.98	1686.62	1685.64	1685.72	1685.72
10	1685.15	1685.54	1687.26	1686.10	1686.64	1688.00	1685.50	1685.99	1686.63	1685.82	1685.72	1685.72
11	1685.25	1686.26	1686.62	1686.64	1686.67	1688.00	1685.38	1686.00	1685.80	1685.73	1685.72	1687.44
12	1685.37	1686.38	1686.67	1686.62	1686.65	1688.00	1685.42	1686.62	1685.88	1685.70	1685.72	1685.90
13	1685.49	1685.53	1686.68	1686.64	1686.78	1688.00	1685.37	1686.62	1685.86	1685.71	1685.72	1685.23
14	1685.87	1685.33	1686.48	1686.62	1686.78	1688.00	1685.43	1685.92	1685.87	1686.47	1685.72	1685.25
15	1686.37	1685.34	1686.71	1686.69	1686.74	1688.00	1685.84	1685.97	1685.86	1686.47	1685.72	1685.29
16	1685.39	1685.35	1686.72	1686.64	1686.60	1688.00	1685.81	1685.95	1686.63	1685.68	1685.72	1685.56
17	1685.27	1685.30	1686.74	1686.61	1686.62	1688.00	1684.94	1685.95	1686.63	1685.75	1685.72	1685.56
18	1685.55	1686.25	1686.78	1686.58	1686.74	1688.00	1685.19	1685.95	1685.81	1685.69	1685.72	1685.23
19	1685.52	1686.50	1687.23	1686.57	1686.66	1688.00	1685.48	1686.62	1685.88	1685.72	1685.72	1685.31
20	1685.32	1685.71	1686.76	1686.64	1686.78	1688.00	1685.53	1686.62	1685.88	1685.68	1685.72	1685.23
21	1686.48	1685.62	1687.62	1687.27	1686.78	1688.00	1685.29	1685.92	1685.88	1685.72	1685.72	1685.34
22	1686.49	1685.63	1686.78	1686.56	1686.74	1686.97	1686.66	1685.96	1685.86	1685.72	1685.72	1685.47
23	1685.36	1685.88	1686.66	1686.64	1686.69	1688.00	1686.67	1685.96	1686.63	1685.72	1685.72	1685.98
24	1685.49	1685.48	1686.73	1687.32	1686.64	1687.00	1685.52	1685.99	1686.63	1685.72	1685.72	1686.32
25	1685.47	1685.83	1686.69	1687.23	1688.00	1686.70	1685.67	1685.98	1685.76	1685.72	1685.72	1685.65
26	1685.46	1685.74	1686.61	1686.56	1688.00	1688.00	1685.66	1686.62	1685.86	1685.72	1685.72	1685.48
27	1685.47	1685.81	1687.35	1686.59	1688.00	1687.01	1685.69	1686.62	1685.84	1685.72	1685.72	1685.43
28	1686.47	1685.61	1687.30	1686.62	1688.00	1688.00	1685.68	1685.91	1685.85	1685.72	1685.72	1685.42
29	1686.49		1687.29	1686.60	1688.00	1686.97	1686.64	1685.96	1685.86	1685.72	1685.72	1685.70
30	1685.52		1687.26	1686.72	1688.00	1686.32	1686.64	1685.95	1686.63	1685.72	1685.71	1686.22
31	1685.32		1687.27		1688.00		1685.73	1685.95		1685.72		1685.78

Table 99. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 3 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.29	1685.93	1685.80	1686.08	1685.34	1688.00	1686.85	1686.36	1686.44	1686.09	1686.00	1685.97
2	1687.38	1686.30	1685.92	1686.10	1685.00	1688.00	1686.79	1686.15	1686.64	1686.02	1686.00	1685.97
3	1687.36	1686.77	1685.90	1685.77	1684.99	1688.00	1685.49	1686.54	1686.50	1686.03	1685.99	1685.98
4	1687.25	1687.15	1686.03	1685.94	1685.02	1688.00	1684.94	1686.20	1686.20	1686.02	1685.99	1685.98
5	1687.18	1685.85	1685.98	1685.75	1685.03	1688.00	1684.93	1686.63	1686.31	1686.02	1685.99	1685.98
6	1686.48	1685.33	1686.02	1685.00	1685.49	1688.00	1685.53	1686.46	1686.17	1686.02	1685.99	1685.98
7	1686.37	1685.40	1686.01	1685.05	1685.91	1688.00	1685.61	1686.32	1686.09	1686.06	1685.99	1685.99
8	1686.10	1685.59	1686.01	1685.39	1686.12	1688.00	1685.71	1686.40	1685.88	1686.06	1685.99	1685.99
9	1685.80	1685.72	1685.89	1685.36	1686.30	1688.00	1685.50	1686.47	1686.31	1685.94	1685.99	1685.99
10	1685.01	1685.84	1685.79	1685.13	1686.45	1688.00	1685.65	1686.47	1686.33	1686.02	1685.99	1685.99
11	1685.03	1685.82	1685.25	1685.01	1686.65	1688.00	1685.45	1686.49	1685.85	1685.93	1685.99	1687.48
12	1685.31	1685.97	1685.29	1685.03	1686.75	1688.00	1685.45	1686.63	1685.86	1685.84	1685.99	1685.74
13	1685.61	1685.97	1685.07	1685.00	1686.91	1688.00	1685.87	1686.63	1685.85	1685.85	1685.99	1685.01
14	1686.19	1685.96	1685.13	1685.03	1686.95	1688.00	1685.69	1686.23	1685.85	1686.06	1685.99	1685.04
15	1686.75	1685.99	1685.82	1685.31	1686.80	1688.00	1686.41	1686.43	1685.85	1686.05	1685.99	1685.03
16	1685.88	1685.98	1686.02	1685.27	1686.74	1688.00	1686.28	1686.09	1686.34	1685.89	1685.99	1685.28
17	1685.05	1685.98	1686.39	1685.03	1686.82	1688.00	1685.85	1686.29	1686.34	1685.92	1685.99	1685.27
18	1685.58	1685.94	1686.87	1685.01	1686.87	1688.00	1685.85	1686.15	1685.87	1685.86	1685.99	1685.15
19	1685.68	1685.74	1687.43	1685.31	1686.88	1688.00	1685.86	1686.56	1685.86	1685.89	1685.99	1685.27
20	1685.97	1685.81	1686.92	1685.77	1687.07	1688.00	1685.87	1686.41	1685.86	1685.84	1685.99	1685.21
21	1686.13	1685.80	1687.74	1685.78	1687.21	1686.99	1685.87	1686.24	1685.86	1685.99	1685.99	1685.40
22	1686.11	1685.75	1686.97	1686.16	1687.15	1686.51	1686.29	1686.35	1685.86	1685.99	1685.99	1685.60
23	1685.99	1685.69	1686.80	1685.92	1687.10	1688.00	1686.30	1686.34	1686.34	1686.00	1685.99	1685.68
24	1686.00	1685.59	1686.33	1685.77	1687.03	1687.00	1685.88	1686.53	1686.34	1686.00	1685.99	1685.74
25	1686.00	1685.53	1685.36	1685.95	1688.00	1686.86	1686.44	1686.34	1685.86	1686.00	1685.99	1685.76
26	1686.00	1685.38	1685.24	1685.54	1688.00	1686.70	1686.09	1686.63	1685.87	1685.99	1685.99	1685.76
27	1686.00	1685.54	1685.88	1685.01	1688.00	1688.00	1686.49	1686.46	1685.86	1685.99	1685.99	1685.80
28	1686.09	1685.70	1685.83	1685.02	1688.00	1686.99	1686.15	1686.30	1685.85	1685.99	1685.99	1685.75
29	1686.12		1685.83	1685.23	1688.00	1686.50	1686.55	1686.32	1685.85	1685.99	1685.99	1686.00
30	1685.50		1685.85	1685.36	1688.00	1687.45	1686.29	1686.35	1686.34	1685.99	1685.98	1685.93
31	1685.10		1685.84		1688.00		1686.04	1686.39		1685.99		1685.41

Table 100. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 4 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.29	1686.28	1687.34	1687.38	1686.58	1688.00	1686.51	1686.58	1686.61	1687.03	1686.37	1686.34
2	1687.19	1686.22	1687.28	1687.39	1686.58	1688.00	1686.47	1686.58	1687.01	1686.52	1686.37	1686.35
3	1687.32	1686.22	1687.26	1687.27	1686.58	1688.00	1686.07	1686.60	1687.02	1686.52	1686.37	1686.36
4	1686.98	1686.33	1687.33	1687.39	1686.61	1688.00	1686.10	1686.59	1686.58	1686.51	1686.37	1686.36
5	1686.99	1686.31	1687.27	1687.26	1686.68	1688.00	1686.11	1687.02	1686.59	1686.53	1686.37	1686.36
6	1686.60	1686.38	1686.52	1686.60	1686.77	1688.00	1686.14	1687.02	1686.58	1686.43	1686.37	1686.36
7	1686.97	1686.53	1686.63	1686.68	1686.78	1688.00	1686.44	1686.57	1686.58	1687.03	1686.37	1686.36
8	1687.03	1686.70	1687.30	1686.74	1686.64	1688.00	1686.57	1686.60	1686.54	1687.03	1686.37	1686.36
9	1686.81	1686.81	1687.29	1686.71	1686.74	1688.00	1686.29	1686.61	1686.45	1686.41	1686.37	1686.36
10	1686.10	1686.86	1687.26	1686.10	1686.64	1688.00	1686.11	1686.61	1686.44	1686.43	1686.37	1686.36
11	1686.14	1686.79	1686.62	1686.64	1686.67	1688.00	1686.09	1686.62	1686.45	1686.45	1686.37	1687.49
12	1686.21	1686.91	1686.67	1686.62	1686.65	1688.00	1686.09	1687.01	1685.78	1686.36	1686.37	1686.77
13	1686.23	1686.98	1686.68	1686.64	1686.78	1688.00	1686.07	1687.02	1685.72	1686.36	1686.37	1686.08
14	1686.35	1686.97	1686.48	1686.62	1686.78	1688.00	1686.04	1686.58	1685.74	1687.03	1686.37	1686.15
15	1686.35	1686.96	1686.71	1686.69	1686.74	1688.00	1686.26	1686.59	1686.46	1686.99	1686.37	1686.14
16	1686.12	1686.97	1686.60	1686.64	1686.60	1688.00	1686.33	1686.58	1687.08	1686.38	1686.37	1686.24
17	1686.13	1686.98	1686.69	1686.61	1686.62	1688.00	1686.18	1686.57	1687.12	1686.43	1686.37	1686.21
18	1687.00	1686.91	1686.78	1686.58	1686.74	1688.00	1685.90	1686.58	1686.49	1686.37	1686.37	1686.26
19	1686.77	1687.07	1687.23	1686.57	1686.66	1688.00	1686.49	1687.02	1686.47	1686.42	1686.37	1686.42
20	1686.98	1686.81	1686.76	1686.64	1686.78	1688.00	1686.51	1687.03	1686.46	1686.34	1686.37	1686.35
21	1686.95	1686.81	1687.62	1687.27	1686.78	1686.97	1686.52	1686.57	1686.46	1686.37	1686.37	1686.51
22	1687.03	1686.77	1686.78	1686.56	1686.74	1686.24	1686.57	1686.59	1686.47	1686.37	1686.37	1687.00
23	1686.92	1687.00	1686.66	1686.64	1686.69	1688.00	1686.66	1686.59	1687.09	1686.37	1686.37	1686.66
24	1686.47	1687.01	1686.53	1687.32	1686.64	1686.98	1686.54	1686.61	1687.12	1686.37	1686.37	1686.72
25	1686.51	1686.35	1686.68	1687.23	1688.00	1686.38	1686.58	1686.60	1686.47	1686.37	1686.37	1686.78
26	1686.49	1686.39	1686.61	1686.56	1688.00	1686.20	1686.58	1687.01	1686.46	1686.37	1686.37	1686.81
27	1686.50	1686.84	1687.35	1686.59	1688.00	1688.00	1686.59	1687.02	1686.45	1686.37	1686.37	1686.81
28	1687.02	1686.77	1687.30	1686.62	1688.00	1686.97	1686.59	1686.57	1686.46	1686.37	1686.37	1686.78
29	1687.06		1687.29	1686.60	1688.00	1686.24	1687.02	1686.59	1686.47	1686.37	1686.36	1687.00
30	1686.57		1687.26	1686.72	1688.00	1687.20	1687.04	1686.59	1687.09	1686.37	1686.36	1686.40
31	1686.06		1687.27		1688.00		1686.56	1686.60		1686.37		1686.40

Table 101. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 5 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
9	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
10	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
11	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
21	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
22	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
29	1688.00		1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
30	1688.00		1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
31	1688.00		1688.00		1688.00		1688.00	1688.00		1688.00		1688.00

Table 102. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 6 modeled under the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.23	1686.17	1685.95	1686.08	1685.60	1687.30	1686.78	1685.86	1685.86	1686.09	1686.10	1686.07
2	1687.30	1688.00	1685.90	1686.08	1685.72	1687.30	1686.81	1685.86	1686.35	1686.03	1686.10	1686.08
3	1687.29	1688.00	1685.98	1685.95	1685.77	1686.93	1686.12	1685.86	1686.37	1686.01	1686.10	1686.09
4	1687.31	1688.00	1686.11	1685.94	1685.60	1687.18	1685.61	1685.86	1685.86	1686.06	1686.10	1686.09
5	1687.27	1686.93	1686.12	1685.94	1685.08	1687.43	1685.41	1686.20	1685.86	1686.06	1686.10	1686.09
6	1687.29	1685.12	1685.98	1685.35	1685.31	1686.93	1685.53	1686.33	1685.86	1686.06	1686.10	1686.09
7	1687.25	1685.04	1686.00	1685.91	1685.37	1686.75	1685.19	1685.86	1685.86	1686.06	1686.10	1686.09
8	1687.23	1685.05	1685.99	1685.46	1685.34	1686.59	1685.62	1685.86	1685.86	1686.06	1686.10	1686.09
9	1687.28	1685.05	1685.96	1686.47	1685.62	1686.45	1685.67	1685.86	1686.35	1686.06	1686.10	1686.09
10	1687.12	1685.12	1685.48	1685.57	1685.79	1686.54	1685.28	1685.86	1686.24	1686.05	1686.10	1686.09
11	1687.03	1685.25	1685.29	1685.05	1686.12	1686.69	1685.17	1685.86	1685.86	1686.04	1686.10	1686.09
12	1687.10	1685.24	1685.34	1685.25	1687.43	1686.63	1685.14	1686.36	1685.86	1686.05	1686.10	1687.13
13	1686.99	1686.00	1685.11	1685.14	1688.00	1686.61	1685.14	1686.36	1685.86	1686.03	1686.10	1686.01
14	1686.03	1685.72	1685.33	1685.03	1687.01	1686.57	1685.18	1685.86	1685.86	1686.07	1686.10	1686.97
15	1686.03	1685.79	1685.61	1685.26	1686.66	1688.00	1685.65	1685.86	1685.86	1686.07	1686.10	1686.98
16	1685.96	1685.72	1687.58	1685.25	1686.51	1688.00	1685.67	1685.86	1686.36	1686.05	1686.10	1686.83
17	1685.91	1685.63	1688.00	1685.03	1686.54	1688.00	1684.99	1685.86	1686.38	1686.05	1686.10	1687.16
18	1685.77	1685.24	1687.22	1685.32	1686.61	1688.00	1684.93	1685.86	1685.86	1686.04	1686.10	1686.04
19	1685.77	1685.25	1688.00	1685.39	1686.70	1688.00	1685.33	1686.36	1685.86	1686.06	1686.10	1685.97
20	1685.76	1685.15	1688.00	1685.48	1687.02	1688.00	1685.75	1686.37	1685.86	1686.06	1686.10	1685.91
21	1685.82	1685.12	1688.00	1685.71	1687.29	1688.00	1685.80	1685.86	1685.86	1686.10	1686.10	1685.38
22	1685.72	1685.04	1687.02	1685.72	1686.90	1686.98	1685.87	1685.86	1685.86	1686.10	1686.10	1685.04
23	1685.86	1685.04	1687.67	1685.72	1686.96	1687.73	1685.98	1685.86	1686.35	1686.10	1686.10	1685.28
24	1685.92	1685.04	1686.95	1685.68	1687.01	1686.94	1685.81	1685.86	1686.28	1686.10	1686.10	1685.29
25	1685.84	1685.26	1686.36	1685.56	1686.99	1688.00	1685.86	1685.86	1685.86	1686.10	1686.10	1685.05
26	1685.90	1685.26	1685.29	1685.70	1686.91	1688.00	1685.86	1686.34	1685.86	1686.10	1686.10	1685.05
27	1685.89	1685.02	1685.80	1685.18	1687.02	1687.01	1685.86	1686.36	1685.86	1686.10	1686.10	1685.04
28	1685.86	1685.04	1685.81	1685.07	1687.10	1688.00	1685.86	1685.86	1685.86	1686.10	1686.10	1685.05
29	1685.39		1685.85	1685.35	1687.03	1688.00	1686.23	1685.86	1685.86	1686.10	1686.09	1685.07
30	1685.04		1685.96	1685.35	1687.06	1686.88	1686.06	1685.86	1686.36	1686.10	1686.09	1685.33
31	1685.74		1685.95		1687.25		1685.87	1685.86		1686.10		1685.34

Table 103. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Proposed Operations modeled during the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1687.16	1686.96	1687.22	1687.22	1686.89	1688.01	1686.99	1686.99	1686.99	1687.02	1687.09	1687.09
2	1687.16	1686.96	1687.19	1687.19	1686.89	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.16
3	1687.16	1686.93	1687.16	1687.16	1686.93	1688.01	1686.99	1686.99	1687.02	1686.99	1687.09	1687.16
4	1687.16	1686.93	1687.19	1687.19	1686.93	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.16
5	1687.16	1686.86	1687.16	1686.96	1686.93	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.16
6	1687.16	1686.93	1687.19	1686.93	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.16
7	1687.16	1686.99	1687.19	1686.96	1686.96	1688.01	1686.99	1686.96	1686.99	1686.99	1687.09	1687.16
8	1687.19	1687.06	1687.22	1686.96	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.16
9	1687.12	1687.09	1687.19	1686.93	1686.96	1688.01	1686.99	1686.99	1686.99	1686.66	1687.09	1687.16
10	1686.83	1687.22	1687.06	1686.96	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.16
11	1686.83	1687.09	1686.83	1686.93	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.25
12	1686.89	1687.19	1686.86	1686.93	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.12
13	1686.93	1687.19	1686.86	1686.93	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1686.83
14	1686.96	1687.22	1686.93	1686.89	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1686.83
15	1686.93	1687.22	1686.96	1686.93	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1686.86
16	1686.89	1687.19	1686.93	1686.93	1686.96	1688.01	1687.02	1686.99	1686.99	1686.99	1687.09	1686.89
17	1686.83	1687.19	1686.93	1686.93	1686.96	1688.01	1687.12	1686.99	1686.99	1686.99	1687.09	1686.86
18	1687.22	1687.19	1686.96	1686.89	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1686.89
19	1687.22	1687.06	1687.55	1686.89	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1686.96
20	1687.22	1687.16	1686.99	1686.89	1686.96	1688.01	1686.96	1687.02	1686.99	1686.99	1687.09	1686.93
21	1687.16	1687.16	1687.84	1687.09	1686.96	1686.99	1686.99	1686.99	1686.99	1686.99	1687.09	1686.99
22	1687.19	1687.09	1686.99	1686.89	1686.96	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.06
23	1687.16	1687.16	1686.93	1686.93	1686.96	1686.99	1686.99	1686.99	1686.99	1686.99	1687.09	1687.02
24	1687.19	1687.25	1686.93	1687.09	1686.96	1686.96	1686.99	1686.99	1686.99	1687.09	1687.09	1687.42
25	1687.19	1686.89	1686.89	1687.06	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.09	1687.16
26	1687.19	1686.93	1686.83	1686.89	1688.01	1688.01	1686.99	1686.99	1686.99	1687.09	1687.09	1687.16
27	1687.19	1687.25	1687.22	1686.89	1688.01	1686.99	1686.96	1686.99	1686.96	1687.09	1687.09	1687.09
28	1687.19	1687.12	1687.16	1686.93	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.09	1687.12
29	1687.19		1687.16	1686.89	1688.01	1686.99	1686.99	1686.99	1686.99	1687.09	1687.06	1687.19
30	1686.99		1687.16	1686.93	1688.01	1688.01	1686.99	1686.99	1686.99	1687.09	1687.06	1686.93
31	1686.83		1687.16		1688.01		1686.99	1686.96		1687.09		

Table 104. Actual end-of-day (23rd hour) water levels in Hells Canyon reservoir measured during the medium flow year of 1995 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1685.60	1686.50	1686.00	1686.60	1687.40	1686.70	1687.40	1686.00	1686.30	1686.90	1687.20	1686.70
2	1686.80	1686.90	1684.90	1685.60	1685.10	1686.90	1686.70	1686.20	1686.20	1686.20	1686.30	1686.40
3	1684.20	1686.20	1685.40	1686.70	1686.70	1686.60	1687.00	1685.60	1685.90	1686.10	1684.60	1686.50
4	1685.30	1686.80	1686.90	1687.00	1686.60	1687.50	1687.00	1686.40	1685.70	1685.00	1685.80	1687.50
5	1685.50	1686.40	1686.60	1686.80	1686.00	1687.50	1687.10	1685.80	1686.30	1686.40	1685.40	1687.10
6	1686.20	1686.20	1686.00	1686.10	1686.60	1686.80	1687.20	1685.20	1686.60	1686.80	1685.40	1686.00
7	1685.90	1686.70	1685.90	1686.40	1686.60	1686.60	1686.80	1686.00	1685.60	1687.40	1686.30	1686.40
8	1685.30	1686.70	1686.70	1686.80	1687.30	1686.70	1686.30	1685.40	1687.20	1687.20	1686.00	1686.70
9	1686.20	1686.40	1685.70	1686.80	1687.60	1686.60	1686.20	1684.00	1685.00	1686.90	1686.50	1687.70
10	1686.70	1686.20	1686.60	1687.00	1686.40	1687.30	1686.60	1684.80	1685.20	1686.90	1687.20	1686.00
11	1686.10	1686.50	1687.00	1687.10	1685.40	1687.20	1686.70	1687.00	1686.00	1686.00	1685.90	1685.40
12	1685.80	1685.70	1686.60	1686.20	1684.70	1687.20	1686.30	1686.80	1686.10	1686.60	1684.80	1686.00
13	1686.50	1685.40	1686.90	1686.30	1687.20	1686.70	1687.40	1686.20	1686.20	1686.50	1685.90	1687.00
14	1686.60	1686.10	1687.10	1686.80	1687.60	1686.80	1687.30	1687.00	1685.20	1687.20	1685.60	1686.90
15	1686.80	1686.20	1687.10	1686.70	1686.80	1687.20	1687.50	1687.10	1685.40	1687.00	1686.20	1686.50
16	1686.00	1685.00	1686.90	1686.10	1686.60	1687.20	1687.40	1687.10	1686.70	1685.90	1685.80	1685.00
17	1686.20	1685.50	1686.70	1685.90	1686.70	1687.30	1686.50	1686.90	1687.30	1686.20	1686.40	1684.60
18	1686.90	1683.20	1686.40	1685.70	1686.80	1687.20	1686.00	1685.90	1687.00	1686.40	1684.80	1684.00
19	1686.70	1686.90	1686.70	1685.00	1687.10	1687.00	1686.10	1685.70	1685.70	1685.30	1685.80	1685.50
20	1686.70	1686.30	1685.60	1686.00	1687.40	1687.30	1686.40	1686.40	1685.90	1685.70	1685.70	1684.50
21	1686.80	1686.20	1684.70	1685.80	1687.60	1686.10	1686.80	1686.70	1686.60	1686.70	1687.00	1685.70
22	1687.00	1686.50	1685.70	1686.20	1687.00	1686.90	1686.10	1686.90	1686.70	1686.50	1685.30	1685.70
23	1686.10	1685.00	1686.30	1686.90	1686.60	1687.00	1686.80	1686.60	1686.70	1686.80	1684.60	1687.20
24	1685.90	1686.80	1686.50	1686.10	1686.50	1687.00	1684.70	1687.40	1686.30	1686.30	1684.90	1686.00
25	1686.60	1686.90	1686.30	1687.10	1687.40	1687.60	1682.60	1686.00	1686.40	1686.10	1686.50	1686.90
26	1686.80	1685.90	1686.30	1685.90	1686.90	1686.60	1684.30	1687.60	1686.10	1686.60	1687.20	1686.50
27	1685.70	1685.10	1686.40	1686.10	1687.50	1685.80	1685.40	1687.30	1687.10	1686.00	1686.90	1686.40
28	1686.50	1686.90	1685.00	1685.40	1686.80	1687.30	1685.40	1687.40	1686.70	1687.00	1686.80	1685.10
29	1686.70		1686.90	1686.60	1687.00	1686.80	1685.00	1686.50	1686.50	1687.30	1687.10	1686.30
30	1685.70		1685.10	1687.00	1686.70	1686.10	1683.70	1686.80	1686.80	1687.10	1687.10	1686.40
31	1687.40		1686.50		1687.70		1685.40	1686.20		1686.20		

Table 105. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1A modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.68	1687.49	1686.93	1687.42	1687.42
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.68	1687.58	1686.92	1687.42	1687.42
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.72	1687.58	1686.92	1687.42	1687.42
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.76	1687.55	1686.92	1687.42	1687.42
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1687.31	1686.92	1687.42	1687.42
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1687.03	1686.77	1686.72	1686.93	1687.42	1687.42
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1687.23	1686.83	1686.72	1686.93	1687.42	1687.42
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1687.12	1686.74	1686.78	1686.93	1687.42	1687.42
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1687.01	1687.54	1686.85	1686.94	1687.42	1687.42
10	1688.00	1688.00	1688.00	1688.00	1687.02	1688.00	1686.74	1687.50	1686.88	1686.93	1687.42	1687.42
11	1688.00	1688.00	1688.00	1688.00	1687.00	1688.00	1686.75	1687.50	1686.91	1686.95	1687.41	1687.49
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.72	1687.50	1686.94	1686.94	1687.40	1687.50
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.71	1687.50	1686.97	1686.95	1687.42	1687.48
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.70	1687.50	1686.98	1686.94	1687.42	1687.43
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.78	1687.50	1686.98	1686.94	1687.42	1687.48
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.75	1687.56	1686.99	1686.94	1687.42	1687.47
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.80	1686.68	1686.98	1686.94	1687.42	1687.45
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.71	1687.50	1686.97	1686.94	1687.42	1687.30
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.73	1687.61	1686.96	1686.94	1687.42	1687.45
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.78	1687.38	1686.95	1686.93	1687.42	1687.26
21	1688.00	1688.00	1688.00	1688.00	1687.57	1688.00	1686.71	1687.61	1686.95	1687.42	1687.42	1687.33
22	1688.00	1688.00	1688.00	1688.00	1687.02	1688.00	1686.78	1687.31	1686.95	1687.42	1687.42	1687.39
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.81	1686.72	1686.94	1687.42	1687.42	1687.59
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.85	1686.74	1686.93	1687.42	1687.42	1687.35
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.83	1687.19	1686.93	1687.42	1687.42	1687.35
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.81	1687.58	1686.93	1687.42	1687.42	1687.32
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.75	1687.48	1686.91	1687.42	1687.42	1687.47
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.77	1687.49	1686.91	1687.42	1687.42	1687.45
29	1688.00		1688.00	1688.00	1688.00	1688.00	1686.70	1687.49	1686.91	1687.42	1687.42	1687.38
30	1688.00		1688.00	1688.00	1688.00	1688.00	1686.68	1686.74	1686.92	1687.42	1687.42	1687.38
31	1688.00		1688.00		1688.00		1686.74	1686.74		1687.42		1687.39

Table 106. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1B modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.47	1687.26	1686.69	1687.20	1687.20
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.53	1687.37	1686.68	1687.20	1687.20
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.58	1687.37	1686.68	1687.20	1687.20
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.55	1687.31	1686.72	1687.20	1687.20
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.47	1687.33	1686.72	1687.20	1687.20
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.86	1686.58	1686.57	1686.69	1687.20	1687.20
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1687.01	1686.64	1686.58	1686.69	1687.20	1687.20
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.90	1686.55	1686.56	1686.69	1687.20	1687.20
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1686.79	1687.40	1686.61	1686.69	1687.20	1687.20
10	1688.00	1688.00	1688.00	1688.00	1686.84	1688.00	1686.51	1687.39	1686.63	1686.69	1687.20	1687.20
11	1688.00	1688.00	1688.00	1688.00	1686.78	1688.00	1686.52	1687.34	1686.67	1686.74	1687.19	1687.49
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.58	1687.35	1686.70	1686.74	1687.19	1687.05
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.57	1687.34	1686.79	1686.71	1687.20	1687.31
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.49	1687.34	1686.80	1686.70	1687.20	1687.26
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.57	1687.35	1686.20	1686.70	1687.20	1687.26
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.55	1687.41	1685.82	1686.70	1687.20	1687.24
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.59	1686.54	1686.70	1686.70	1687.20	1687.22
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.50	1687.39	1685.84	1686.73	1687.20	1687.08
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.59	1687.40	1686.68	1686.74	1687.20	1687.23
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.64	1687.35	1686.78	1686.70	1687.20	1686.88
21	1688.00	1688.00	1688.00	1688.00	1687.58	1688.00	1686.51	1687.40	1686.78	1687.20	1687.20	1687.15
22	1688.00	1688.00	1688.00	1688.00	1687.05	1688.00	1686.57	1687.33	1686.71	1687.20	1687.20	1687.34
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.60	1686.58	1686.70	1687.20	1687.20	1687.31
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.66	1686.59	1686.69	1687.20	1687.20	1687.31
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.64	1687.37	1686.69	1687.20	1687.20	1687.31
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.68	1687.37	1686.69	1687.20	1687.20	1687.34
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.61	1687.29	1686.74	1687.20	1687.20	1687.32
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.56	1687.26	1686.74	1687.20	1687.20	1687.28
29	1688.00		1688.00	1688.00	1688.00	1688.00	1686.50	1687.26	1686.67	1687.20	1687.20	1687.33
30	1688.00		1688.00	1688.00	1688.00	1688.00	1686.47	1686.59	1686.68	1687.20	1687.20	1687.39
31	1688.00		1688.00		1688.00		1686.53	1686.59		1687.20		1687.33

Table 107. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1C modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.18	1685.63	1685.92	1686.60	1686.60
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.21	1685.90	1685.94	1686.60	1686.60
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.28	1685.88	1685.95	1686.60	1686.60
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.19	1685.90	1686.29	1686.60	1686.60
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.24	1685.95	1686.31	1686.60	1686.60
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.91	1685.42	1686.22	1685.98	1686.60	1686.60
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.27	1685.50	1686.27	1685.94	1686.60	1686.60
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.16	1685.41	1684.74	1685.95	1686.60	1686.60
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1685.11	1687.10	1684.75	1685.98	1686.60	1686.60
10	1688.00	1688.00	1688.00	1688.00	1687.12	1688.00	1684.99	1687.12	1684.72	1685.98	1686.60	1686.60
11	1688.00	1688.00	1688.00	1688.00	1687.05	1688.00	1685.00	1686.17	1685.15	1686.31	1686.60	1687.46
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.23	1686.25	1685.75	1686.31	1686.59	1686.07
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.26	1686.25	1686.43	1686.07	1686.60	1686.91
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.98	1686.26	1686.44	1686.02	1686.60	1686.89
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.18	1686.25	1686.12	1686.00	1686.60	1685.71
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.20	1687.12	1686.10	1685.98	1686.60	1685.75
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.27	1686.23	1686.05	1685.99	1686.60	1685.97
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.19	1686.00	1686.03	1686.31	1686.60	1685.42
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.24	1686.01	1685.97	1686.31	1686.60	1685.98
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.34	1686.00	1686.43	1686.01	1686.60	1686.43
21	1688.00	1688.00	1688.00	1688.00	1687.57	1688.00	1685.15	1686.01	1686.43	1686.60	1686.60	1686.77
22	1688.00	1688.00	1688.00	1688.00	1687.29	1688.00	1685.39	1685.94	1686.00	1686.60	1686.60	1685.92
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.44	1686.23	1685.89	1686.60	1686.60	1685.95
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.52	1686.27	1685.84	1686.60	1686.60	1685.94
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.50	1685.81	1685.82	1686.60	1686.60	1685.94
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.37	1685.89	1685.83	1686.60	1686.60	1685.99
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.32	1685.81	1686.38	1686.60	1686.60	1686.89
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.24	1685.80	1686.41	1686.60	1686.60	1686.92
29	1688.00		1688.00	1688.00	1688.00	1688.00	1685.21	1685.77	1685.82	1686.60	1686.60	1685.92
30	1688.00		1688.00	1688.00	1688.00	1688.00	1685.18	1686.25	1685.79	1686.60	1686.60	1686.00
31	1688.00		1688.00		1688.00		1685.21	1686.27		1686.60		1686.00

Table 108. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1D modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.21	1685.17	1685.34	1686.06	1686.06
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1685.46	1685.34	1686.06	1686.05
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.60	1685.19	1685.34	1686.06	1686.05
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.48	1685.44	1685.60	1686.06	1686.06
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.22	1685.46	1685.60	1686.06	1685.88
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.91	1685.41	1686.68	1685.33	1686.06	1686.05
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.42	1685.65	1686.70	1685.37	1686.06	1686.05
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.08	1685.45	1685.28	1685.31	1686.05	1685.88
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1685.36	1686.65	1684.89	1685.33	1686.06	1685.88
10	1688.00	1688.00	1688.00	1688.00	1686.84	1688.00	1685.37	1686.67	1685.07	1685.33	1686.06	1685.88
11	1688.00	1688.00	1688.00	1688.00	1686.78	1688.00	1685.39	1685.55	1685.16	1685.61	1686.05	1687.44
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.46	1685.41	1685.25	1685.61	1686.04	1685.28
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.47	1685.44	1685.86	1685.35	1686.06	1686.49
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.16	1685.45	1685.87	1685.38	1686.06	1686.33
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.54	1685.43	1685.41	1685.36	1686.06	1685.64
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.50	1686.66	1685.39	1685.36	1686.06	1685.43
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.53	1686.47	1685.38	1685.36	1686.06	1685.39
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.21	1685.44	1685.33	1685.61	1686.06	1685.49
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1685.52	1685.34	1685.61	1686.05	1685.83
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.56	1685.49	1685.85	1685.37	1686.05	1686.29
21	1688.00	1688.00	1688.00	1688.00	1687.58	1688.00	1685.48	1685.51	1685.85	1686.06	1686.05	1686.19
22	1688.00	1688.00	1688.00	1688.00	1687.05	1688.00	1685.61	1685.46	1685.33	1686.06	1686.06	1685.47
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.61	1686.47	1685.27	1686.06	1686.06	1685.20
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.65	1686.26	1685.24	1686.06	1686.05	1685.29
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.64	1685.28	1685.24	1686.06	1686.05	1685.28
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.65	1685.46	1685.26	1686.06	1686.05	1685.31
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1685.24	1685.82	1686.06	1686.05	1686.49
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.51	1685.23	1685.83	1686.06	1686.06	1686.33
29	1688.00		1688.00	1688.00	1688.00	1688.00	1685.24	1685.22	1685.24	1686.06	1686.06	1685.44
30	1688.00		1688.00	1688.00	1688.00	1688.00	1685.22	1686.47	1685.25	1686.05	1686.06	1685.29
31	1688.00		1688.00		1688.00		1685.53	1686.49		1686.05		1685.32

Table 109. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1E modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.21	1685.17	1685.34	1686.06	1686.06
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1685.46	1685.34	1686.06	1686.05
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.60	1685.19	1685.34	1686.06	1686.05
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.48	1685.44	1685.60	1686.06	1686.06
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.22	1685.46	1685.60	1686.06	1685.88
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.91	1685.41	1686.68	1685.33	1686.06	1686.05
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.42	1685.65	1686.70	1685.37	1686.06	1686.05
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.08	1685.45	1685.28	1685.31	1686.05	1685.88
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1685.36	1686.65	1684.89	1685.33	1686.06	1685.88
10	1688.00	1688.00	1688.00	1688.00	1687.12	1688.00	1685.37	1686.67	1685.07	1685.33	1686.06	1685.88
11	1688.00	1688.00	1688.00	1688.00	1687.05	1688.00	1685.39	1685.55	1685.16	1685.61	1686.05	1687.44
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.46	1685.41	1685.25	1685.61	1686.04	1685.28
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.47	1685.44	1685.86	1685.35	1686.06	1686.49
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.16	1685.45	1685.87	1685.38	1686.06	1686.33
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.54	1685.43	1685.41	1685.36	1686.06	1685.64
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.50	1686.66	1685.39	1685.36	1686.06	1685.43
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.53	1686.47	1685.38	1685.36	1686.06	1685.39
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.21	1685.44	1685.33	1685.61	1686.06	1685.49
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1685.52	1685.34	1685.61	1686.05	1685.83
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.56	1685.49	1685.85	1685.37	1686.05	1686.29
21	1688.00	1688.00	1688.00	1688.00	1687.57	1688.00	1685.48	1685.51	1685.85	1686.06	1686.05	1686.19
22	1688.00	1688.00	1688.00	1688.00	1687.29	1688.00	1685.61	1685.46	1685.33	1686.06	1686.06	1685.47
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.61	1686.47	1685.27	1686.06	1686.06	1685.20
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.65	1686.26	1685.24	1686.06	1686.05	1685.29
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.64	1685.28	1685.24	1686.06	1686.05	1685.28
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.65	1685.46	1685.26	1686.06	1686.05	1685.31
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1685.24	1685.82	1686.06	1686.05	1686.49
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.51	1685.23	1685.83	1686.06	1686.06	1686.33
29	1688.00		1688.00	1688.00	1688.00	1688.00	1685.24	1685.22	1685.24	1686.06	1686.06	1685.44
30	1688.00		1688.00	1688.00	1688.00	1688.00	1685.22	1686.47	1685.25	1686.05	1686.06	1685.29
31	1688.00		1688.00		1688.00		1685.53	1686.49		1686.05		1685.32

Table 110. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 1F modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.01	1686.82	1686.19	1686.60	1686.60
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.21	1686.93	1686.19	1686.60	1686.60
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.28	1686.93	1686.19	1686.60	1686.60
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.11	1686.88	1686.30	1686.60	1686.60
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.02	1686.91	1686.31	1686.60	1686.60
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.91	1685.64	1686.27	1686.19	1686.60	1686.60
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.57	1685.75	1686.27	1686.19	1686.60	1686.60
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.45	1685.67	1686.09	1686.19	1686.60	1686.60
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1686.33	1687.11	1686.12	1686.19	1686.60	1686.60
10	1688.00	1688.00	1688.00	1688.00	1686.84	1688.00	1686.04	1687.12	1686.12	1686.19	1686.60	1686.60
11	1688.00	1688.00	1688.00	1688.00	1686.78	1688.00	1686.05	1686.44	1686.16	1686.31	1686.60	1687.46
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.26	1686.48	1685.92	1686.31	1686.59	1686.93
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.26	1686.49	1686.43	1686.07	1686.60	1686.94
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.05	1686.49	1686.44	1686.02	1686.60	1686.89
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.14	1686.48	1686.12	1686.19	1686.60	1686.82
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.11	1687.12	1686.10	1686.01	1686.60	1686.79
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.16	1686.23	1686.05	1686.19	1686.60	1686.76
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.06	1686.97	1686.03	1686.31	1686.60	1686.63
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.28	1686.98	1685.97	1686.31	1686.60	1686.76
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.33	1686.93	1686.43	1686.01	1686.60	1686.49
21	1688.00	1688.00	1688.00	1688.00	1687.58	1688.00	1686.06	1686.98	1686.43	1686.60	1686.60	1686.77
22	1688.00	1688.00	1688.00	1688.00	1687.05	1688.00	1685.62	1686.91	1686.00	1686.60	1686.60	1686.91
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.70	1686.27	1686.19	1686.60	1686.60	1686.88
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.77	1686.27	1686.19	1686.60	1686.60	1686.88
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.75	1686.93	1686.19	1686.60	1686.60	1686.88
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.40	1686.93	1686.19	1686.60	1686.60	1686.91
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.32	1686.85	1686.39	1686.60	1686.60	1686.96
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.13	1686.82	1686.41	1686.60	1686.60	1686.92
29	1688.00		1688.00	1688.00	1688.00	1688.00	1686.05	1686.82	1686.18	1686.60	1686.60	1686.91
30	1688.00		1688.00	1688.00	1688.00	1688.00	1686.02	1686.27	1686.18	1686.60	1686.60	1686.99
31	1688.00		1688.00		1688.00		1686.09	1686.27		1686.60		1686.91

Table 111. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 2 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.70	1685.07	1685.79	1685.79
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.26	1685.75	1685.07	1685.79	1685.79
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.28	1685.75	1685.08	1685.79	1685.79
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.75	1685.34	1685.79	1685.79
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.87	1685.34	1685.79	1685.79
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.92	1685.86	1686.41	1685.07	1685.79	1685.79
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.43	1685.86	1686.00	1685.08	1685.79	1685.79
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.68	1685.86	1685.88	1685.08	1685.79	1685.79
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1685.58	1686.34	1684.95	1685.09	1685.79	1685.79
10	1688.00	1688.00	1688.00	1688.00	1686.97	1688.00	1685.74	1686.34	1684.96	1685.09	1685.79	1685.79
11	1688.00	1688.00	1688.00	1688.00	1687.47	1688.00	1685.75	1685.86	1684.96	1685.37	1685.78	1687.43
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.06	1685.86	1685.04	1685.37	1685.77	1685.97
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.17	1685.86	1685.68	1685.11	1685.79	1686.07
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.86	1685.72	1685.09	1685.79	1685.95
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.85	1685.86	1685.14	1685.09	1685.79	1685.80
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1686.35	1685.17	1685.09	1685.79	1685.73
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1686.17	1685.15	1685.09	1685.79	1685.74
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.87	1685.11	1685.36	1685.79	1685.52
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.37	1685.86	1685.07	1685.37	1685.79	1685.67
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.26	1685.87	1685.66	1685.10	1685.79	1685.95
21	1688.00	1688.00	1688.00	1688.00	1687.57	1688.00	1685.86	1685.86	1685.68	1685.79	1685.79	1685.55
22	1688.00	1688.00	1688.00	1688.00	1687.01	1688.00	1685.85	1685.84	1685.09	1685.79	1685.79	1685.88
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.85	1685.95	1685.04	1685.79	1685.79	1685.87
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.98	1685.03	1685.79	1685.79	1685.85
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.82	1685.03	1685.79	1685.79	1685.85
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.34	1685.75	1685.03	1685.79	1685.79	1685.88
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.36	1685.69	1685.60	1685.79	1685.79	1685.99
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.86	1685.70	1685.62	1685.79	1685.79	1685.97
29	1688.00		1688.00	1688.00	1688.00	1688.00	1685.86	1685.67	1685.02	1685.79	1685.79	1685.88
30	1688.00		1688.00	1688.00	1688.00	1688.00	1685.86	1685.96	1685.01	1685.79	1685.79	1685.90
31	1688.00		1688.00		1688.00		1685.86	1686.21		1685.79		1685.89

Table 112. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 3 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.60	1685.25	1685.19	1686.03	1686.03
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.65	1685.45	1685.19	1686.03	1686.03
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.67	1685.47	1685.18	1686.03	1686.03
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.59	1685.45	1685.59	1686.03	1686.03
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.70	1685.47	1685.59	1686.03	1685.86
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.74	1686.68	1685.27	1686.03	1686.03
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.88	1685.75	1686.64	1685.26	1686.03	1686.03
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.21	1685.76	1685.09	1685.25	1686.03	1685.86
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1685.61	1686.63	1684.47	1685.30	1686.03	1685.86
10	1688.00	1688.00	1688.00	1688.00	1686.84	1688.00	1685.43	1686.63	1684.30	1685.31	1686.03	1685.86
11	1688.00	1688.00	1688.00	1688.00	1686.78	1688.00	1685.41	1685.69	1684.95	1685.60	1686.02	1687.43
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.88	1685.75	1685.11	1685.60	1686.01	1685.25
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.88	1685.76	1685.83	1685.35	1686.03	1686.49
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.35	1685.75	1685.84	1685.32	1686.03	1686.33
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.13	1685.75	1685.29	1685.28	1686.03	1685.56
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.99	1686.63	1685.26	1685.27	1686.03	1685.43
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.32	1686.66	1685.24	1685.28	1686.03	1685.68
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.54	1685.56	1685.25	1685.59	1686.03	1685.46
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.93	1685.63	1685.21	1685.59	1686.03	1685.53
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.77	1685.61	1685.82	1685.31	1686.02	1686.13
21	1688.00	1688.00	1688.00	1688.00	1687.58	1688.00	1684.79	1685.63	1685.82	1686.03	1686.03	1686.28
22	1688.00	1688.00	1688.00	1688.00	1687.05	1688.00	1685.46	1685.60	1685.18	1686.03	1686.03	1685.47
23	1688.00	1688.00	1688.00	1688.00	1686.76	1688.00	1685.46	1686.66	1685.15	1686.03	1686.03	1685.20
24	1688.00	1688.00	1688.00	1688.00	1686.78	1688.00	1685.47	1686.54	1685.13	1686.03	1686.03	1685.29
25	1688.00	1688.00	1688.00	1688.00	1686.79	1688.00	1685.47	1685.46	1685.08	1686.03	1686.03	1685.28
26	1688.00	1688.00	1688.00	1688.00	1686.56	1688.00	1686.47	1685.55	1685.09	1686.03	1686.03	1685.31
27	1688.00	1688.00	1688.00	1688.00	1686.37	1688.00	1686.70	1685.53	1685.81	1686.03	1686.03	1686.49
28	1688.00	1688.00	1688.00	1688.00	1686.23	1688.00	1685.19	1685.52	1685.81	1686.03	1686.03	1686.33
29	1688.00		1688.00	1688.00	1688.00	1688.00	1685.12	1685.51	1685.16	1686.03	1686.03	1685.45
30	1688.00		1688.00	1688.00	1688.00	1688.00	1685.06	1686.47	1685.08	1686.03	1686.03	1685.29
31	1688.00		1688.00		1688.00		1685.55	1686.31		1686.03		1685.32

Table 113. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 4 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.01	1686.82	1686.19	1686.60	1686.60
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.21	1686.93	1686.19	1686.60	1686.60
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.28	1686.93	1686.19	1686.60	1686.60
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.11	1686.88	1686.30	1686.60	1686.60
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.02	1686.91	1686.31	1686.60	1686.60
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.91	1685.64	1686.27	1686.19	1686.60	1686.60
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.57	1685.75	1686.27	1686.19	1686.60	1686.60
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.45	1685.67	1686.09	1686.19	1686.60	1686.60
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1686.33	1687.11	1686.12	1686.19	1686.60	1686.60
10	1688.00	1688.00	1688.00	1688.00	1686.84	1688.00	1686.04	1687.12	1686.12	1686.19	1686.60	1686.60
11	1688.00	1688.00	1688.00	1688.00	1686.78	1688.00	1686.05	1686.44	1686.16	1686.31	1686.60	1687.46
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.26	1686.48	1685.92	1686.31	1686.59	1686.93
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.26	1686.49	1686.43	1686.07	1686.60	1686.94
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.05	1686.49	1686.44	1686.02	1686.60	1686.89
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.14	1686.48	1686.12	1686.19	1686.60	1686.82
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.11	1687.12	1686.10	1686.01	1686.60	1686.79
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.16	1686.23	1686.05	1686.19	1686.60	1686.76
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.06	1686.97	1686.03	1686.31	1686.60	1686.63
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.28	1686.98	1685.97	1686.31	1686.60	1686.76
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.33	1686.93	1686.43	1686.01	1686.60	1686.49
21	1688.00	1688.00	1688.00	1688.00	1687.58	1688.00	1686.06	1686.98	1686.43	1686.60	1686.60	1686.77
22	1688.00	1688.00	1688.00	1688.00	1687.05	1688.00	1685.62	1686.91	1686.00	1686.60	1686.60	1686.91
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.70	1686.27	1686.19	1686.60	1686.60	1686.88
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.77	1686.27	1686.19	1686.60	1686.60	1686.88
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.75	1686.93	1686.19	1686.60	1686.60	1686.88
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.40	1686.93	1686.19	1686.60	1686.60	1686.91
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.32	1686.85	1686.39	1686.60	1686.60	1686.96
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.13	1686.82	1686.41	1686.60	1686.60	1686.92
29	1688.00		1688.00	1688.00	1688.00	1688.00	1686.05	1686.82	1686.18	1686.60	1686.60	1686.91
30	1688.00		1688.00	1688.00	1688.00	1688.00	1686.02	1686.27	1686.18	1686.60	1686.60	1686.99
31	1688.00		1688.00		1688.00		1686.09	1686.27		1686.60		1686.91

Table 114. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 5 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
9	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
10	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
11	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
21	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
22	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
29	1688.00		1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
30	1688.00		1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00
31	1688.00		1688.00		1688.00		1688.00	1688.00		1688.00		1688.00

Table 115. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Operational Scenario 6 modeled under the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.95	1685.03	1685.33	1686.02	1686.02
2	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.57	1685.01	1685.60	1686.02	1686.02
3	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.57	1685.02	1685.70	1686.02	1686.02
4	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.95	1684.97	1685.69	1686.02	1686.02
5	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.94	1684.96	1685.59	1686.02	1686.02
6	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.92	1684.94	1685.60	1685.57	1686.02	1686.02
7	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.40	1685.22	1685.61	1685.57	1686.02	1686.02
8	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.71	1685.14	1684.96	1685.56	1686.02	1686.02
9	1688.00	1688.00	1688.00	1688.00	1687.45	1688.00	1685.85	1685.52	1684.97	1685.60	1686.02	1686.02
10	1688.00	1688.00	1688.00	1688.00	1686.97	1688.00	1685.84	1685.52	1684.97	1685.56	1685.86	1686.02
11	1688.00	1688.00	1688.00	1688.00	1687.47	1688.00	1685.85	1685.25	1685.01	1685.78	1685.85	1686.02
12	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.36	1685.15	1685.04	1685.30	1686.01	1686.11
13	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1686.36	1685.65	1685.67	1685.30	1686.02	1686.22
14	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.87	1685.66	1685.69	1685.61	1686.02	1686.33
15	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.40	1685.53	1685.14	1685.78	1686.02	1686.45
16	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.43	1685.53	1685.10	1685.51	1686.02	1686.56
17	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.94	1685.56	1685.06	1685.42	1686.02	1686.67
18	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.95	1684.95	1685.05	1685.59	1686.02	1686.78
19	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.57	1684.95	1685.02	1685.97	1686.02	1686.89
20	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.58	1684.95	1685.63	1686.00	1686.02	1686.99
21	1688.00	1688.00	1688.00	1688.00	1687.57	1688.00	1684.94	1684.95	1685.64	1686.02	1686.02	1687.09
22	1688.00	1688.00	1688.00	1688.00	1687.01	1688.00	1684.95	1684.95	1685.03	1686.02	1686.02	1687.05
23	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.95	1685.57	1684.96	1686.02	1686.02	1685.94
24	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.94	1685.59	1684.96	1686.02	1686.02	1685.85
25	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.94	1684.95	1684.96	1686.02	1686.02	1685.78
26	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.54	1684.96	1684.96	1686.02	1686.02	1685.33
27	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1685.56	1684.95	1685.58	1686.02	1686.02	1685.25
28	1688.00	1688.00	1688.00	1688.00	1688.00	1688.00	1684.95	1684.96	1685.60	1686.02	1686.02	1685.27
29	1688.00		1688.00	1688.00	1688.00	1688.00	1684.95	1684.96	1685.08	1686.02	1686.02	1685.06
30	1688.00		1688.00	1688.00	1688.00	1688.00	1684.96	1685.59	1684.95	1686.02	1686.02	1685.05
31	1688.00		1688.00		1688.00		1684.96	1685.62		1686.02		1685.05

Table 116. End-of-day (23rd hour) water levels in Hells Canyon reservoir for Proposed Operations modeled during the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.12	1687.06	1686.93	1687.19	1687.19
2	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.89	1687.12	1686.93	1687.19	1687.29
3	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.89	1687.12	1686.93	1687.19	1687.29
4	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.12	1687.02	1686.93	1687.19	1687.29
5	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.19	1687.06	1686.93	1687.19	1687.29
6	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.96	1687.12	1686.89	1686.93	1687.19	1687.29
7	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.89	1687.12	1686.89	1686.93	1687.19	1687.29
8	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.99	1687.12	1686.89	1686.93	1687.19	1687.29
9	1688.01	1688.01	1688.01	1688.01	1687.42	1688.01	1686.96	1687.09	1686.93	1686.93	1687.19	1687.29
10	1688.01	1688.01	1688.01	1688.01	1686.99	1688.01	1686.86	1687.09	1686.93	1686.93	1687.19	1687.29
11	1688.01	1688.01	1688.01	1688.01	1686.99	1688.01	1686.89	1687.09	1686.93	1686.93	1687.19	1687.35
12	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.89	1687.09	1686.93	1686.93	1687.19	1687.25
13	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.86	1687.09	1686.96	1686.93	1687.19	1687.25
14	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.83	1687.09	1686.96	1686.93	1687.19	1687.19
15	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.89	1687.09	1686.96	1686.93	1687.19	1687.22
16	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.86	1687.09	1686.96	1686.93	1687.19	1687.22
17	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.12	1686.89	1686.96	1686.93	1687.19	1687.19
18	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.12	1687.09	1686.93	1686.93	1687.19	1687.06
19	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.89	1687.09	1686.96	1686.93	1687.19	1687.19
20	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.89	1687.06	1686.96	1686.93	1687.19	1686.93
21	1688.01	1688.01	1688.01	1688.01	1687.68	1688.01	1687.16	1687.09	1686.93	1687.09	1687.19	1686.96
22	1688.01	1688.01	1688.01	1688.01	1687.02	1688.01	1687.25	1687.06	1686.96	1687.19	1687.19	1687.29
23	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.12	1686.89	1686.93	1687.19	1687.19	1687.25
24	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.12	1686.89	1686.93	1687.19	1687.19	1687.25
25	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.12	1687.12	1686.93	1687.19	1687.19	1687.25
26	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1686.93	1687.12	1686.96	1687.19	1687.19	1687.29
27	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.16	1687.06	1686.93	1687.19	1687.19	1687.25
28	1688.01	1688.01	1688.01	1688.01	1688.01	1688.01	1687.25	1687.06	1686.93	1687.19	1687.19	1687.22
29	1688.01		1688.01	1688.01	1688.01	1688.01	1687.09	1687.06	1686.93	1687.19	1687.19	1687.29
30	1688.01		1688.01	1688.01	1688.01	1688.01	1687.09	1686.89	1686.93	1687.19	1687.19	1687.35
31	1688.01		1688.01		1688.01		1687.29	1686.89		1687.19		

Table 117. Actual end-of-day (23rd hour) water levels in Hells Canyon reservoir measured during the extreme high flow year of 1997 (January 1 through December 31).

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1684.20	1684.80	1686.70	1685.50	1684.20	1685.60	1686.40	1686.00	1686.20	1686.50	1686.60	1686.40
2	1683.10	1684.40	1686.70	1685.90	1687.00	1684.80	1686.80	1684.40	1687.10	1686.60	1686.30	1686.30
3	1681.80	1684.90	1685.90	1684.30	1686.00	1684.90	1686.80	1685.70	1686.90	1686.50	1686.80	1686.40
4	1681.90	1685.10	1685.30	1686.70	1686.10	1684.90	1686.90	1686.90	1686.50	1686.20	1686.40	1685.70
5	1685.90	1684.70	1686.00	1686.00	1686.20	1685.30	1686.70	1685.80	1686.80	1686.40	1685.10	1686.60
6	1686.30	1685.20	1687.10	1685.00	1686.40	1685.90	1685.20	1686.30	1687.10	1686.60	1685.80	1686.40
7	1686.10	1684.90	1687.50	1683.00	1685.60	1686.30	1685.50	1687.20	1686.70	1687.20	1686.80	1686.40
8	1686.30	1685.30	1687.10	1685.30	1685.60	1686.30	1685.20	1686.10	1686.30	1686.40	1686.30	1686.90
9	1686.60	1685.90	1686.50	1686.20	1685.50	1686.00	1684.60	1686.30	1686.20	1687.10	1686.30	1686.30
10	1685.70	1686.10	1686.50	1683.80	1685.40	1686.70	1687.30	1686.00	1686.80	1687.00	1687.00	1686.20
11	1686.00	1686.30	1686.30	1685.50	1685.90	1687.10	1686.80	1684.60	1686.50	1686.50	1687.00	1687.00
12	1686.30	1685.70	1687.30	1685.40	1686.90	1687.20	1686.50	1684.40	1686.40	1686.80	1686.80	1686.80
13	1686.00	1685.40	1687.20	1684.80	1686.20	1686.90	1687.10	1685.30	1686.90	1686.50	1686.20	1686.70
14	1686.40	1685.70	1686.90	1687.10	1685.00	1686.80	1687.10	1686.00	1687.50	1686.50	1686.40	1686.20
15	1686.10	1685.50	1686.50	1686.70	1686.40	1686.00	1686.30	1687.30	1687.10	1686.40	1686.60	1685.10
16	1685.50	1685.70	1686.60	1684.70	1686.10	1686.70	1687.10	1687.30	1686.00	1686.80	1686.20	1686.90
17	1686.00	1685.30	1686.50	1685.50	1685.70	1686.60	1686.90	1686.40	1684.10	1686.40	1686.80	1687.20
18	1686.80	1685.90	1685.80	1685.50	1685.30	1686.60	1686.70	1685.80	1686.00	1686.30	1686.30	1686.90
19	1686.50	1685.90	1685.10	1685.90	1684.90	1687.30	1686.30	1685.30	1684.80	1686.50	1686.40	1687.00
20	1686.50	1686.40	1685.60	1686.10	1686.30	1686.40	1686.80	1686.20	1686.40	1687.00	1686.80	1687.00
21	1685.70	1686.60	1686.80	1684.80	1686.30	1685.80	1686.80	1686.50	1686.30	1686.80	1686.40	1685.10
22	1686.30	1685.50	1686.60	1685.70	1686.20	1686.10	1685.90	1685.00	1686.60	1686.80	1686.10	1686.70
23	1686.30	1685.20	1685.80	1684.90	1686.00	1686.40	1687.40	1685.80	1687.20	1686.60	1685.90	1685.80
24	1687.00	1685.10	1683.70	1685.00	1685.70	1686.10	1687.50	1686.30	1687.30	1687.30	1685.90	1686.50
25	1686.70	1685.90	1686.40	1684.60	1685.30	1686.60	1686.50	1686.60	1686.60	1686.40	1686.00	1686.60
26	1686.10	1686.70	1686.80	1684.70	1684.60	1686.60	1686.80	1686.10	1686.10	1686.30	1686.60	1686.40
27	1685.90	1686.80	1685.70	1685.10	1683.90	1687.70	1686.40	1685.90	1685.40	1687.20	1685.80	1686.60
28	1686.20	1686.60	1686.00	1685.20	1685.00	1686.80	1684.90	1686.10	1685.80	1687.40	1685.80	1685.60
29	1686.60		1684.80	1686.60	1686.70	1686.70	1684.20	1686.00	1685.90	1687.10	1686.20	1686.70
30	1686.50		1684.70	1683.80	1686.30	1686.50	1685.60	1686.40	1686.60	1687.20	1686.40	1686.50
31	1685.90		1684.70		1686.00		1686.60	1686.00		1686.80		1686.10

Table 118. A comparison of survival, estimated adult returns, and proportions of required escapement associated with a free-flowing environment (i.e., no Hells Canyon Complex), Scenario 3A, passage through Brownlee reservoir without collection or bypass, and Scenario 5A, which assumes an 80% collection efficiency and transport to below Hells Canyon dam.

	Free-Flowing	**Scenario 3A**	**Scenario 5A**
1964-89 ft draft – original values[1]			
Brownlee Reservoir	0.85	0.42	0.42
To LGRT	0.33	0.10	0.16
Adult to HCD – Low SAR original[3]	1,681	494	836
Adult to HCD – High SAR original[3]	7,566	2,219	3,764
Proportion of Required Escapement[4]			
HRE – LSAR – original	0.06	0.01	0.02
HRE – HSAR – original	0.26	0.06	0.09
LRE – LSAR – original	0.17	0.04	0.07
LRE – HSAR – original	0.79	0.18	0.31
100 ft draft – assume S same as free-flowing; new assumptions[2]			
Brownlee Reservoir	0.95	0.95	0.95
To LGRT	0.52	0.23	0.47
Adult to HCD – Low SAR new[3]	2,659	1,181	2,417
Adult to HCD – High SAR new[3]	11,965	5,314	10,878
Proportion of Required Escapement[4]			
HRE – LSAR – new	0.09	0.08	0.04
HRE – HSAR – new	0.41	0.18	0.37
LRE – LSAR – new	0.27	0.12	0.25
LRE – HSAR – new	1.25	0.55	1.13
Average of 1964 and Free-Flowing estimates			
Brownlee Reservoir	0.9	0.685	0.685
To LGRT	0.425	0.165	0.315
Adult to HCD – Low SAR	2,170	837	1,626
Adult to HCD – High SAR	9,765	3,766	7,321
Proportion of Required Escapement			
HRE – LSAR	0.075	0.045	0.03
HRE – HSAR	0.335	0.12	0.23
LRE – LSAR	0.22	0.08	0.16
LRE – HSAR	1.02	0.365	0.72

1 – original estimates reported in E.3.1-2
2 – new values based on free-flowing reach survivals using a 0.95 survival estimate from Pittsburg Landing to Billy Creek (85 km free-flowing reach) and new reservoir values based on the free-flowing assumption.
3 – low SAR values=0.004, high SAR values=0.018
4 – HRE, High Required Escapement assumptions: egg to smolt survival=0.06, Fecundity=4,300, inter-project survival=0.95, pre-spawn survival=0.6, 1:1 sex ratio
– LRE, Low Required Escapement assumptions: egg to smolt survival=0.15, Fecundity=4,300, inter-project survival=0.96, pre-spawn survival=0.7, 1:1 sex ratio

Table 119. Surface area and reservoir length of Brownlee reservoir at different elevation levels.

Elevation (ft msl)	Draft (ft)	Surface Area (ha)	Pool Length (km)
2077	0	6096	90
2057	20	4708	88
1987	90	2700	60
1977	100	2407	57

Table 120. Entrapment pool site locations, flows, and elevations that cause pools to disconnect from the river channel (entrapment flow/elevation) and whether a site was modeled as age-0 fall Chinook habitat with the 1D habitat model (Chandler et al. 2001a).

Site Name	River Mile	Entrapment Flow (cfs)	Entrapment Elevation (ft)	Modeled as Age-0 Habitat
Battle Creek	242.0	5500	1413.527	Yes
Saddle Creek	236.0	20438	1337.139	No
Hat Creek	235.6	24740	1329.953	No
Pine Bar	227.5	8107	1231.169	Yes
Little Bar	224.9	13694	1211.017	Yes
Temperance Creek	223.5	26781	1199.760	Yes
Suicide Point	222.8	30146	1193.697	Yes
Yankee Bar	220.1	4954	1168.443	No
Fish Trap	216.5	23062	1142.822	Yes
Lower Pittsburgh	214.4	24786	1125.967	Yes
Five Pine	201.9	27421	1029.906	Yes
Imnaha	191.7	15762	940.919	No

Table 121. Number of entrapment events, duration of events, and percentage of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1A modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
220.1	6	1992	1	23	–	–	1	35	65
227.5	6	1992	1	333	–	–			
242.0	6	1992	2	119	23	215	1	35	65
201.9	3	1995	1	338	–	–			
	4		2	314.5	27	602			
214.4	3	1995	1	288	–	–			
	4		2	204.5	72	337			
	5		1	96	–	–			
216.5	3	1995	1	264	–	–			
	4		2	131	23	239	1	43	57
	5		1	47	–	–			
222.8	3	1995	2	831	124	1538			
223.5	3	1995	1	314	–	–			
	4		2	311	22	600	1	41	59
235.6	3	1995	1	288	–	–			
	4		3	25	25	337			
	5		1	96	–	–			
236.0	3	1995	1	121	–	–			
	4		2	36.5	25	48			
222.8	5	1997	2	35.5	22	49	1	32	68

Table 122. Number of entrapment sites disconnected from the river channel and mean number of entrapment events per site for 11 operational scenarios modeled in the upper HC reach during the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

	# of Sites Influenced			Mean # of Events per Site		
Operational Scenario	1992	1995	1997	1992	1995	1997
1A	3	7	1	1.3	3.4	2
1B	3	7	1	1.7	8.9	4
1C	5	8	1	3.6	31.1	5
1D	3	7	1	1.7	8.4	4
1E	5	8	1	3.6	31.1	5
1F	4	7	1	1.5	8.9	4
2	4	7	2	1.5	8.4	4.5
3	6	9	3	5.3	38.8	2.3
4	4	7	1	1.5	8.9	4
5	3	7	0	2.3	3.1	0
6	6	9	3	5	44.7	2.3

Table 123. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1B modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
220.1	6	1992	1	23	–	–	1	35	65
224.9	3	1992	2	1115	63	2167			
242.0	6	1992	2	119	23	215	1	35	65
201.9	3	1995	3	5	3	348	2	70	30
	4		2	319	31	607			
214.4	3	1995	2	147	5	289	1	40	60
	4		4	32	6	338	1	33	67
	5		1	97	–	–			
216.5	3	1995	1	268	–	–			
	4		5	4	2	224	4	63	38
	5		3	8	4	30	2	63	38
222.8	3	1995	10	21	8	407	8	57	43
	4		1	665	–	–			
	5		9	19	12	91	5	47	53
223.5	3	1995	1	319	–	–			
	4		4	8	5	601	3	86	14
235.6	3	1995	2	147.5	6	289	1	83	17
	4		4	31	5	337	1	100	0
	5		1	97	–	–			
236.0	3	1995	3	6	5	126	2	100	0
	4		6	7.5	1	29	5	100	0
222.8	5	1997	4	7.5	3	27	3	57	43

Table 124. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1C modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
191.7	3	1992	2	1114.5	66	2163			
220.1	6	1992	1	23	–	–	1	35	65
224.9	3	1992	10	32	16	548	5	71	29
	4		2	636.5	42	1231			
227.5	6	1992	1	333	–	–			
242.0	6	1992	2	119	23	215	1	35	65
191.7	3	1995	2	5.5	4	7	2	14	86
	4		3	2	1	3	3	67	33
201.9	3	1995	8	6.5	4	166	6	33	67
	4		13	17	10	235	9	50	50
	5		23	6	5	20	23	33	67
214.4	3	1995	4	26.5	7	139	2	50	50
	4		20	16	5	67	16	61	39
	5		6	13	10	15	6	53	47
216.5	3	1995	7	20	4	66	5	60	40
	4		21	12	1	64	18	65	35
	5		6	10.5	4	13	6	56	44
222.8	3	1995	10	11	5	336	8	66	34
	4		6	45	22	428	3	50	50
	5		14	21	15	69	11	43	57
223.5	3	1995	7	5	5	164	5	80	20
	4		15	16	7	139	10	69	31
	5		24	5	4	18	24	75	25
235.6	3	1995	4	26.5	7	139	2	76	24
	4		20	16	5	66	16	75	25
	5		6	13	9	15	6	62	38
236.0	3	1995	7	15	5	62	6	82	18
	4		18	10	1	36	17	91	9
	5		5	8	1	8	5	88	13
222.8	5	1997	5	8	4	11	5	55	45

Table 125. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1D modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
220.1	6	1992	1	23	–	–	1	35	65
224.9	3	1992	2	1115	63	2167			
242.0	6	1992	2	119	23	215	1	35	65
201.9	3	1995	3	5	3	344	2	70	30
	4		2	319	31	607			
214.4	3	1995	2	146.5	4	289	1	25	75
	4		4	32	6	338	1	33	67
	5		1	97	–	–			
216.5	3	1995	1	268	–	–			
	4		5	4	2	224	4	63	38
	5		3	8	4	30	2	63	38
222.8	3	1995	7	15	8	432	5	58	42
	4		1	665	–	–			
	5		9	19	12	91	5	47	53
223.5	3	1995	1	319	–	–			
	4		4	8	5	601	3	86	14
235.6	3	1995	2	147	5	289	1	100	0
	4		4	31	5	337	1	100	0
	5		1	97	–	–			
236.0	3	1995	3	6	5	126	2	100	0
	4		6	7.5	1	29	5	100	0
222.8	5	1997	4	7.5	3	27	3	57	43

Table 126. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1E modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
191.7	3	1992	2	1114.5	66	2163			
220.1	6	1992	1	23	–	–	1	35	65
224.9	3	1992	10	32	16	548	5	71	29
	4		2	636.5	42	1231			
227.5	6	1992	1	333	–	–			
242.0	6	1992	2	119	23	215	1	35	65
191.7	3	1995	2	5.5	4	7	2	14	86
	4		3	2	1	3	3	67	33
201.9	3	1995	8	6.5	4	166	6	33	67
	4		13	17	10	235	9	50	50
	5		23	6	5	20	23	33	67
214.4	3	1995	4	26.5	7	139	2	50	50
	4		20	16	5	67	16	61	39
	5		6	13	10	15	6	53	47
216.5	3	1995	7	20	4	66	5	60	40
	4		21	12	1	64	18	65	35
	5		6	10.5	4	13	6	56	44
222.8	3	1995	10	11	5	336	8	66	34
	4		6	45	22	428	3	50	50
	5		14	21	15	69	11	43	57
223.5	3	1995	7	5	5	164	5	80	20
	4		15	16	7	139	10	69	31
	5		24	5	4	18	24	75	25
235.6	3	1995	4	26.5	7	139	2	76	24
	4		20	16	5	66	16	75	25
	5		6	13	9	15	6	62	38
236.0	3	1995	7	15	5	62	6	82	18
	4		18	10	1	36	17	91	9
	5		5	8	1	8	5	88	13
222.8	5	1997	5	8	4	11	5	55	45

Table 127. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 1F modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
220.1	6	1992	1	23	–	–	1	35	65
224.9	3	1992	2	1115	63	2167			
227.5	6	1992	1	333	–	–			
242.0	6	1992	2	119	23	215	1	35	65
201.9	3	1995	3	5	3	348	2	70	30
	4		2	319	31	607			
214.4	3	1995	2	147	5	289	1	40	60
	4		4	32	6	338	1	33	67
	5		1	97	–	–			
216.5	3	1995	1	268	–	–			
	4		5	4	2	224	4	63	38
	5		3	8	4	30	2	63	38
222.8	3	1995	10	21	8	407	8	57	43
	4		1	665	665	665			
	5		9	19	12	91	5	47	53
223.5	3	1995	1	319	–	–			
	4		4	8	5	601	3	86	14
235.6	3	1995	2	147.5	6	289	1	83	17
	4		4	31	5	337	1	100	0
	5		1	97	–	–			
236.0	3	1995	3	6	5	126	2	100	0
	4		6	7.5	1	29	5	100	0
222.8	5	1997	4	7.5	3	27	3	57	43

Table 128. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 2 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
220.1	6	1992	1	23	–	–	1	35	65
224.9	3	1992	2	1115	63	2167			
227.5	6	1992	1	333	–	–			
242.0	6	1992	2	119	23	215	1	35	65
201.9	3	1995	3	5	3	344	2	70	30
	4		2	319	31	607			
214.4	3	1995	2	146.5	4	289	1	25	75
	4		4	32	6	338	1	33	67
	5		1	97	–	–			
216.5	3	1995	1	268	–	–			
	4		5	4	2	224	4	63	38
	5		3	8	4	30	2	63	38
222.8	3	1995	7	15	8	432	5	58	42
	4		1	665	–	–			
	5		9	19	12	91	5	47	53
223.5	3	1995	1	319	–	–			
	4		4	8	5	601	3	86	14
235.6	3	1995	2	147	5	289	1	100	0
	4		4	31	5	337	1	100	0
	5		1	97	–	–			
236.0	3	1995	3	6	5	126	2	100	0
	4		6	7.5	1	29	5	100	0
201.9	5	1997	2	6.5	5	8	2	29	71
222.8	5	1997	7	21	7	84	5	50	50

Table 129. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 3 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
191.7	3	1992	8	20	18	692	5	53	47
	4		2	636	44	1228			
220.1	6	1992	2	29.5	2	57	1	100	0
224.9	3	1992	12	21.5	17	478	7	71	29
	4		3	42	41	1231			
227.5	5	1992	1	357	–	–			
236.0	3	1992	3	83	46	2099			
242.0	6	1992	1	287	–	–			
191.7	3	1995	5	7	3	10	5	17	83
	4		11	4	1	10	11	0	100
201.9	3	1995	10	7.5	6	213	8	43	57
	4		15	17	7	165	12	54	46
	5		24	7	6	20	24	29	71
214.4	3	1995	13	6	2	67	11	60	40
	4		23	11	6	66	20	64	36
	5		20	4	3	15	20	35	65
216.5	3	1995	9	16	2	66	8	65	35
	4		25	10	4	63	24	68	32
	5		7	9	3	11	7	60	40
222.8	3	1995	11	11	5	323	10	64	36
	4		1	694	–	–			
	5		19	11	5	12	19	55	45
223.5	3	1995	13	8	5	139	11	71	29
	4		18	17.5	7	117	15	63	38
	5		24	6	6	18	24	67	33
224.9	3	1995	3	5	5	8	3	100	0
	4		2	3.5	3	4	2	88	13
235.6	3	1995	13	7	3	67	11	100	0
	4		23	11	5	66	20	86	14
	5		20	5	4	16	20	95	5
236.0	3	1995	7	11	6	14	7	86	14
	4		25	9	2	32	24	100	0
	5		5	8	5	9	5	89	11
201.9	5	1997	1	6	–	–	1	0	100
222.8	5	1997	5	6	4	12	5	50	50
223.5	5	1997	1	6	–	–	1	50	50

Table 130. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 4 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
220.1	6	1992	2	29	2	56	1	100	0
224.9	3	1992	2	1115	63	2167			
227.5	5	1992	1	357	–	–			
242.0	6	1992	1	287	–	–			
201.9	3	1995	3	5	3	348	2	70	30
	4		2	319	31	607			
214.4	3	1995	2	147	5	289	1	40	60
	4		4	32	6	338	1	33	67
	5		1	97	–	–			
216.5	3	1995	1	268	–	–			
	4		5	4	2	224	4	63	38
	5		3	8	4	30	2	63	38
222.8	3	1995	10	21	8	407	8	57	43
	4		1	665	–	–			
	5		9	19	12	91	5	47	53
223.5	3	1995	1	319	–	–			
	4		4	8	5	601	3	86	14
235.6	3	1995	2	147.5	6	289	1	83	17
	4		4	31	5	337	1	100	0
	5		1	97	–	–			
236.0	3	1995	3	6	5	126	2	100	0
	4		6	7.5	1	29	5	100	0
222.8	5	1997	4	7.5	3	27	3	57	43

Table 131. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 5 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
220.1	6	1992	1	23	–	–	1	35	65
227.5	4	1992	1	96	–	–			
	5		3	97	23	572	1	35	65
242.0	6	1992	2	119.5	24	215	1	38	63
201.9	3	1995	3	19	5	386	2	71	29
	4		1	551	–	–			
214.4	3	1995	1	335	–	–			
	4		1	434	–	–			
216.5	3	1995	1	310	–	–			
	4		2	155.5	48	263			
222.8	3	1995	3	49	26	481			
	4		1	555	–	–			
	5		1	50	–	–			
223.5	3	1995	2	181.5	2	361	1	100	0
	4		1	550	–	–			
235.6	3	1995	1	335	–	–			
	4		1	432	–	–			
236.0	3	1995	1	264	–	–			
	4		2	25	25	25			
No Data	for	1997							

Table 132. Number of entrapment events, duration of events, and percent of durations under hours of darkness and daylight for entrapment sites in the upper HC reach by month under Operational Scenario 6 modeled under the extreme low flow year of 1992, medium flow year of 1995, and extreme high flow year of 1997.

Site (RM)	Month	Year	# of Entrapment Events	Median Entrapment Duration (hrs)	Minimum Entrapment Duration (hrs)	Maximum Entrapment Duration (hrs)	# of Entrapment Events < 24 hrs	Median (%) Entrapment Duration During Darkness	Median (%) Entrapment Duration During Daylight
191.7	3	1992	7	19	18	1997	4	53	47
220.1	6	1992	1	23	–	–	1	35	65
224.9	3	1992	12	19.5	17	501	8	69	31
	4		4	31.5	19	1233	2	58	42
227.5	6	1992	1	333	–	–			
236.0	3	1992	3	59	22	2147	1	55	45
242.0	6	1992	2	119	23	215	1	35	65
191.7	3	1995	3	6	4	9	3	17	83
	4		14	5	2	10	14	8	92
	5		4	5	3	6	4	0	100
201.9	3	1995	8	14	5	166	5	43	57
	4		14	20	7	167	10	54	46
	5		25	7	3	107	24	29	71
	6		12	7	6	8	12	25	75
214.4	3	1995	9	18	5	68	8	60	40
	4		22	16	5	66	18	61	39
	5		23	4	1	19	23	40	60
	6		9	4	1	5	9	40	60
216.5	3	1995	8	12	2	67	7	67	33
	4		22	11	2	64	19	69	31
	5		10	9	2	17	10	51	49
222.8	3	1995	8	11	5	323	7	64	36
	4		3	12	11	659	2	61	39
	5		23	11	5	12	23	55	45
	6		15	11	5	12	15	55	45
223.5	3	1995	10	20.5	4	140	8	63	37
	4		16	18.5	6	117	12	61	39
	5		25	6	1	105	24	67	33
	6		12	6	5	7	12	67	33
224.9	3	1995	1	3	–	–	1	100	0
	4		6	5.5	2	8	6	82	18
235.6	3	1995	9	18	5	68	8	76	24
	4		22	15.5	5	66	18	81	19
	5		22	5	3	18	22	100	0
	6		9	5	3	6	9	100	0
236.0	3	1995	7	11	5	60	6	95	5
	4		25	9	5	17	25	100	0
	5		6	10	7	11	6	82	18
201.9	5	1997	1	6	–	–	1	0	100
222.8	5	1997	5	6	4	12	5	50	50
223.5	5	1997	1	6	–	–	1	50	50

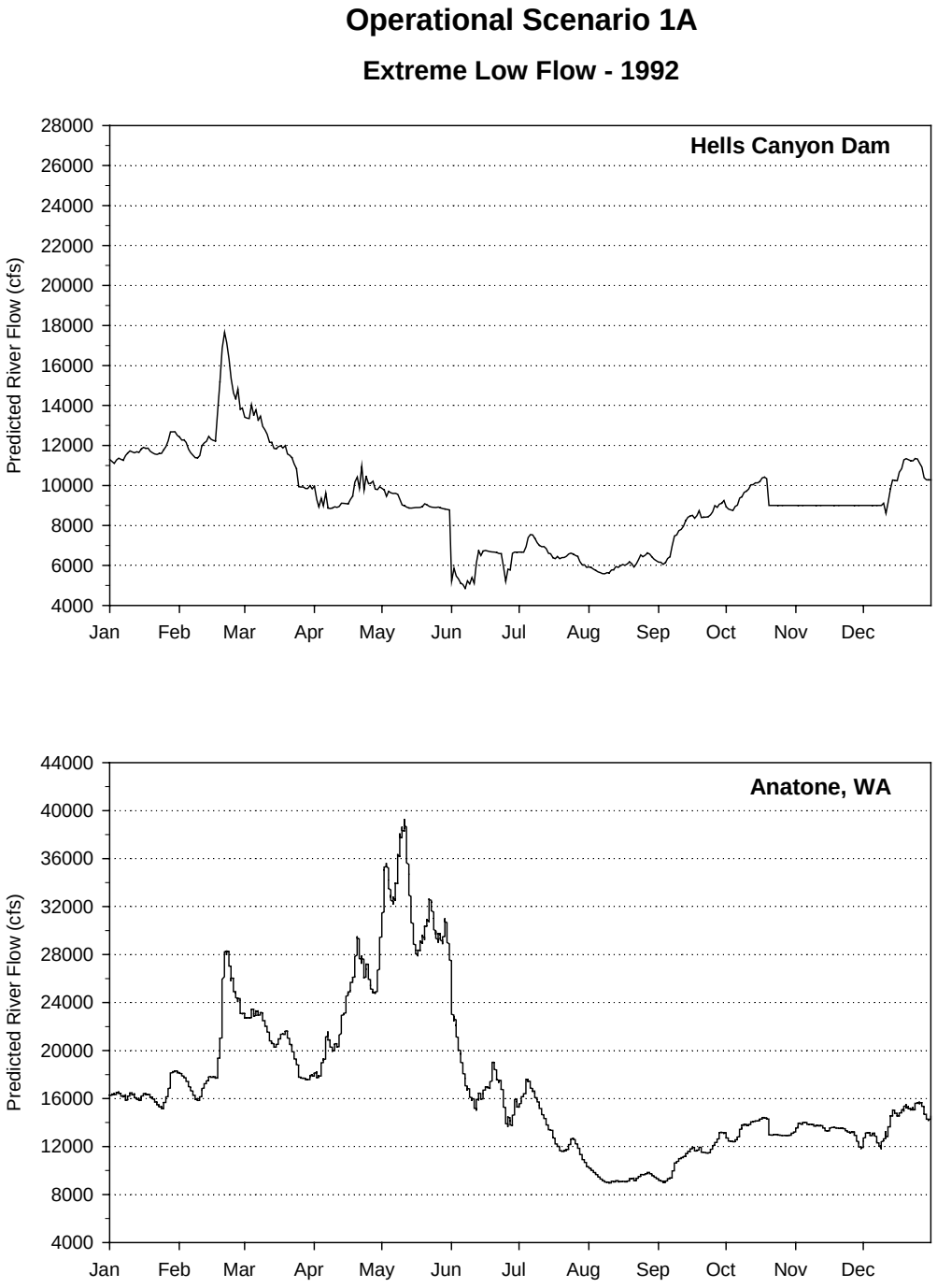


Figure 1. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1A during the extreme low flow year of 1992.

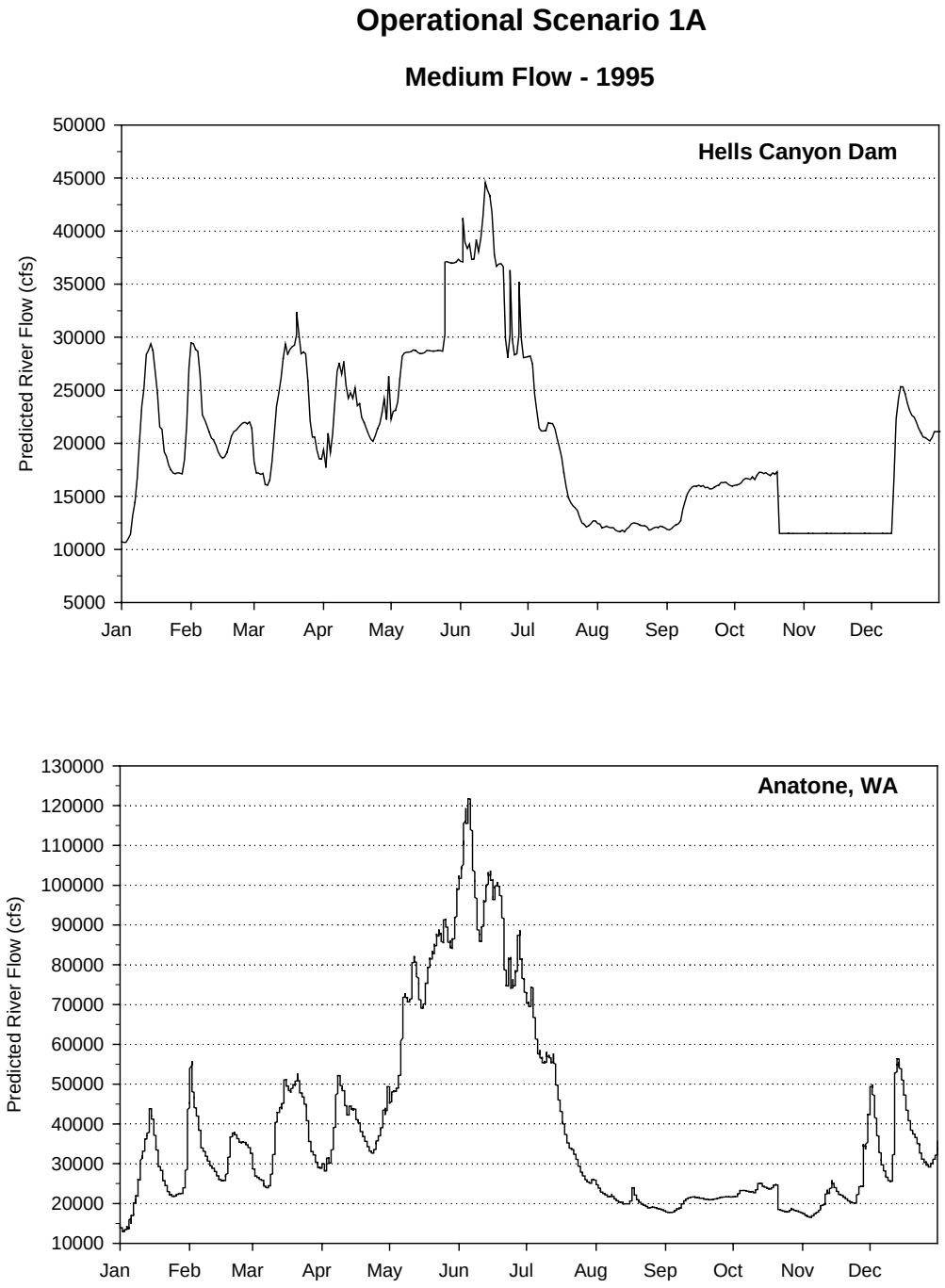


Figure 2. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1A during the medium flow year of 1995.

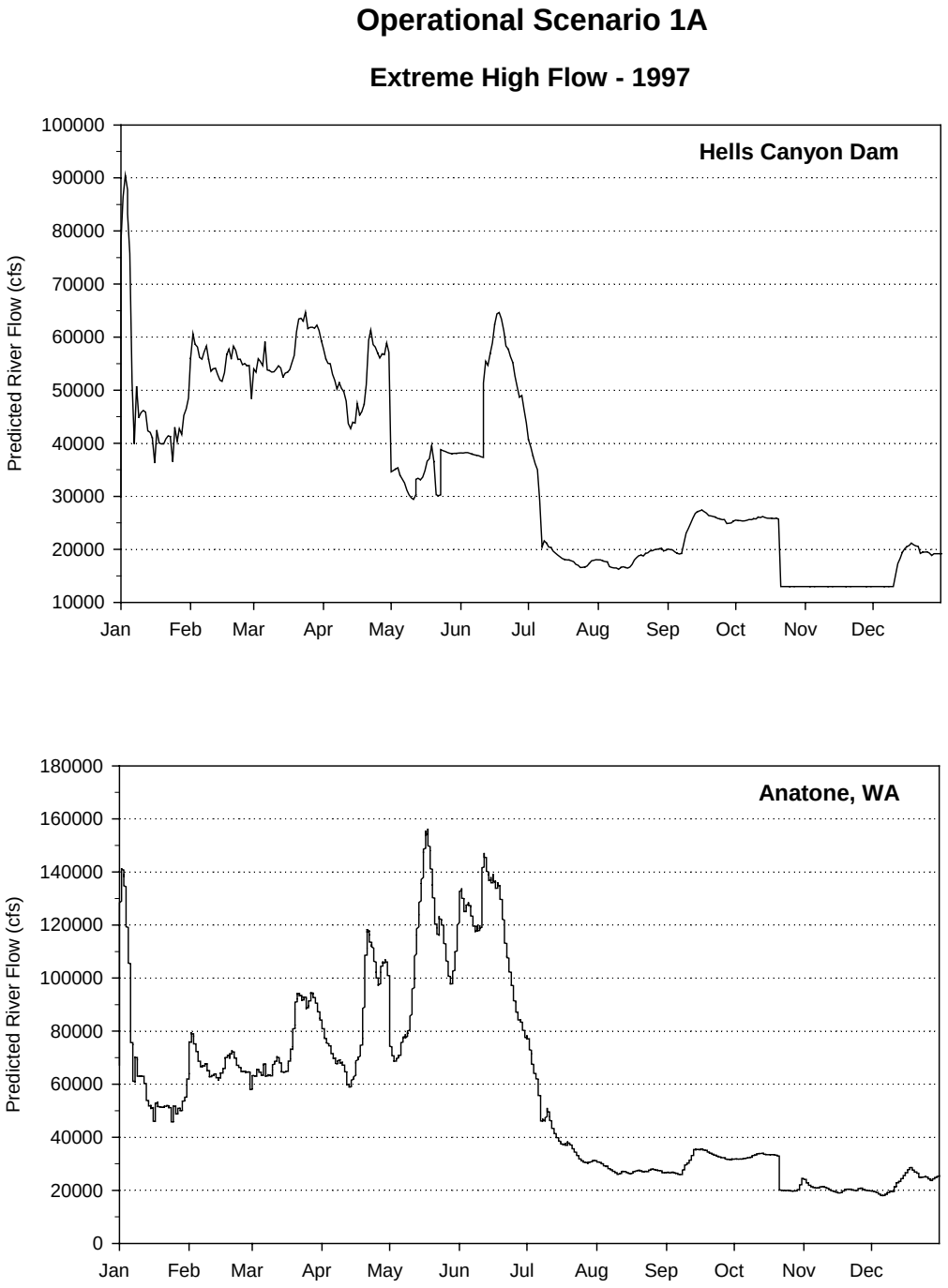


Figure 3. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1A during the extreme high flow year of 1997.

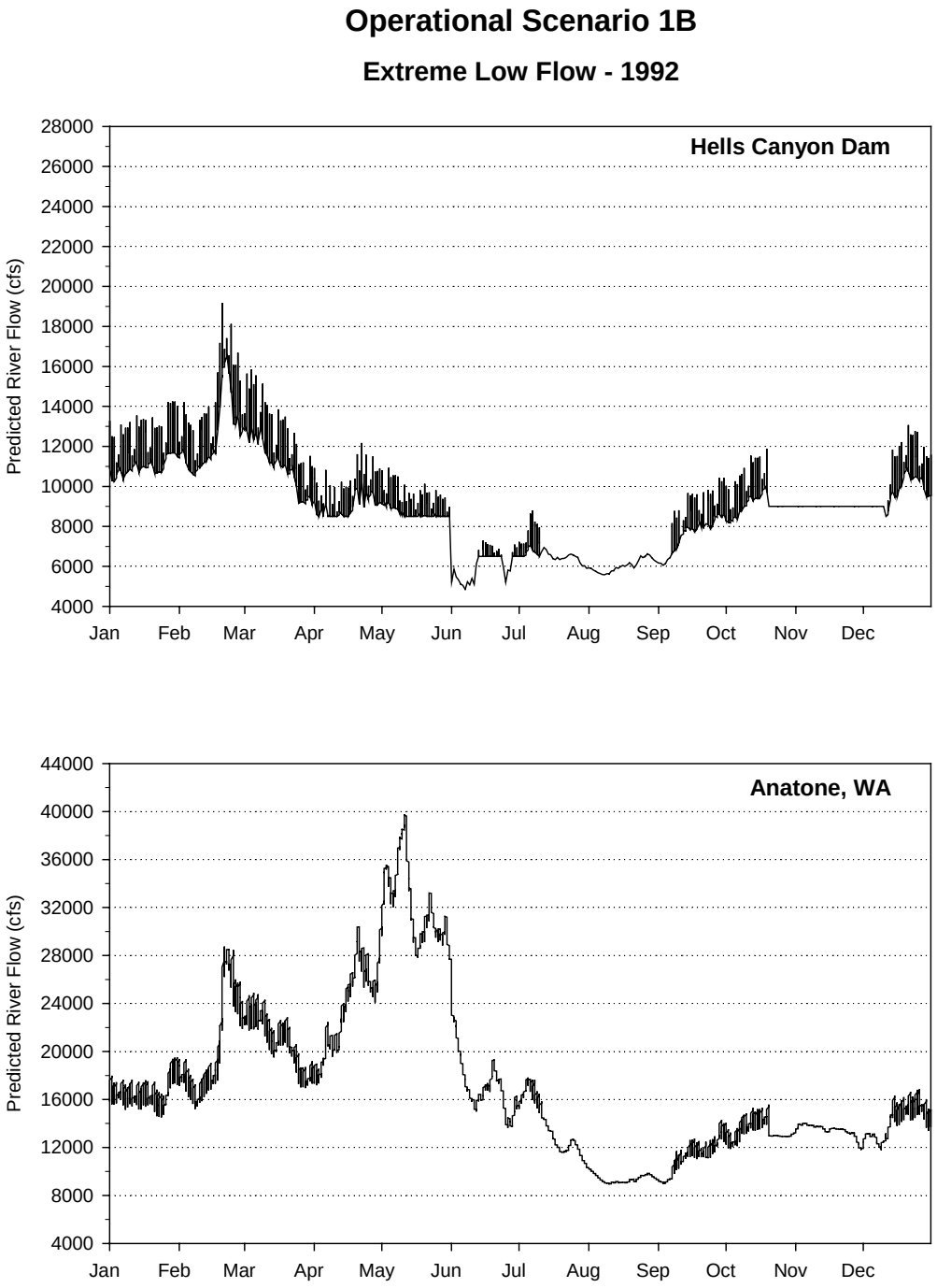


Figure 4. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1B during the extreme low flow year of 1992.

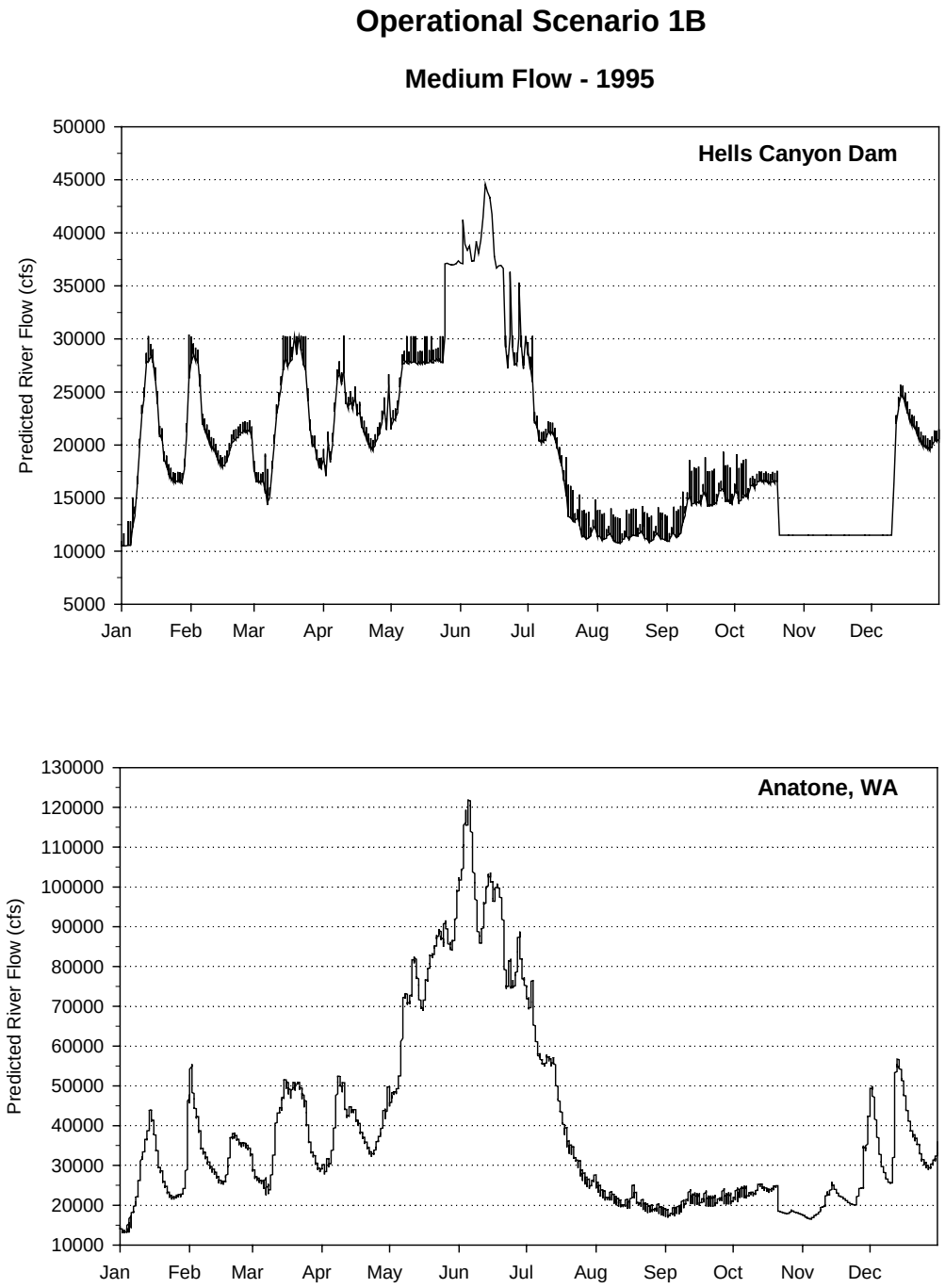


Figure 5. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1B during the medium flow year of 1995.

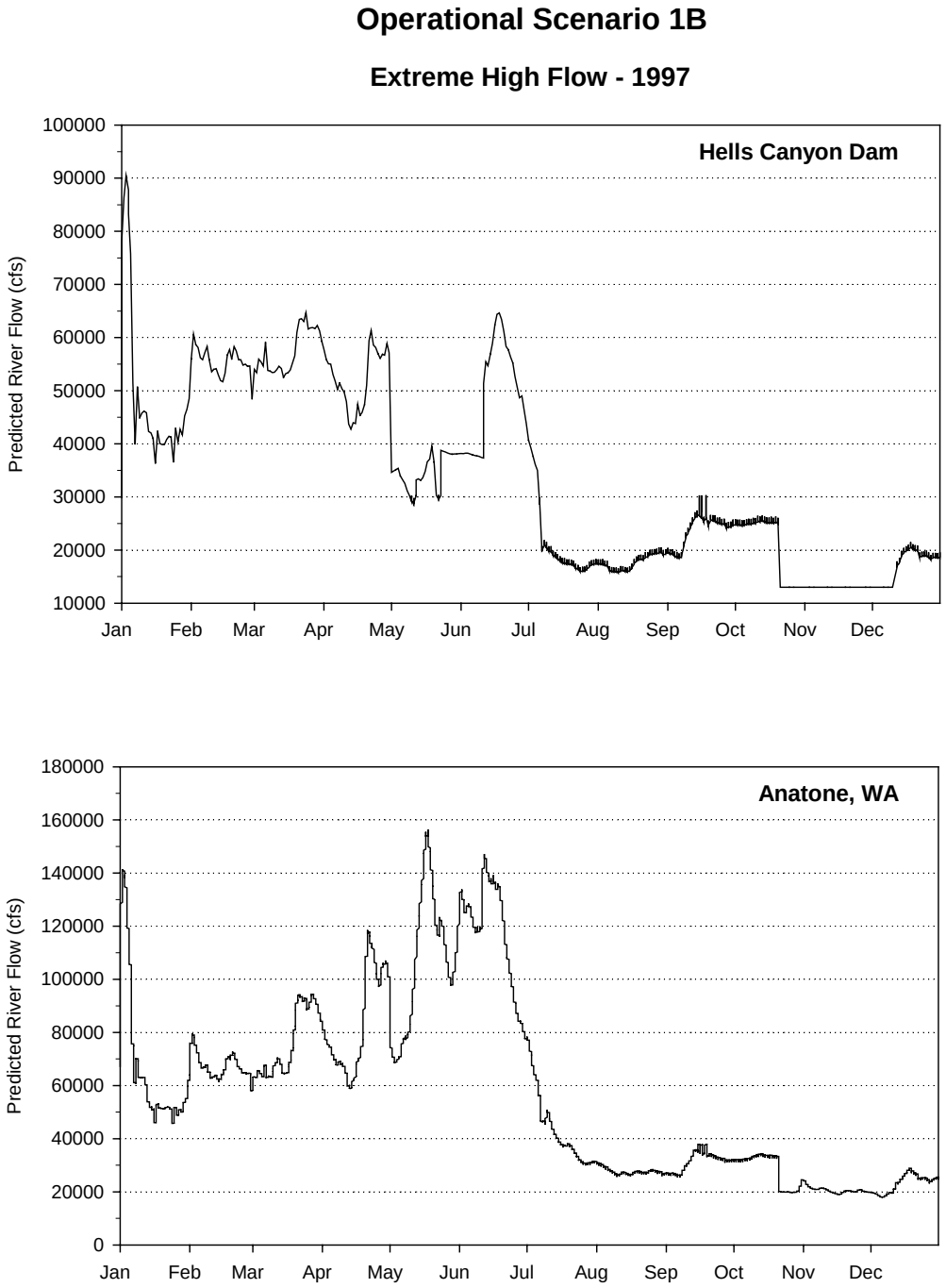


Figure 6. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1B during the extreme high flow year of 1997.

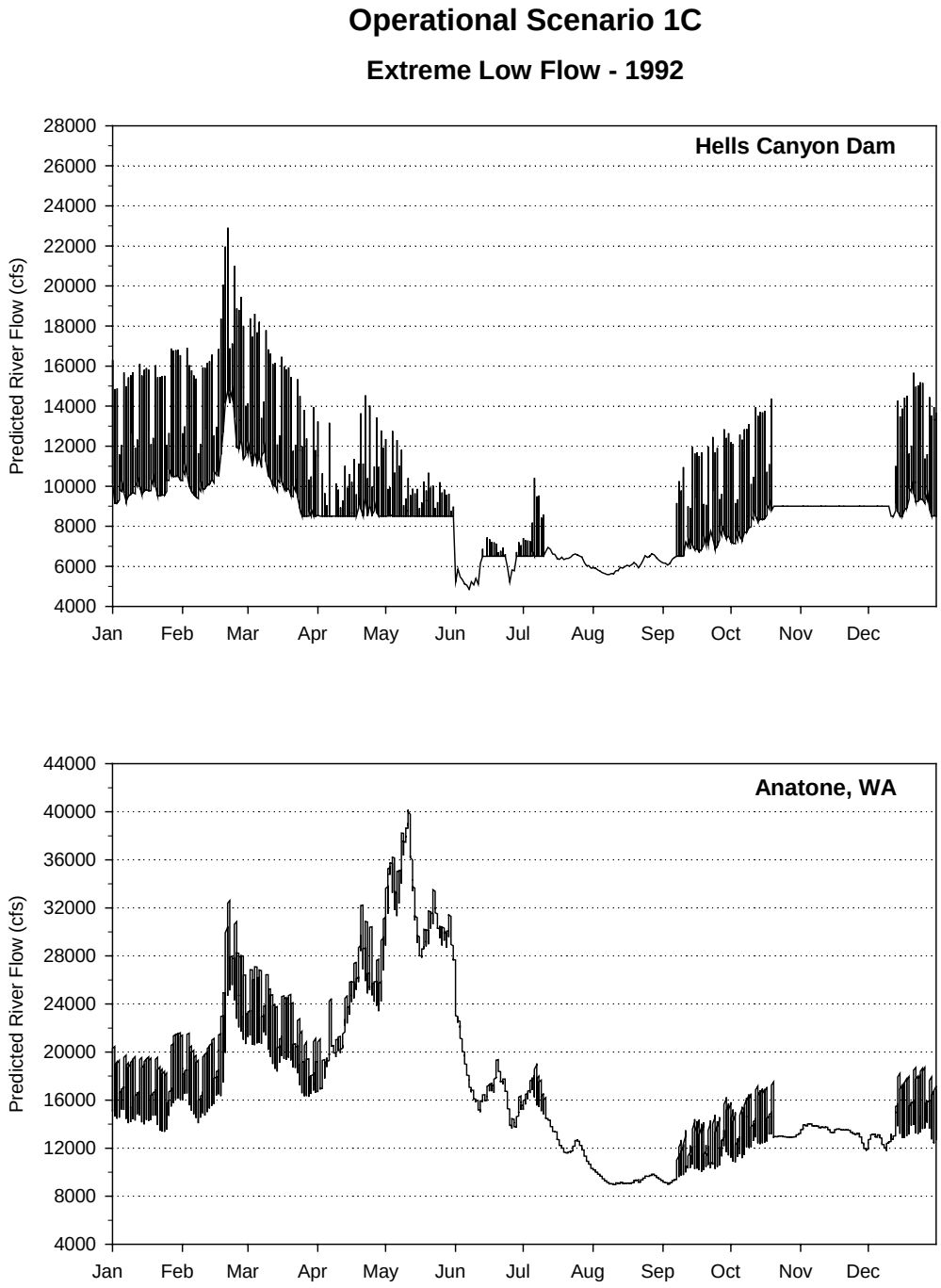


Figure 7. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1C during the extreme low flow year of 1992.

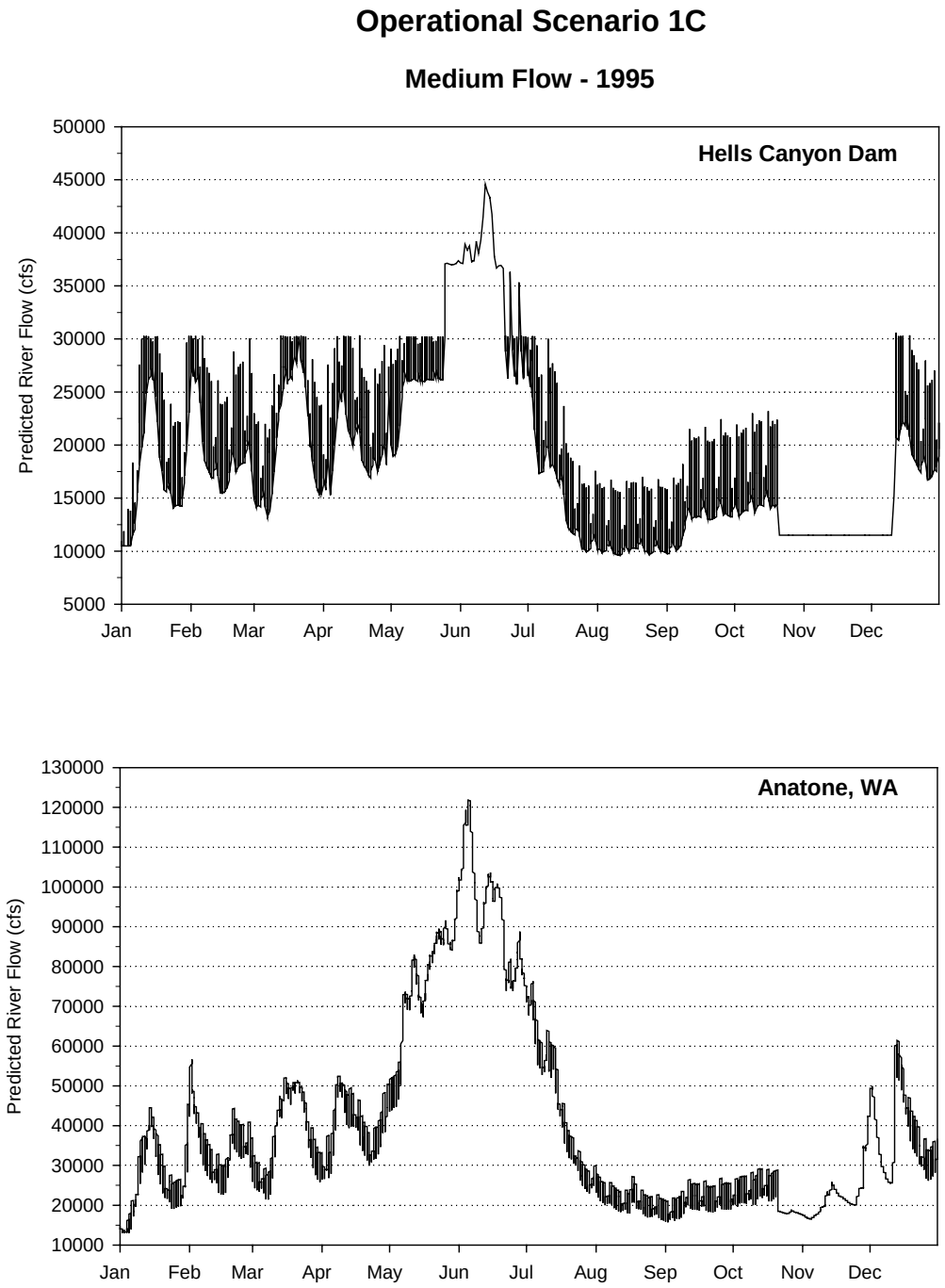


Figure 8. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1C during the medium flow year of 1995.

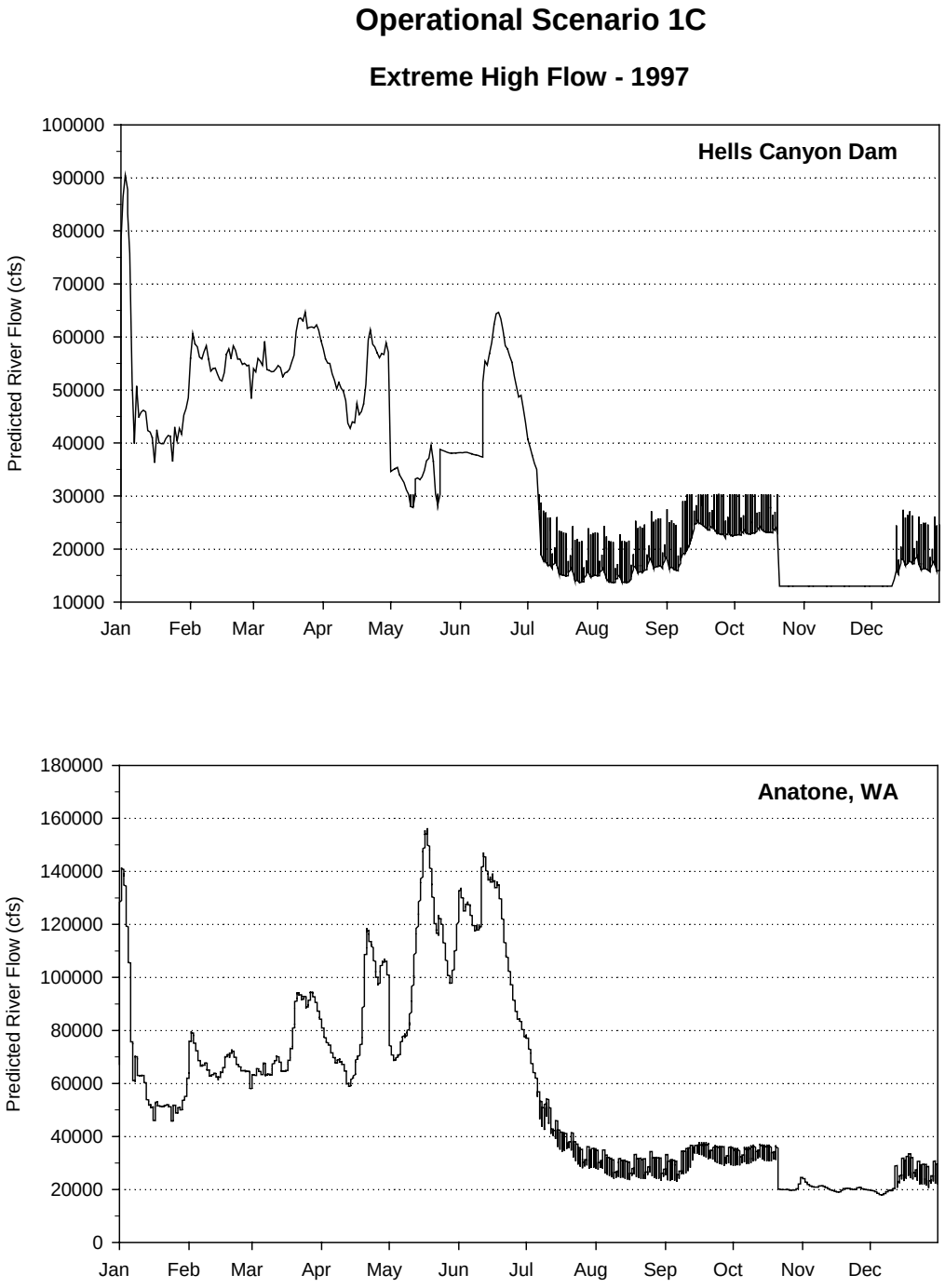


Figure 9. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1C during the extreme high flow year of 1997.

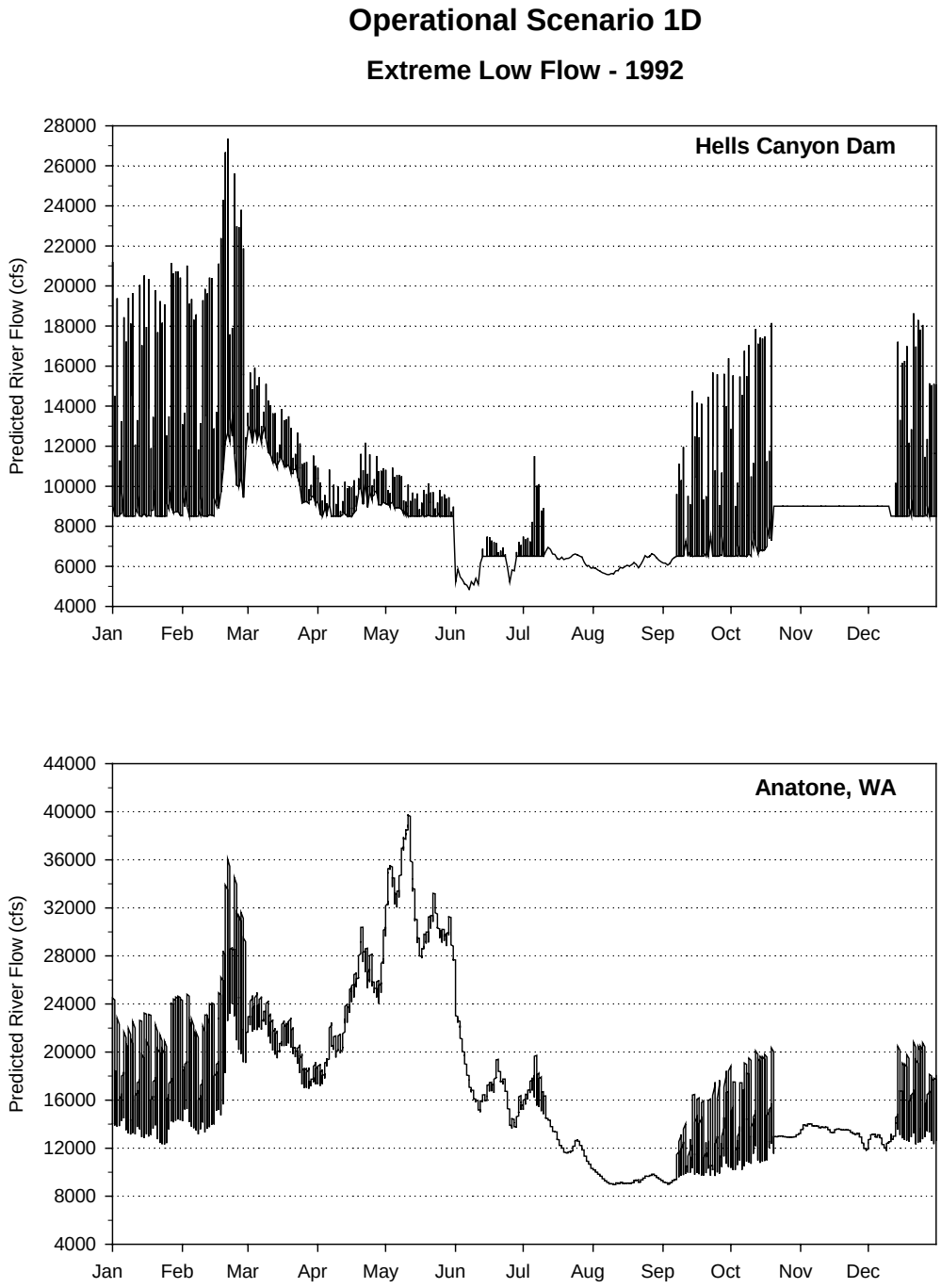


Figure 10. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1D during the extreme low flow year of 1992.

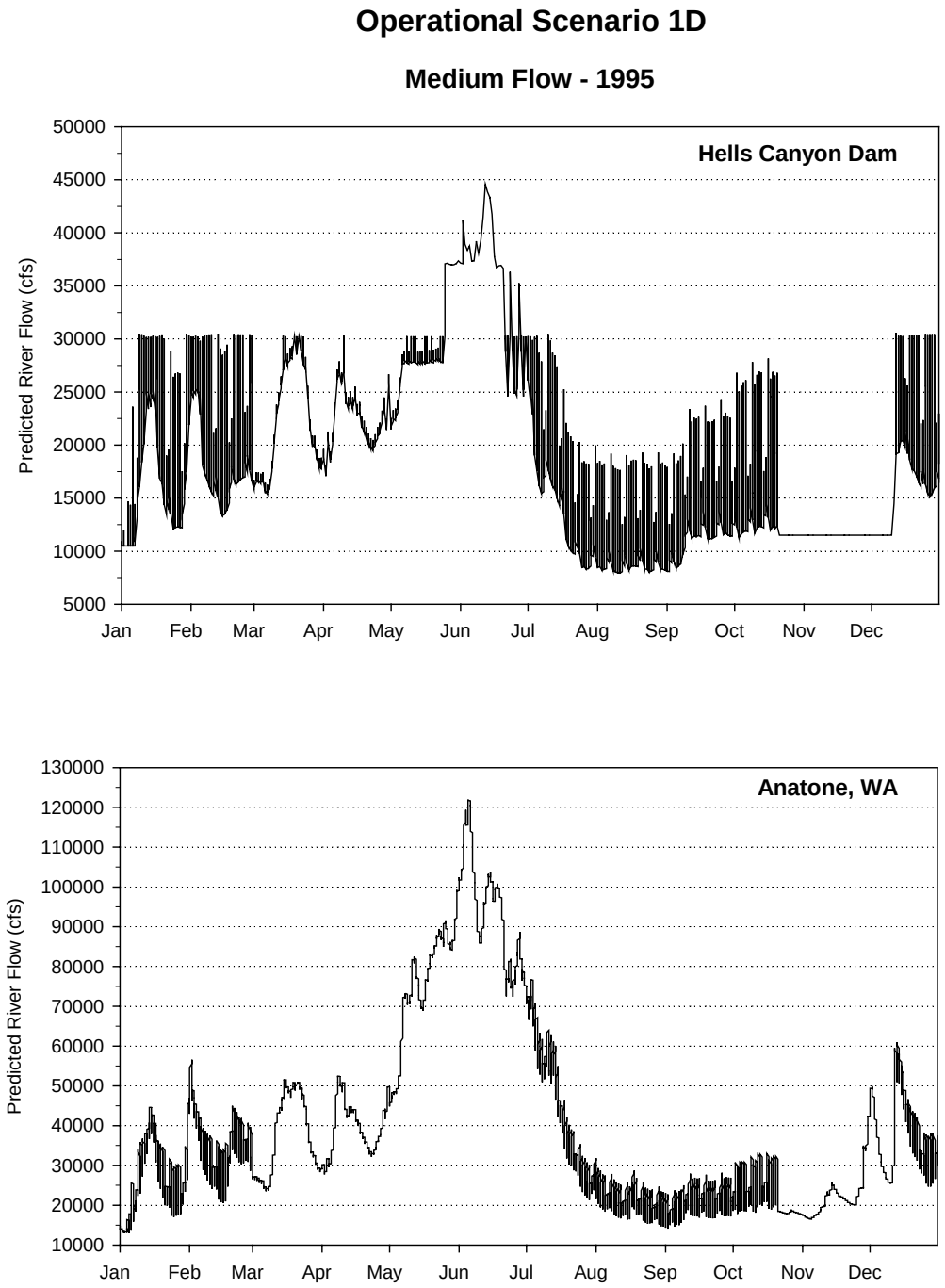


Figure 11. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1D during the medium flow year of 1995.

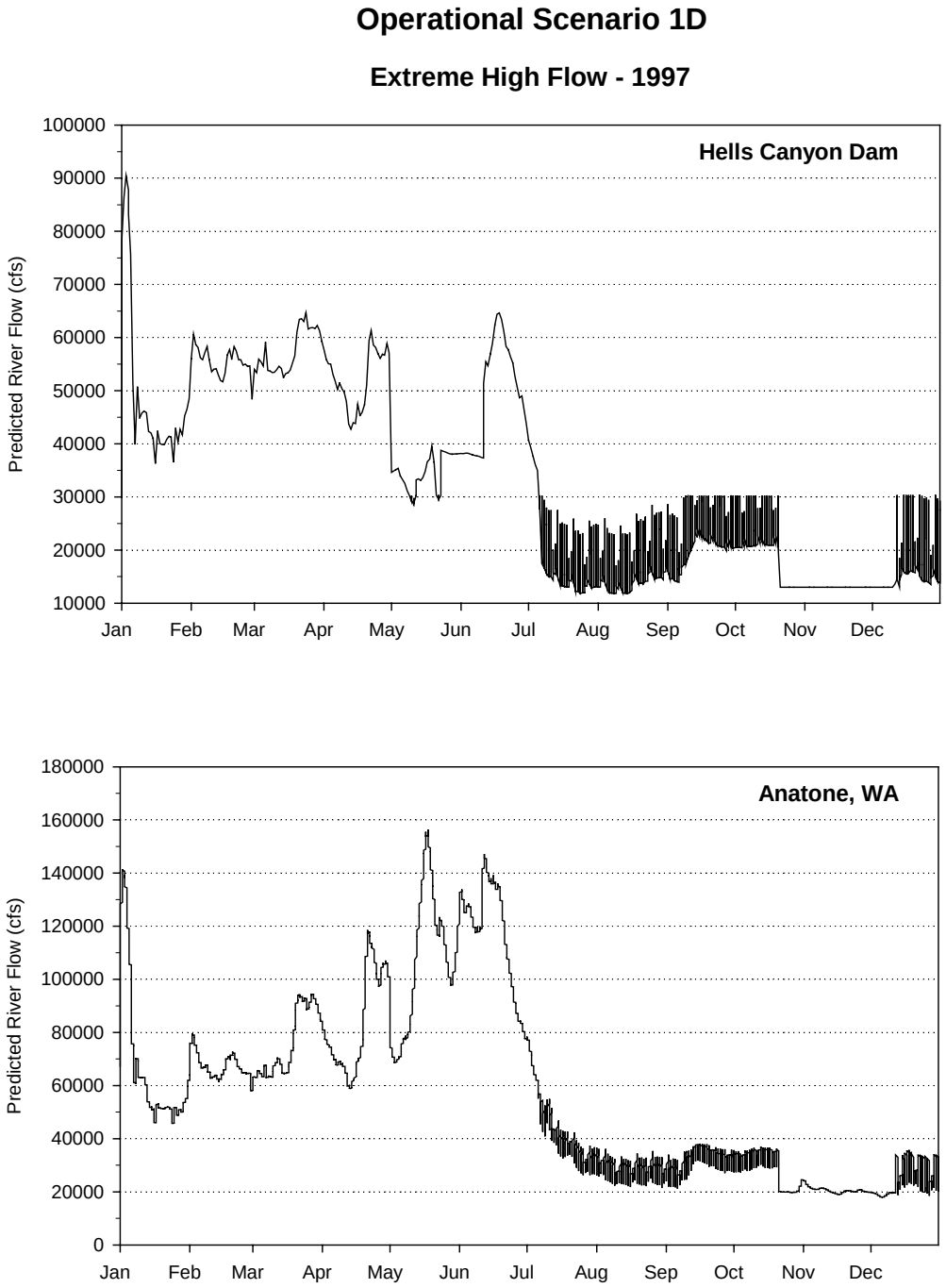


Figure 12. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1D during the extreme high flow year of 1997.

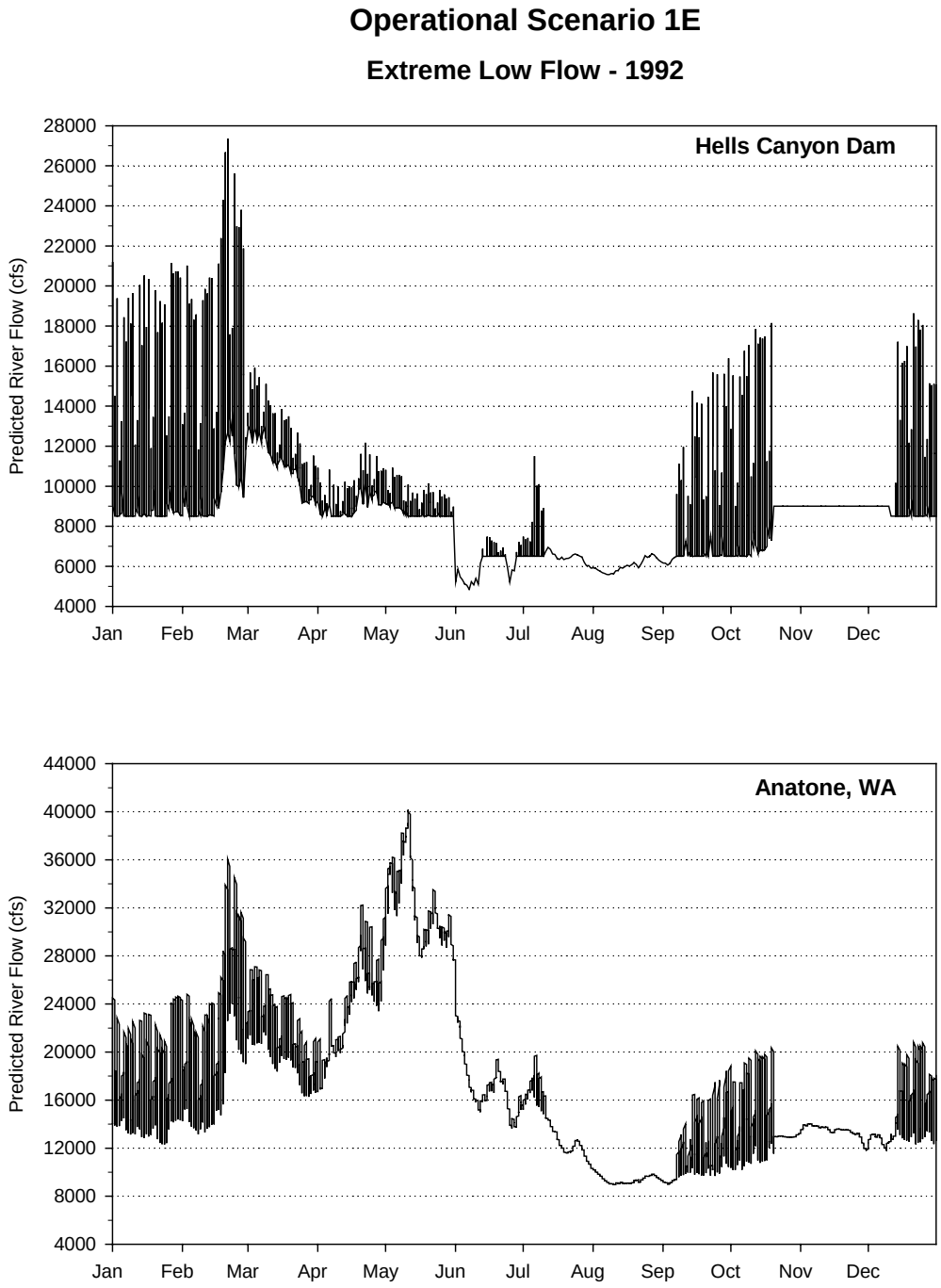


Figure 13. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1E during the extreme low flow year of 1992.

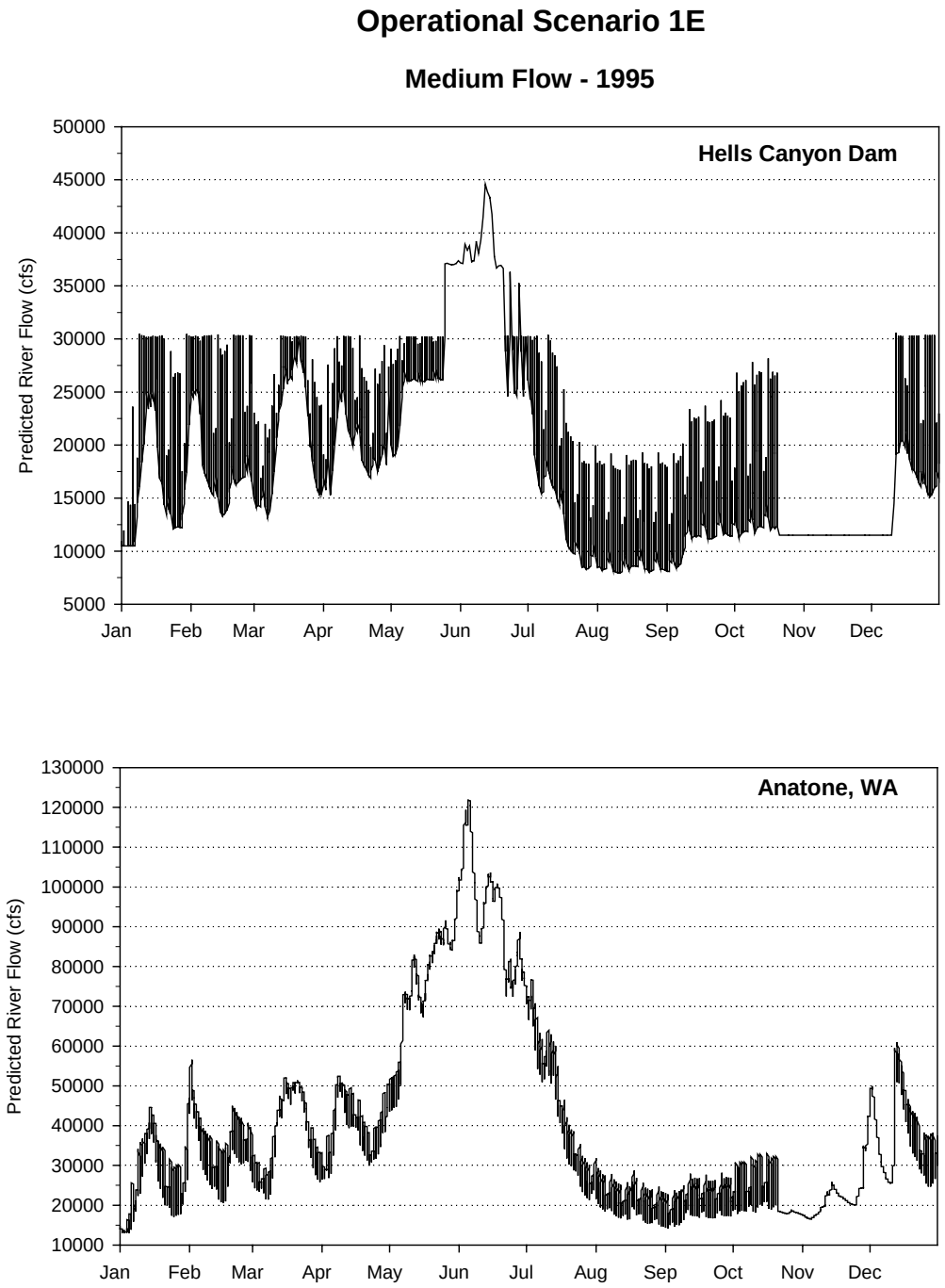


Figure 14. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1E during the medium flow year of 1995.

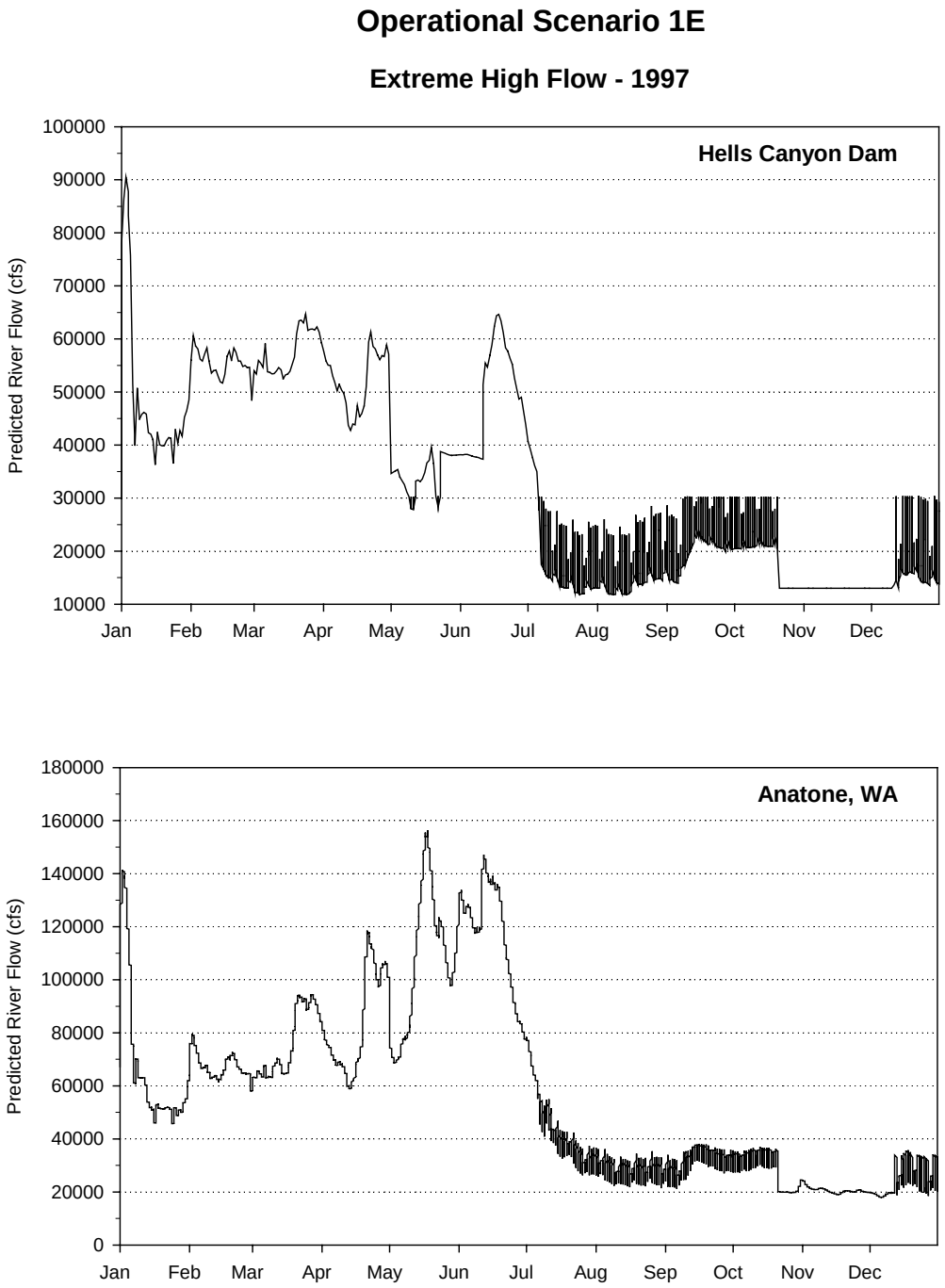


Figure 15. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1E during the extreme high flow year of 1997.

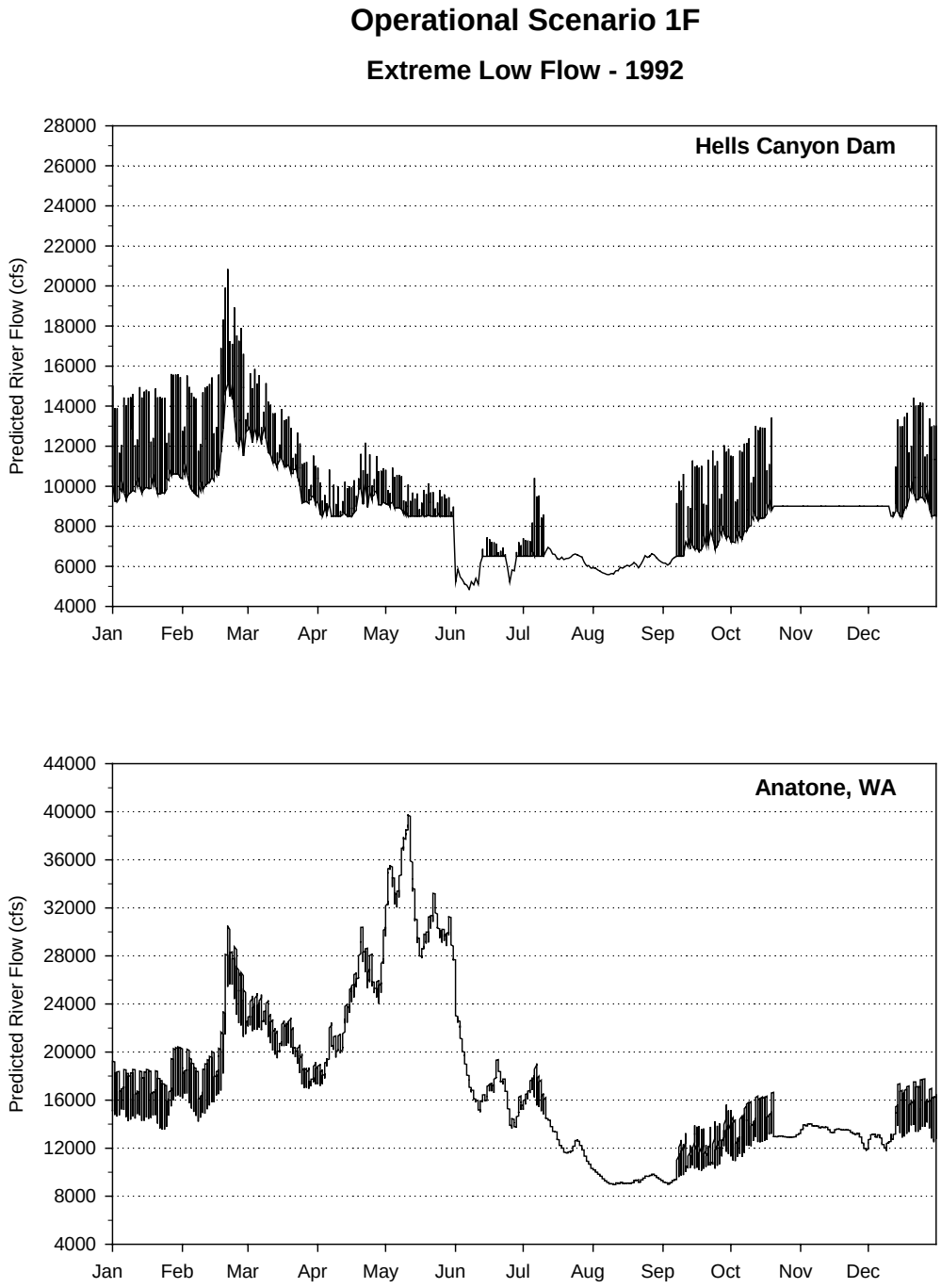


Figure 16. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1F during the extreme low flow year of 1992.

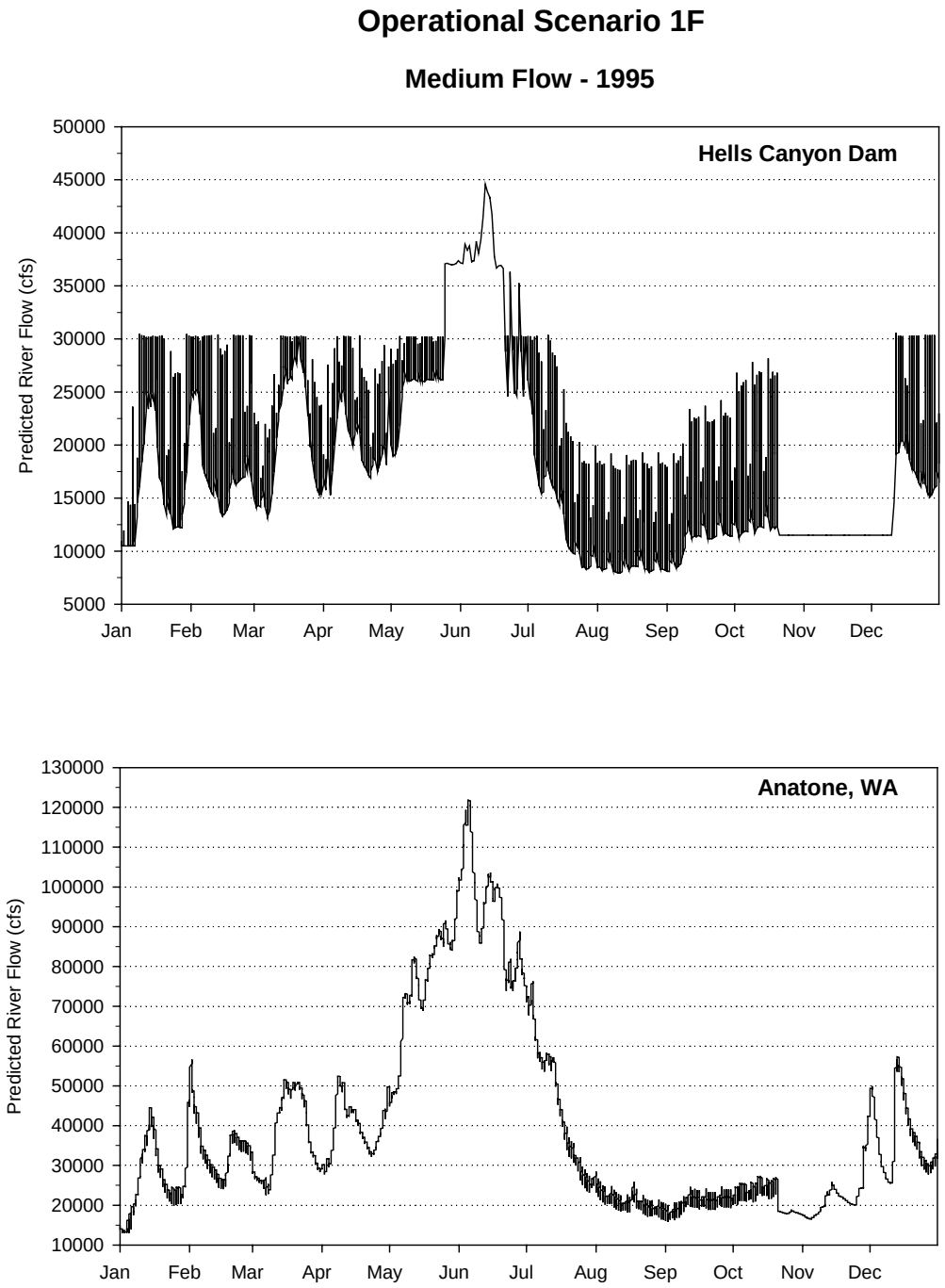


Figure 17. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1F during the medium flow year of 1995.

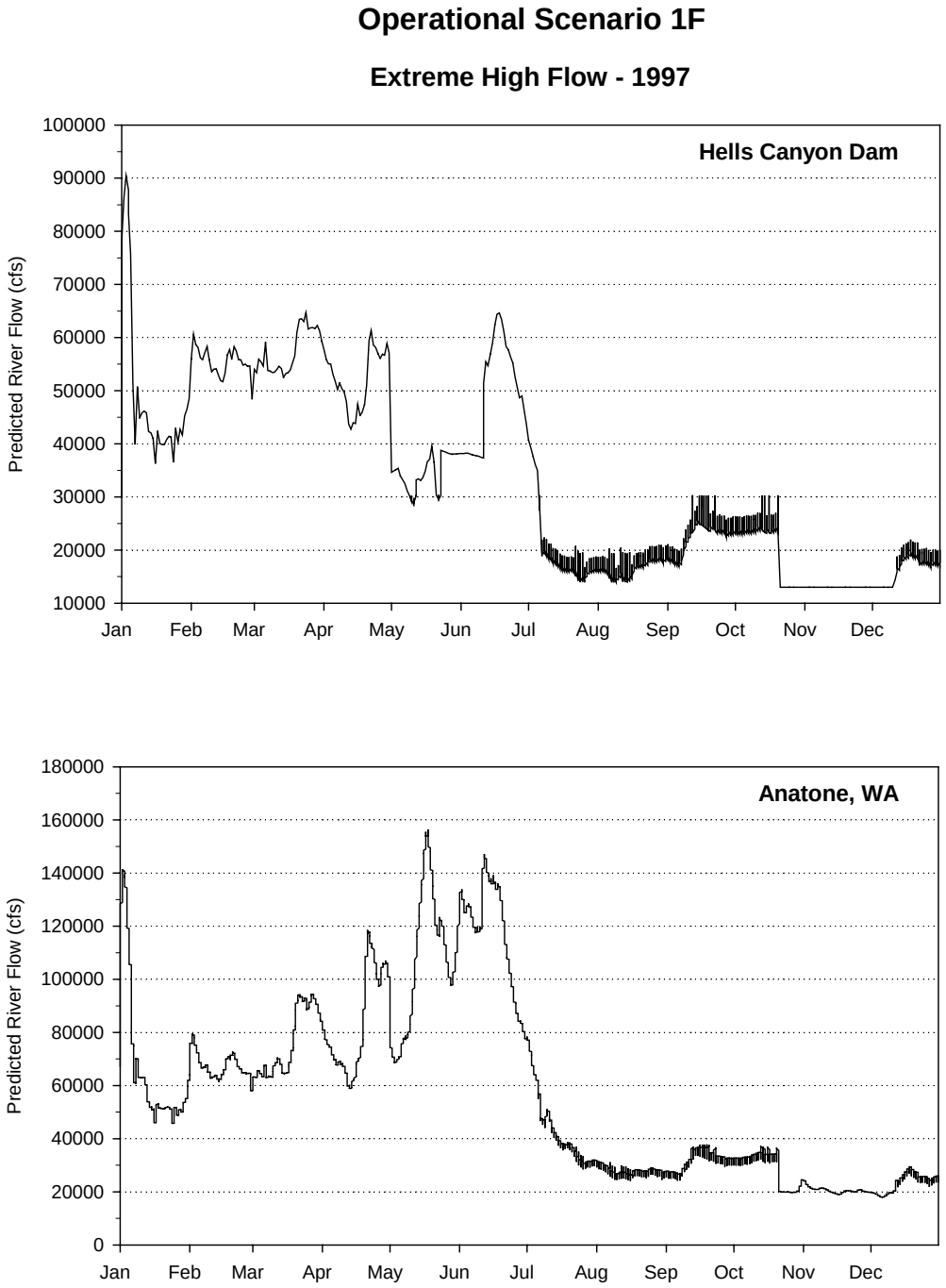


Figure 18. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 1F during the extreme high flow year of 1997.

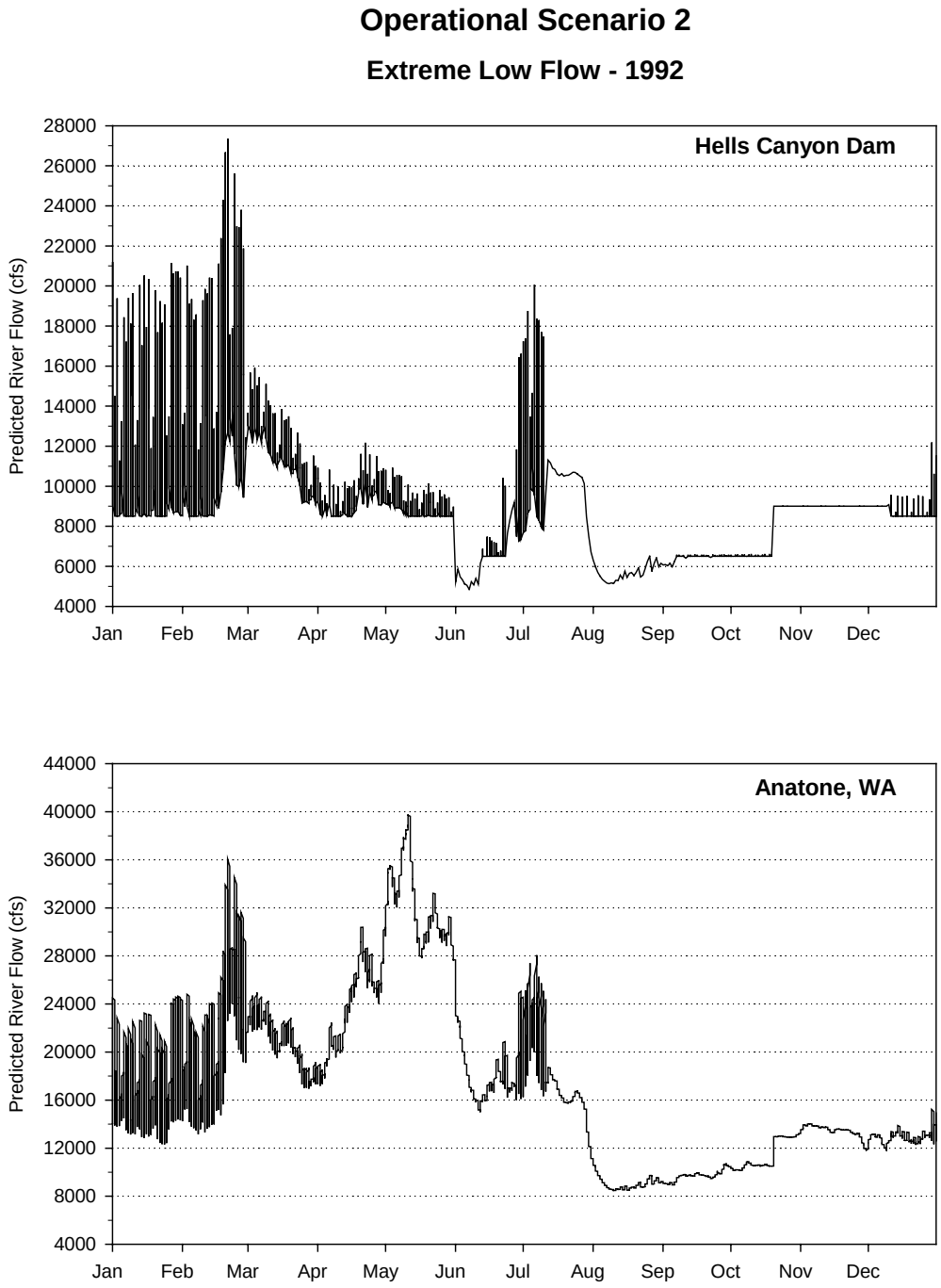


Figure 19. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 2 during the extreme low flow year of 1992.

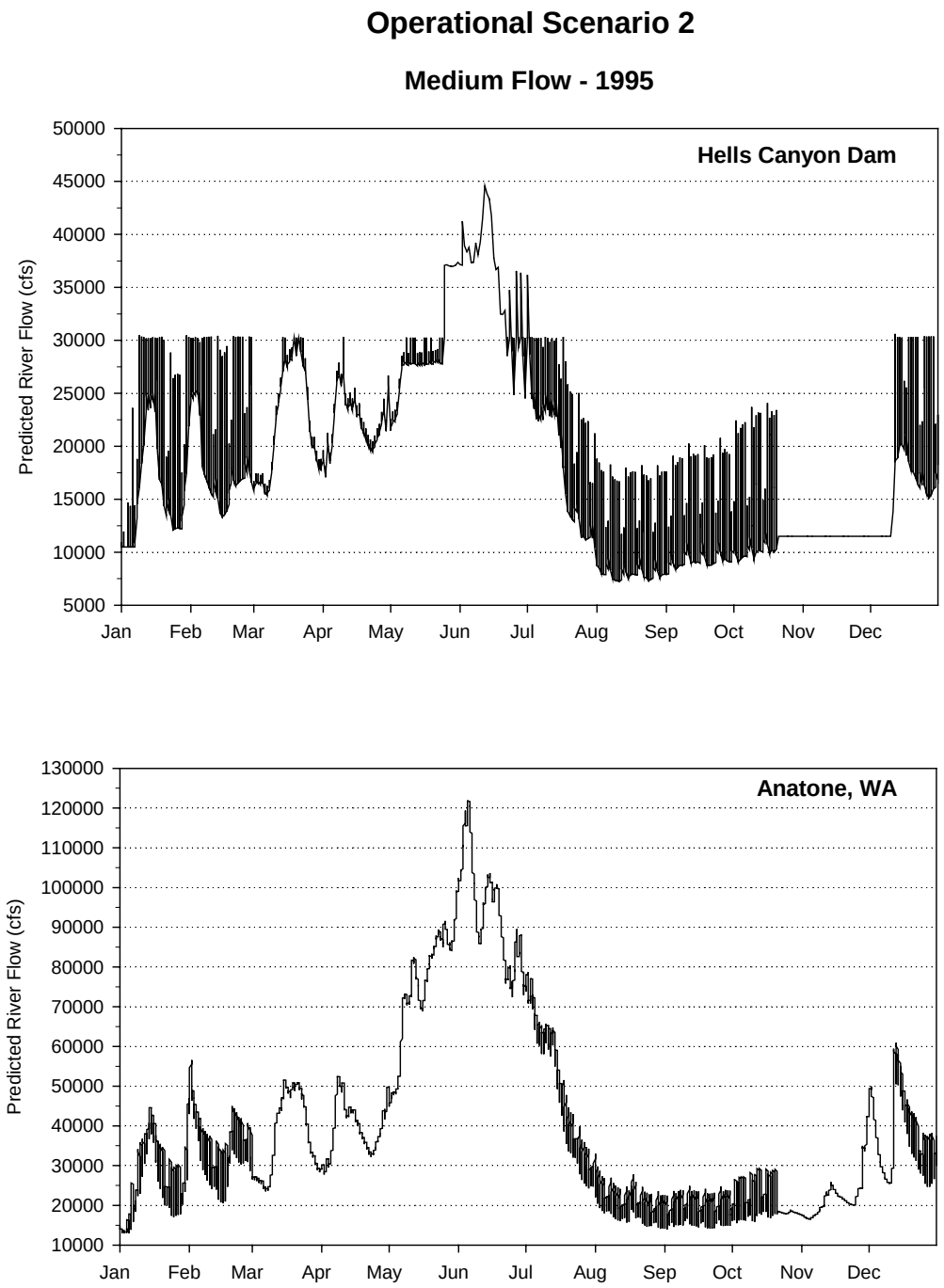


Figure 20. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 2 during the medium flow year of 1995.

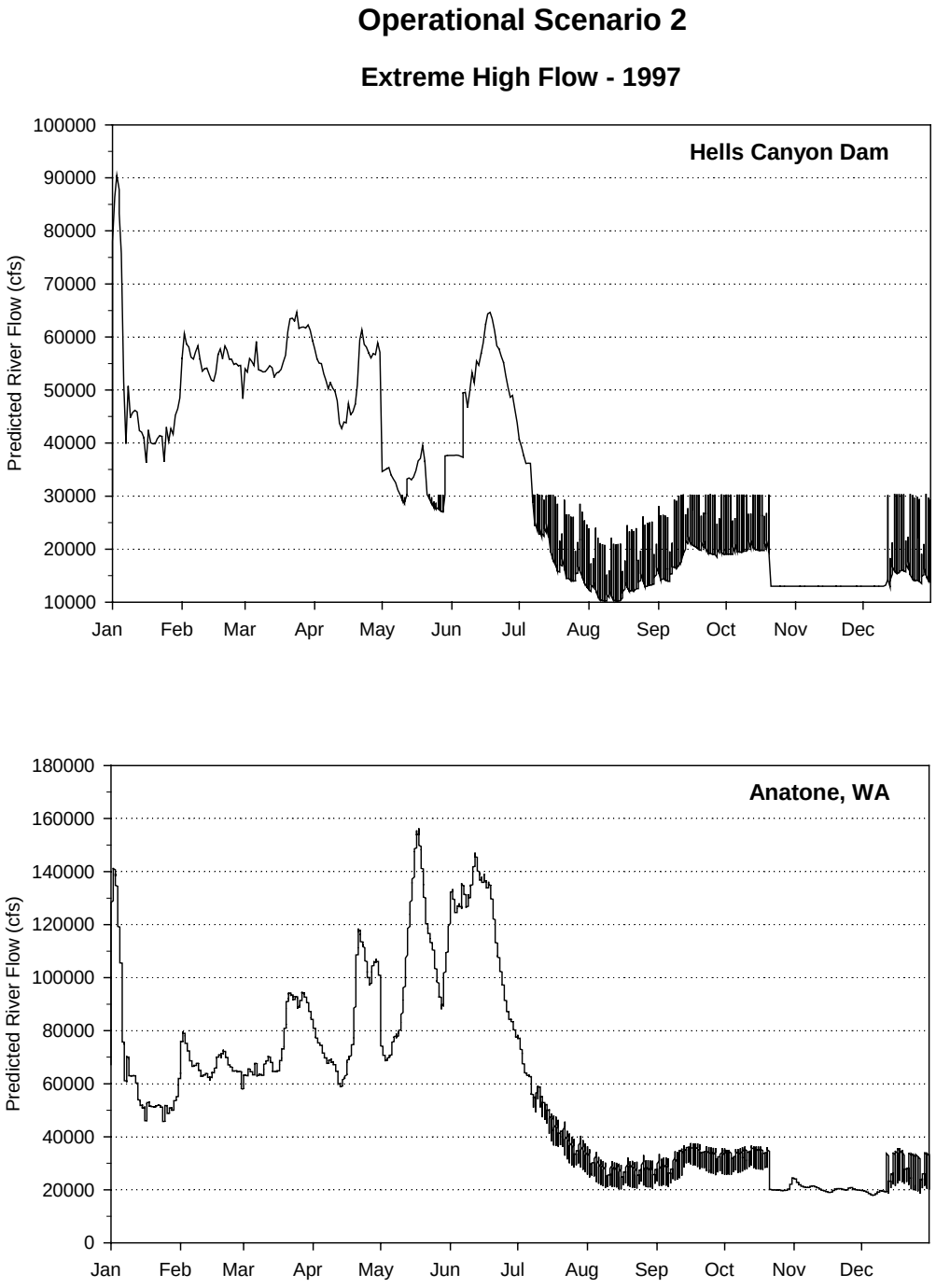


Figure 21. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 2 during the extreme high flow year of 1997.

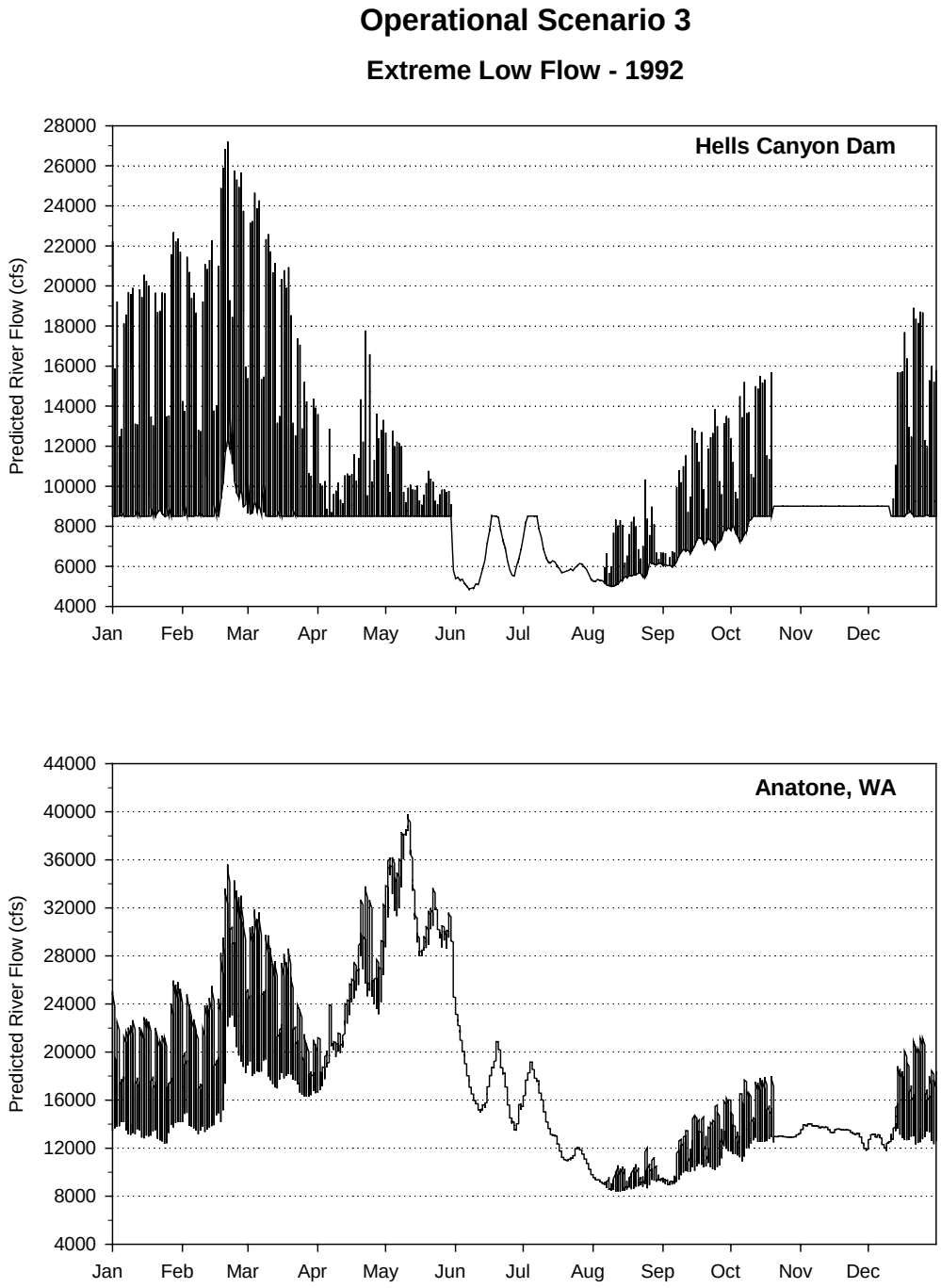


Figure 22. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 3 during the extreme low flow year of 1992.

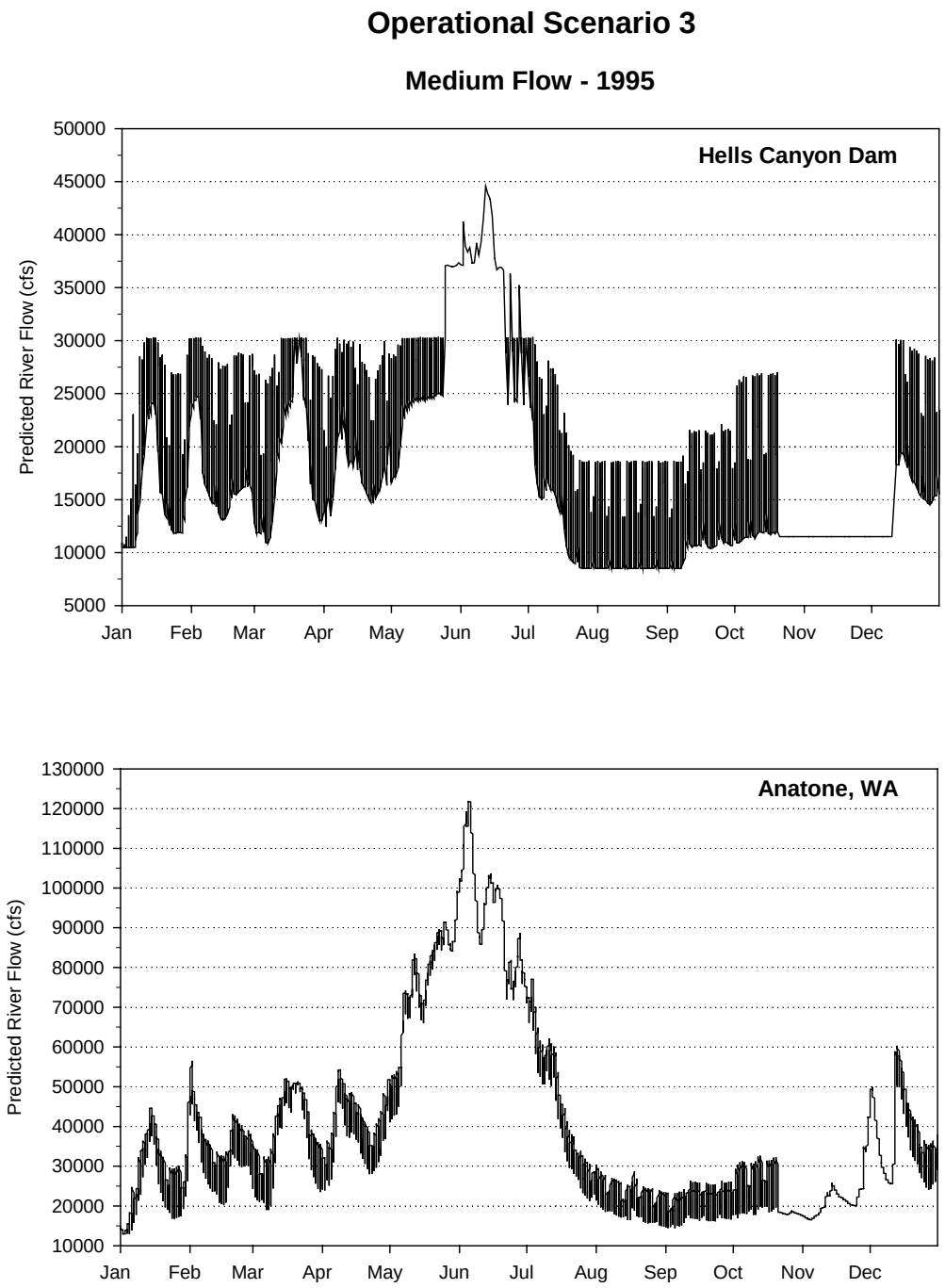


Figure 23. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 3 during the medium flow year of 1995.

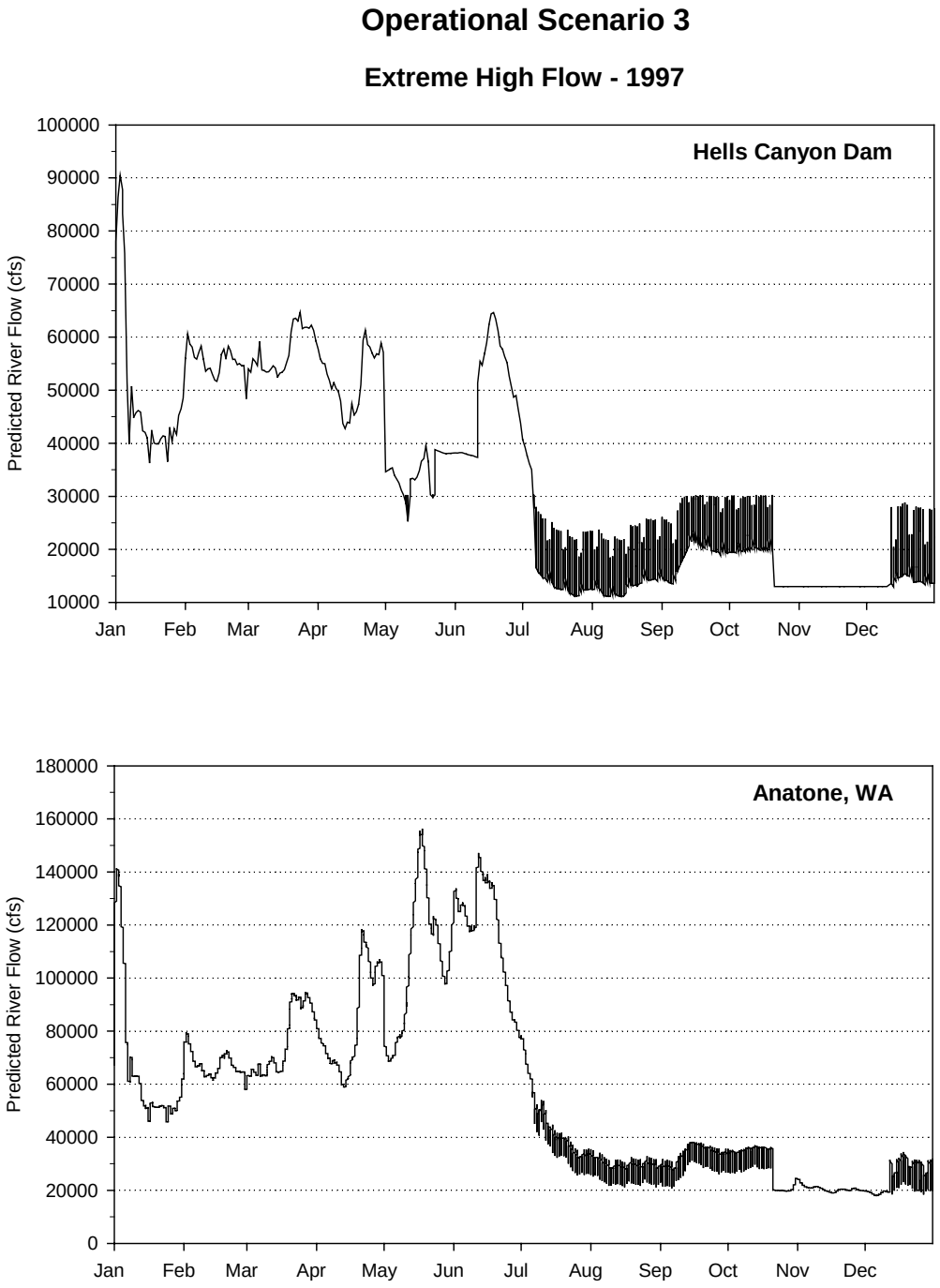


Figure 24. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 3 during the extreme high flow year of 1997.

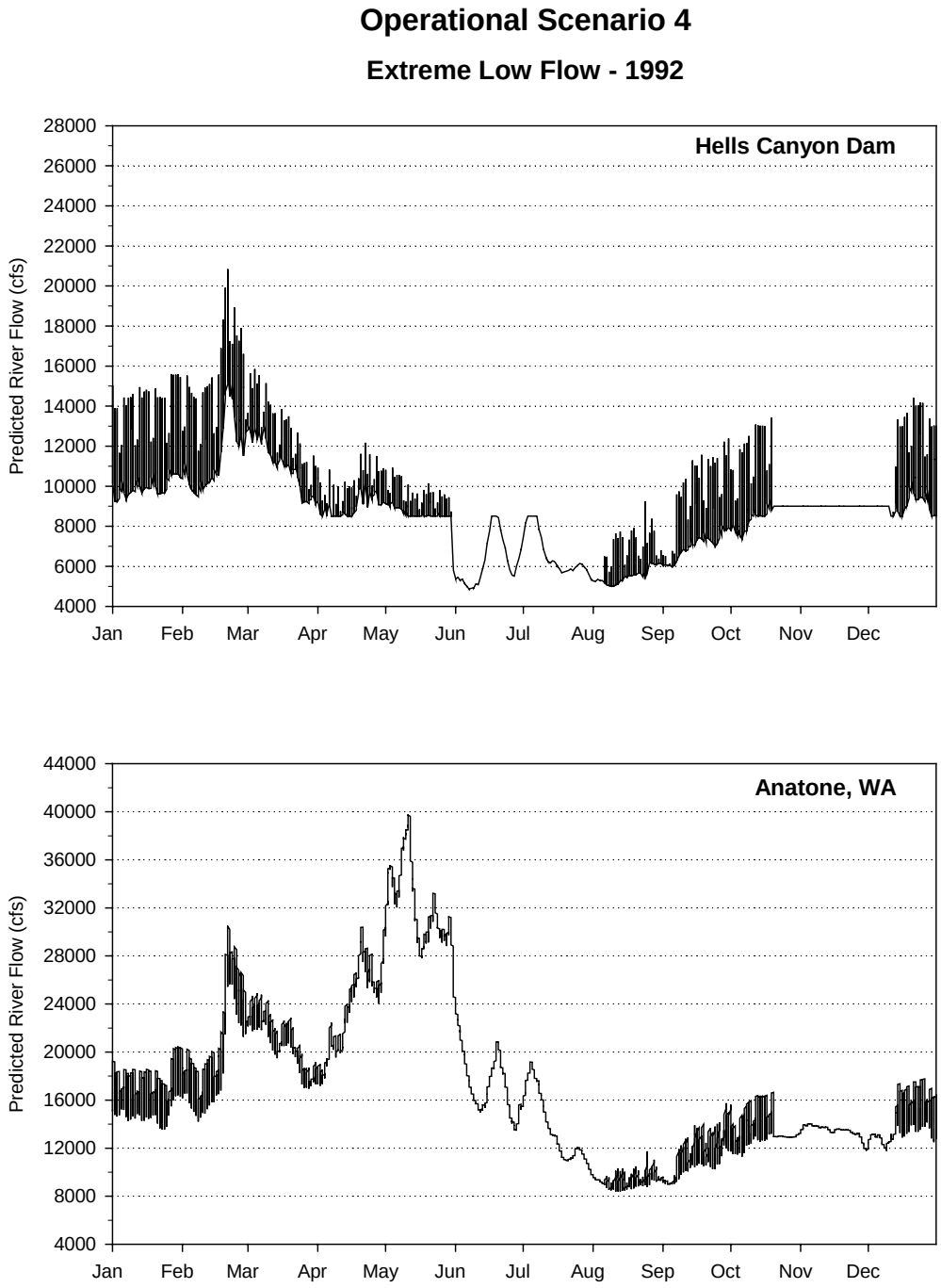


Figure 25. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 4 during the extreme low flow year of 1992.

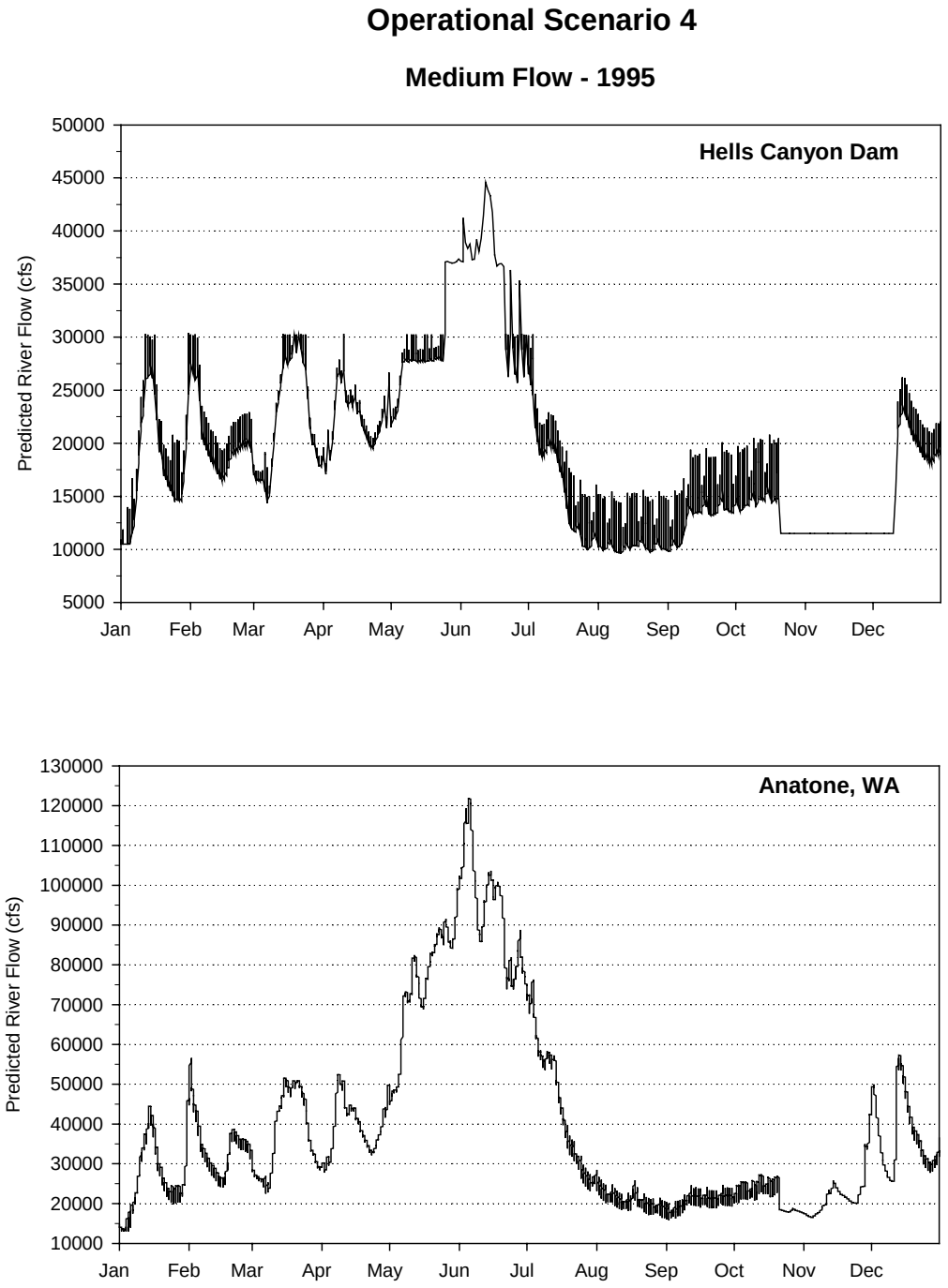


Figure 26. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 4 during the medium flow year of 1995.

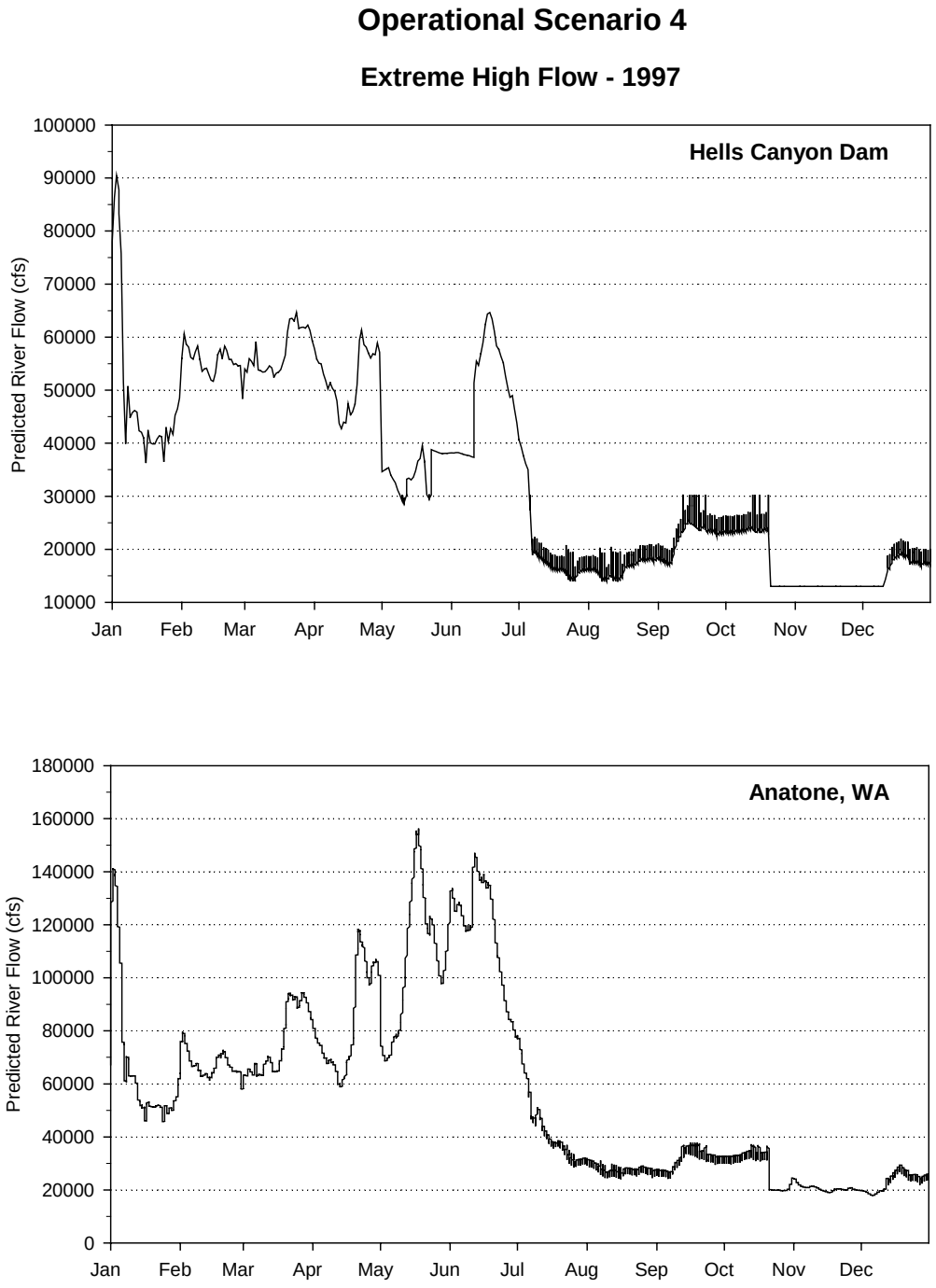


Figure 27. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 4 during the extreme high flow year of 1997.

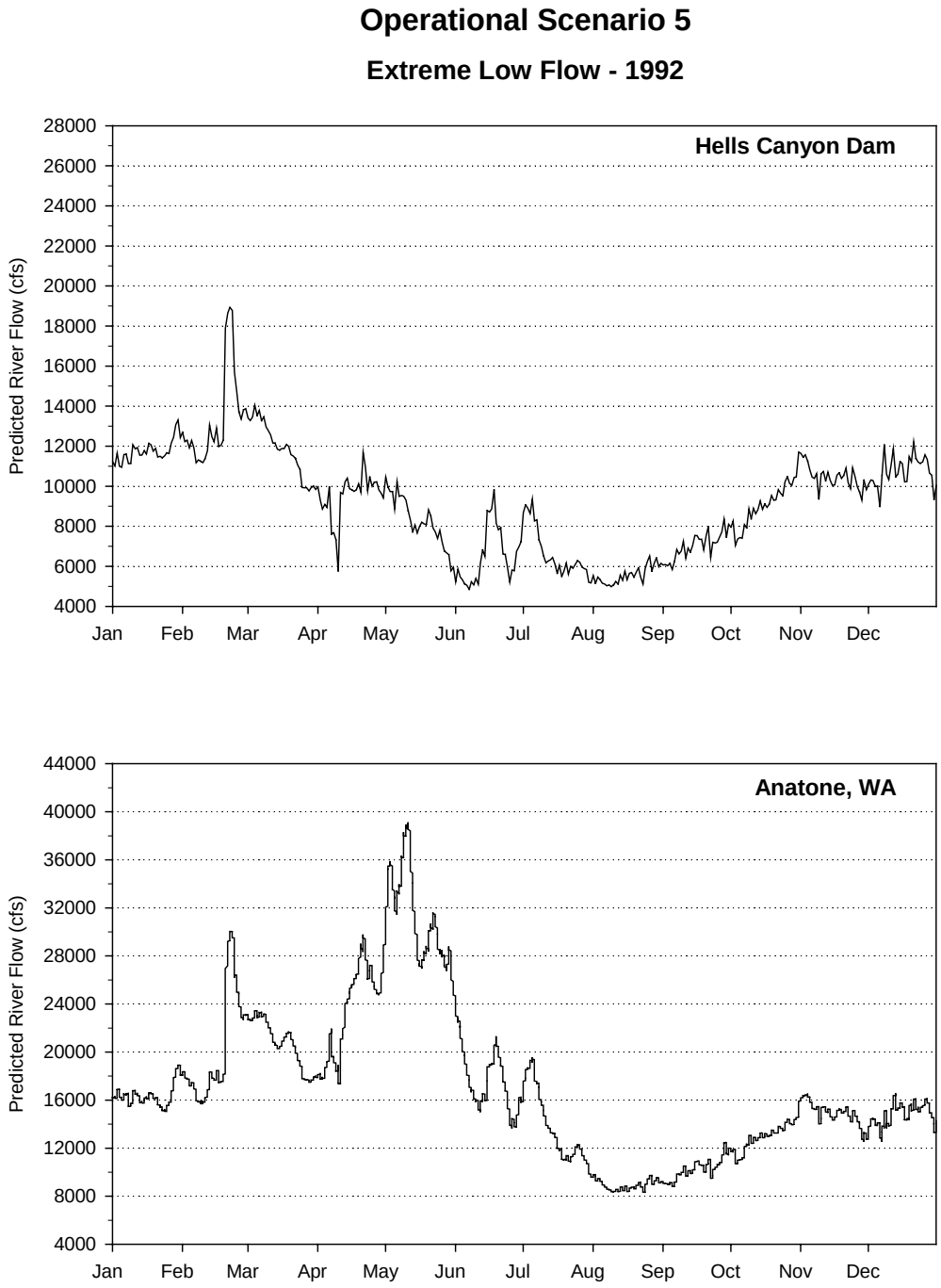


Figure 28. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 5 during the extreme low flow year of 1992.

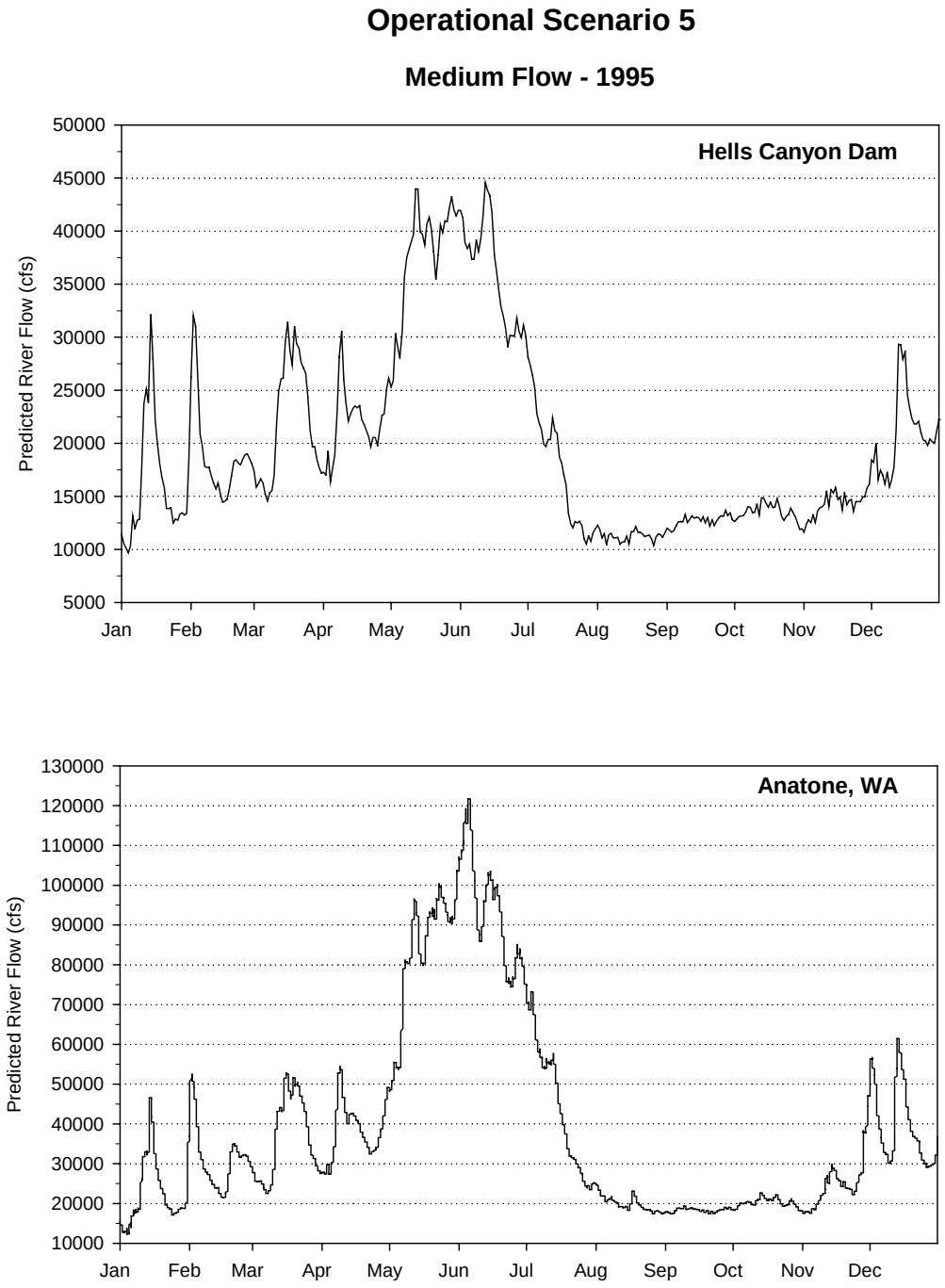


Figure 29. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 5 during the medium flow year of 1995.

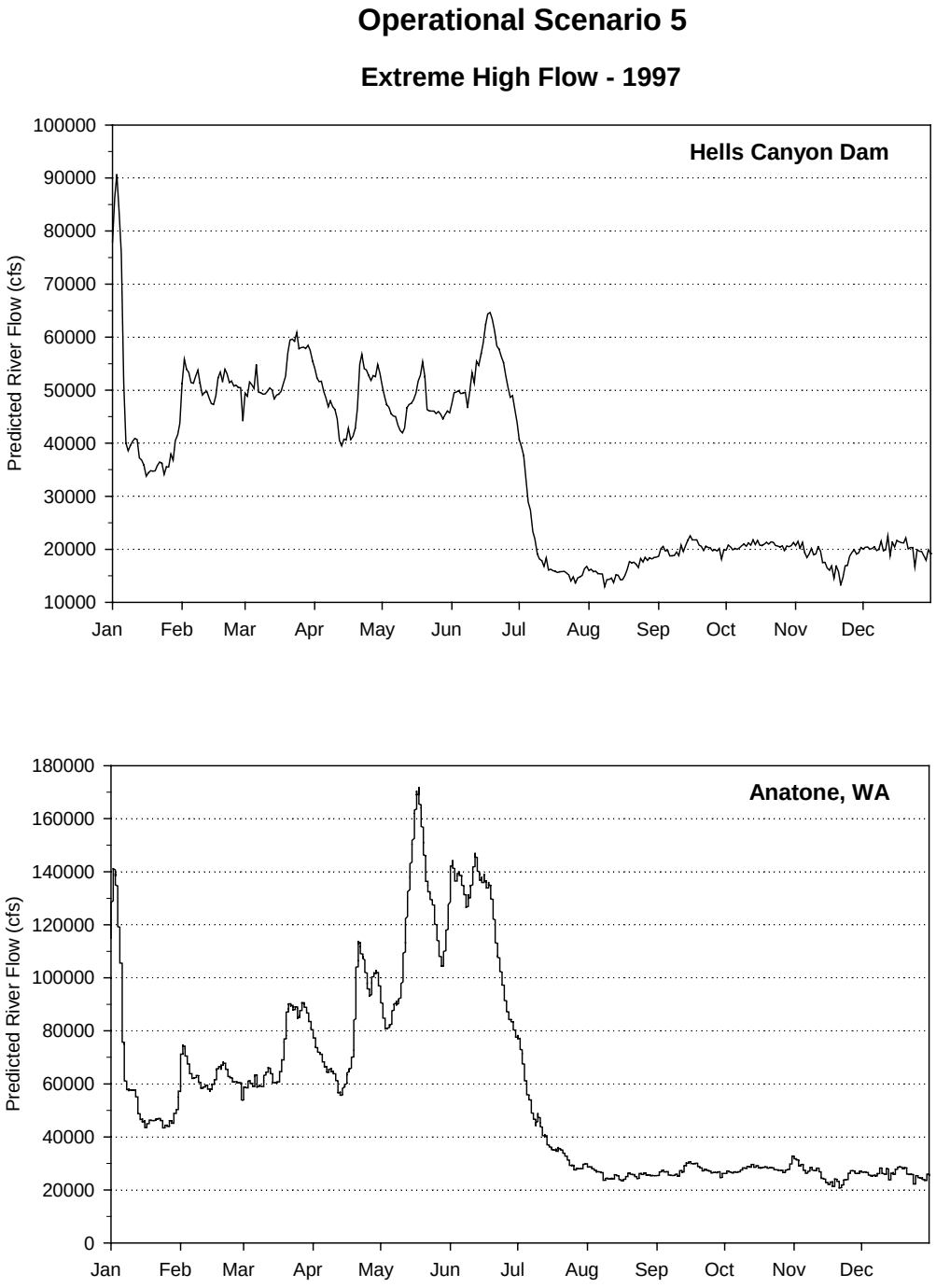


Figure 30. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 5 during the extreme high flow year of 1997.

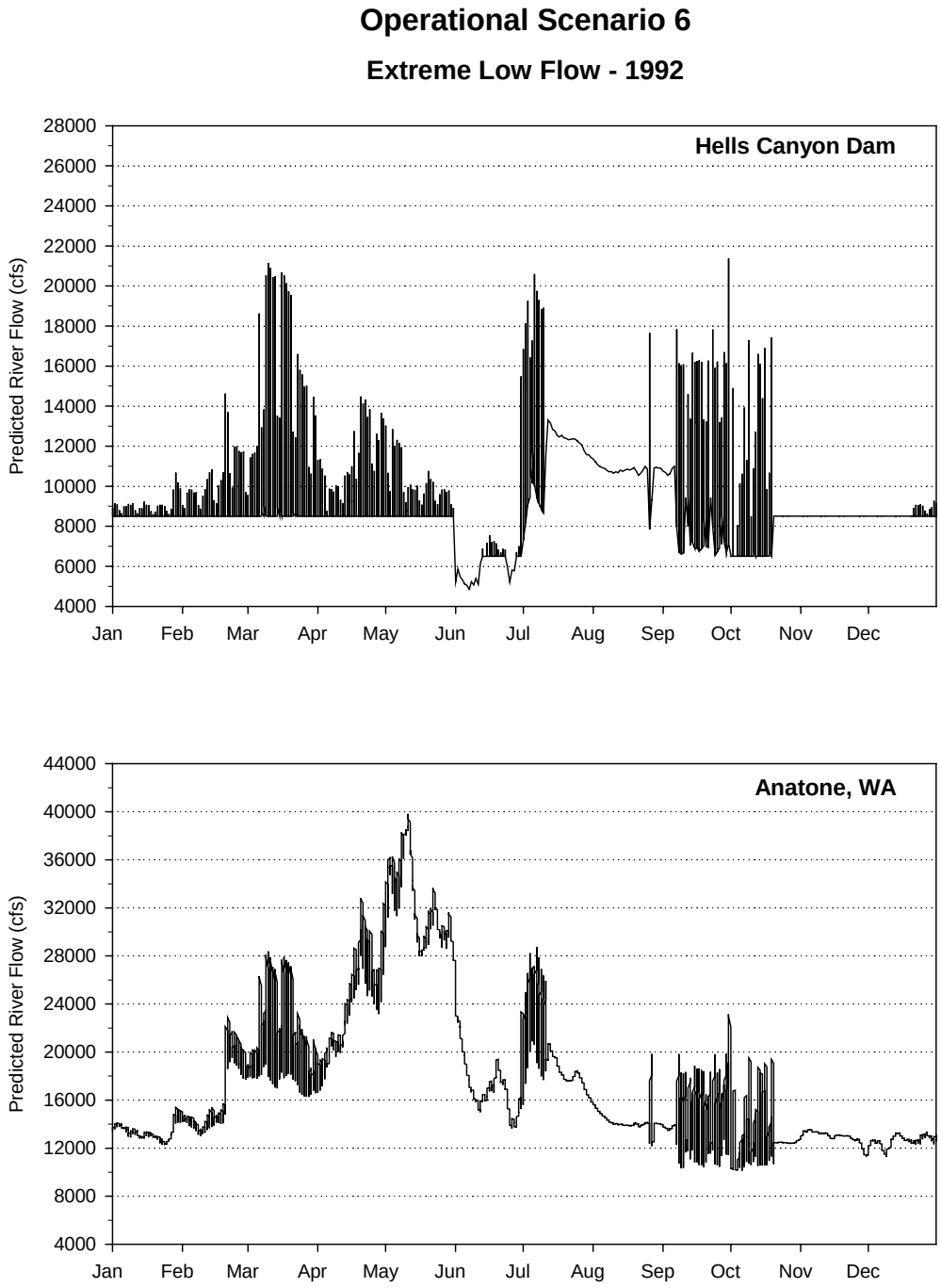


Figure 31. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 6 during the extreme low flow year of 1992.

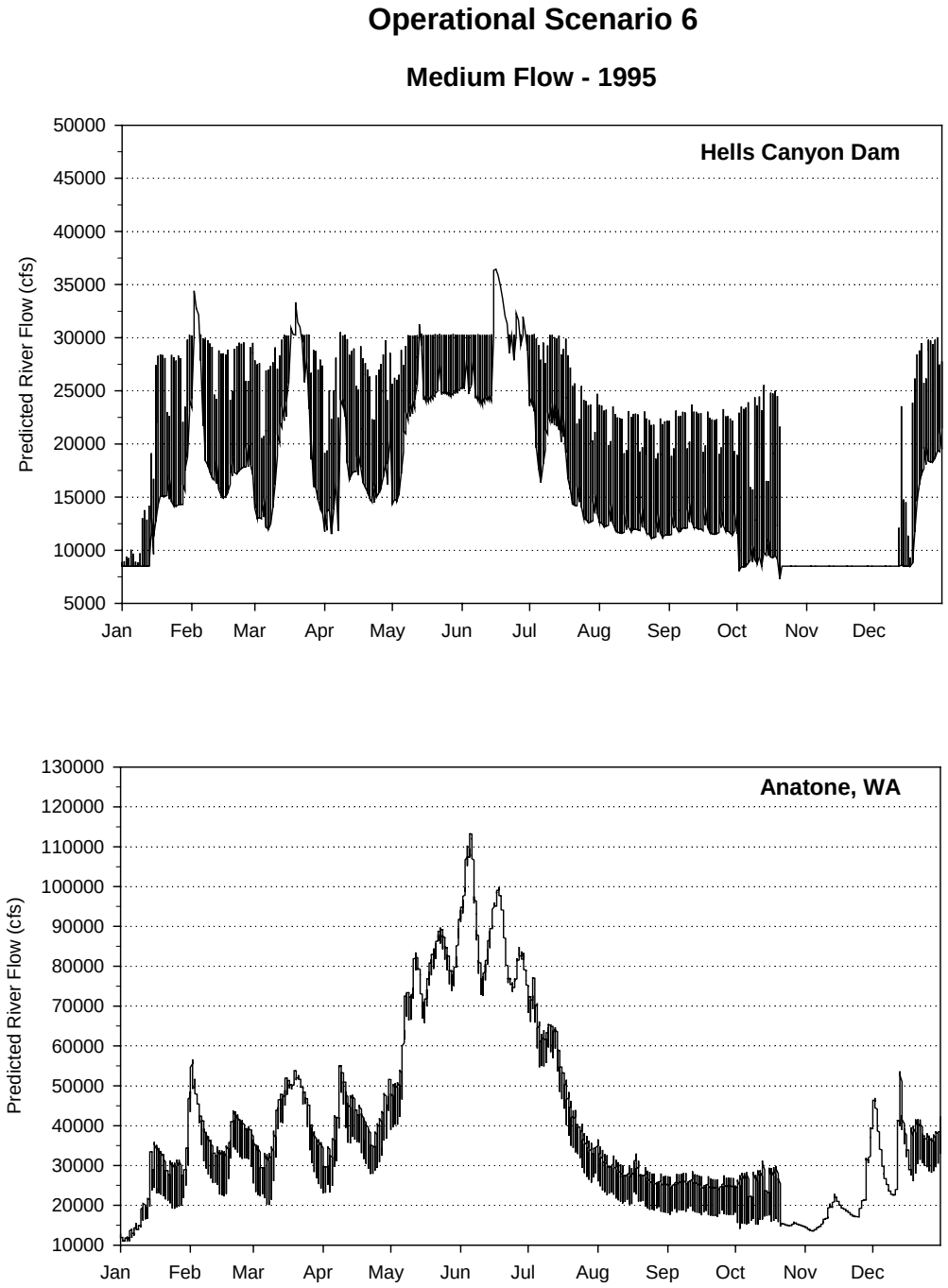


Figure 32. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 6 during the medium flow year of 1995.

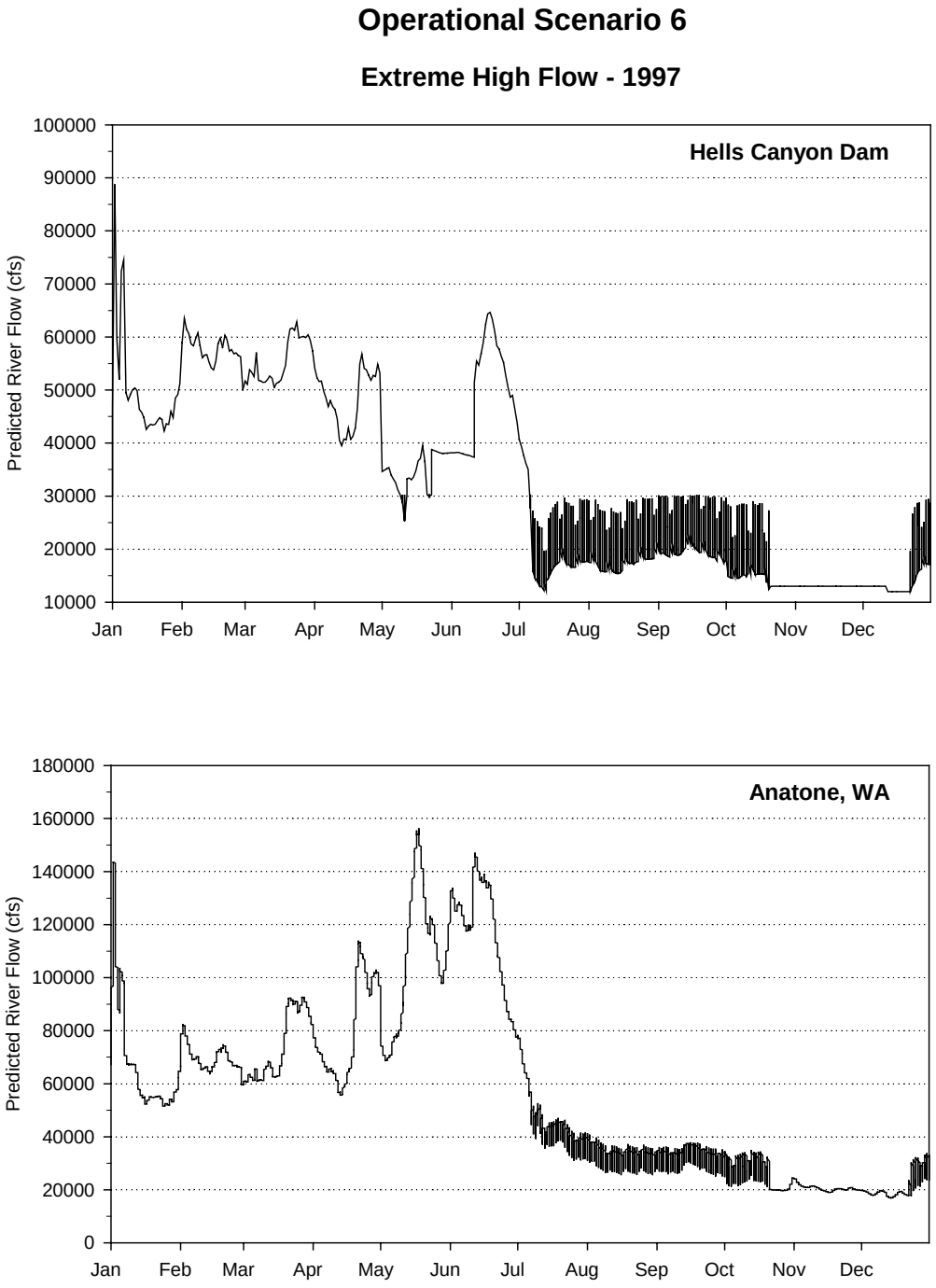


Figure 33. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Operational Scenario 6 during the extreme high flow year of 1997.

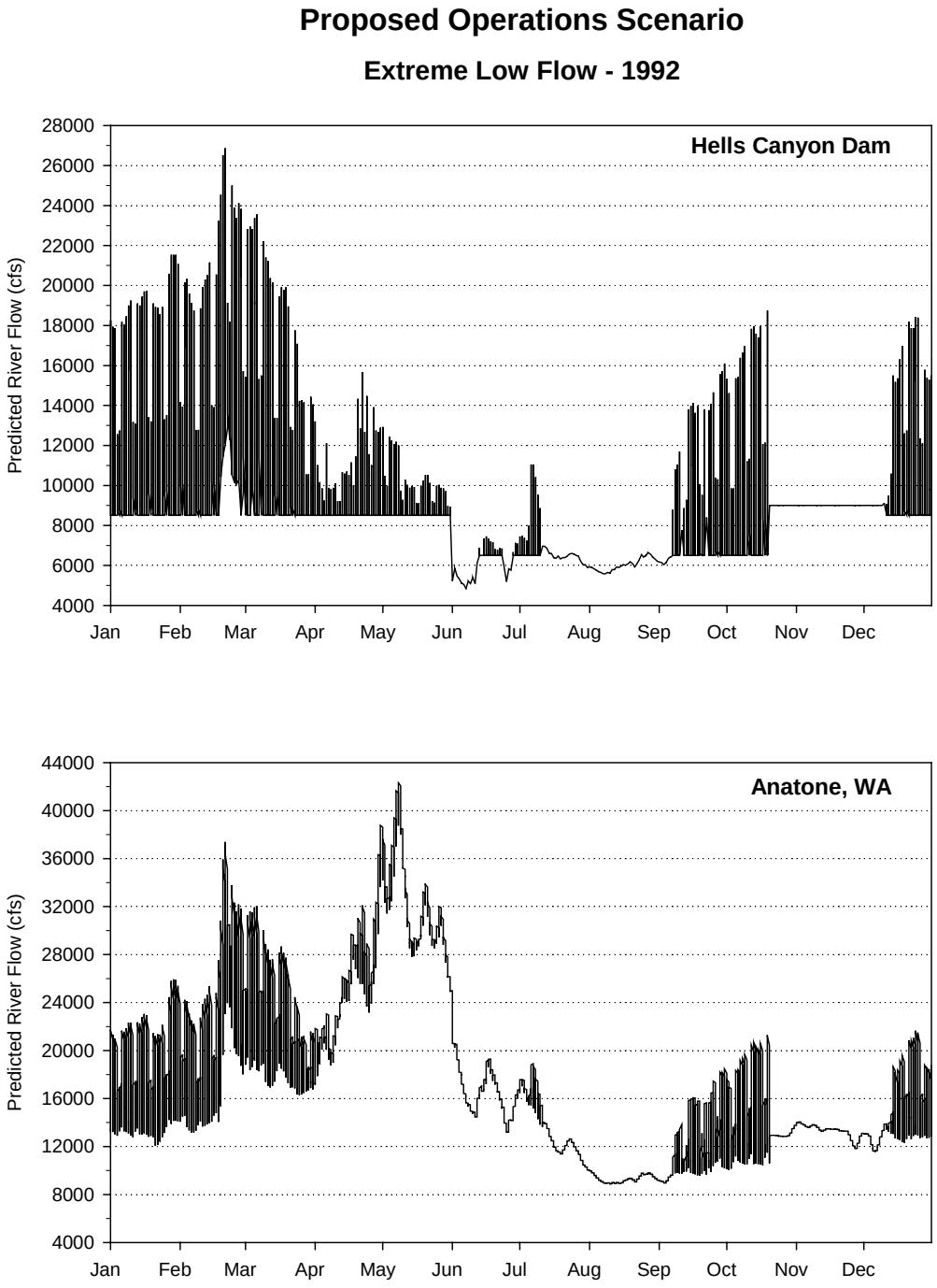


Figure 34. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Proposed Operations Scenario during the extreme low flow year of 1992.

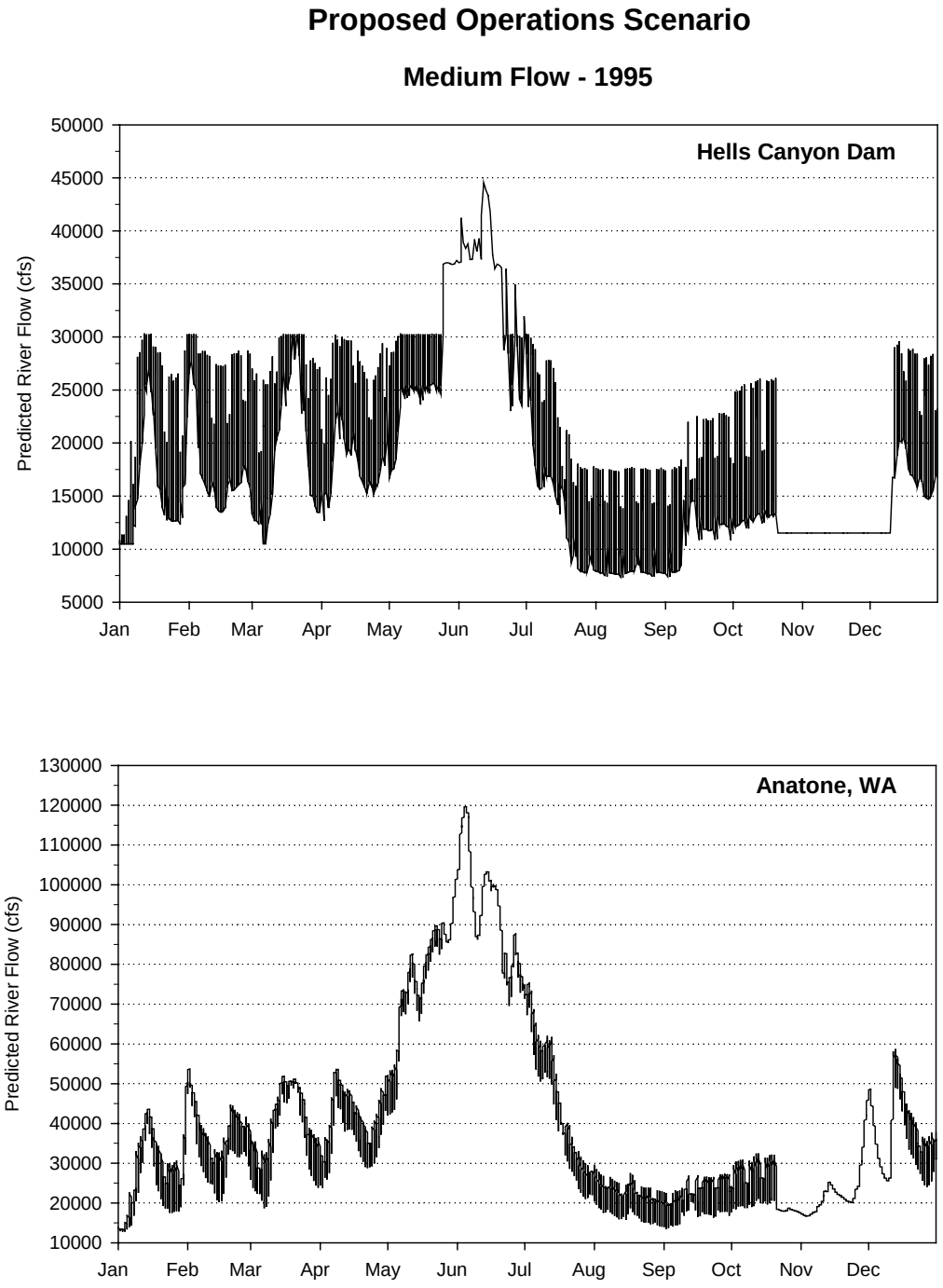


Figure 35. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Proposed Operations Scenario during the medium flow year of 1995.

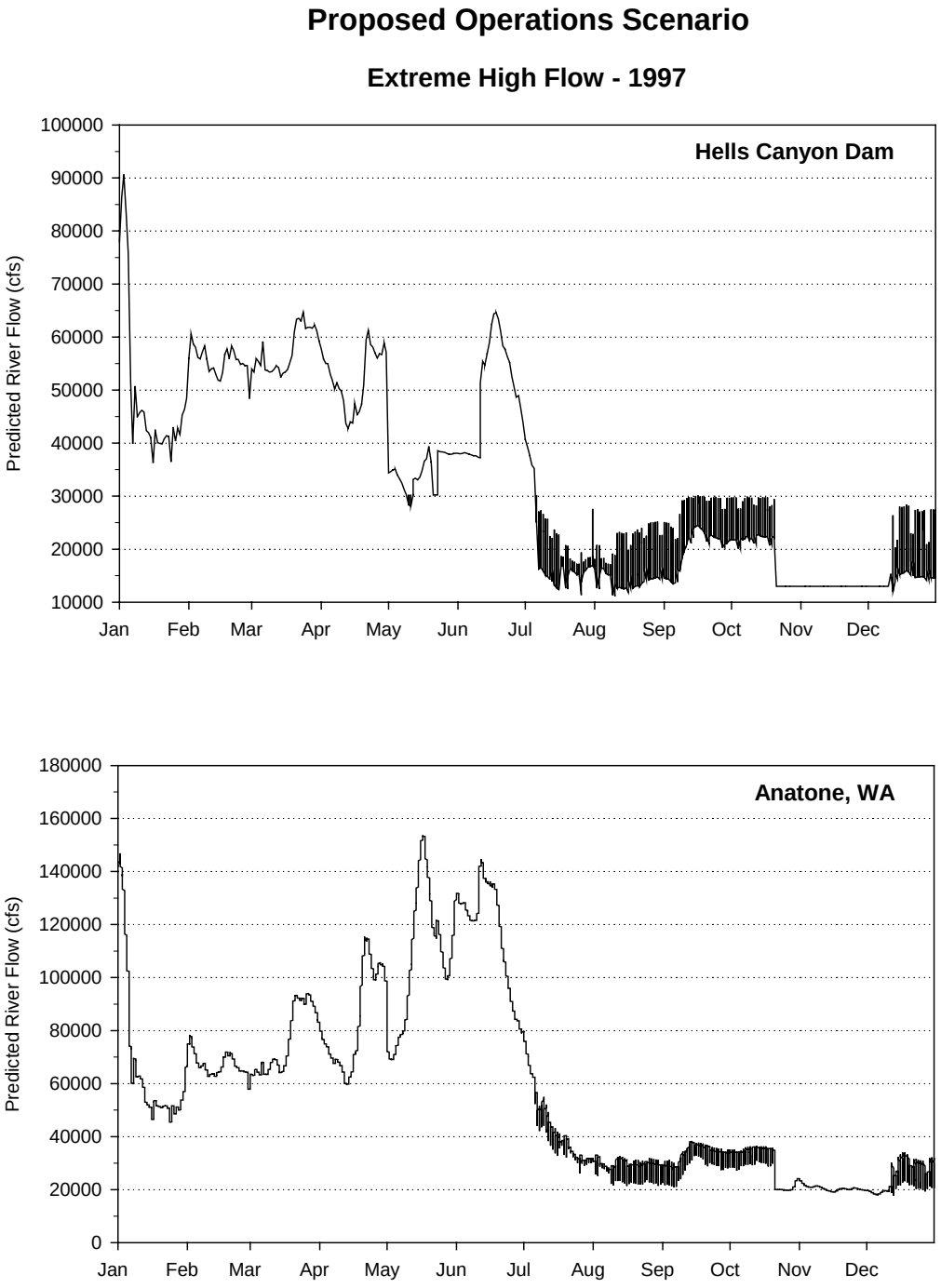


Figure 36. Predicted river flows from the MIKE 11 1D flow model for the Snake River near Hells Canyon dam (top) and near Anatone, Washington (bottom) modeled under Proposed Operations Scenario during the extreme high flow year of 1997.

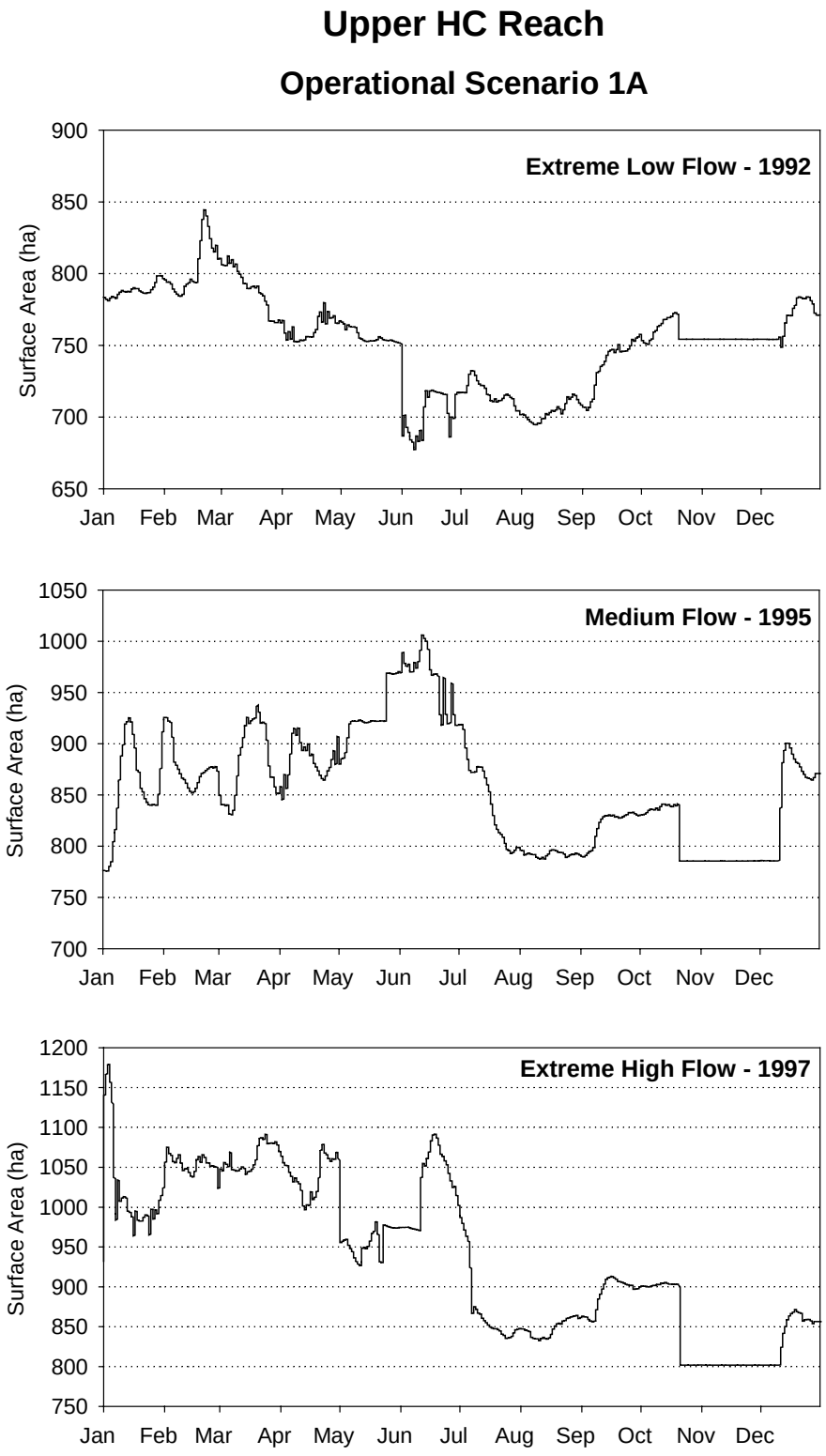


Figure 37. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 1A during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

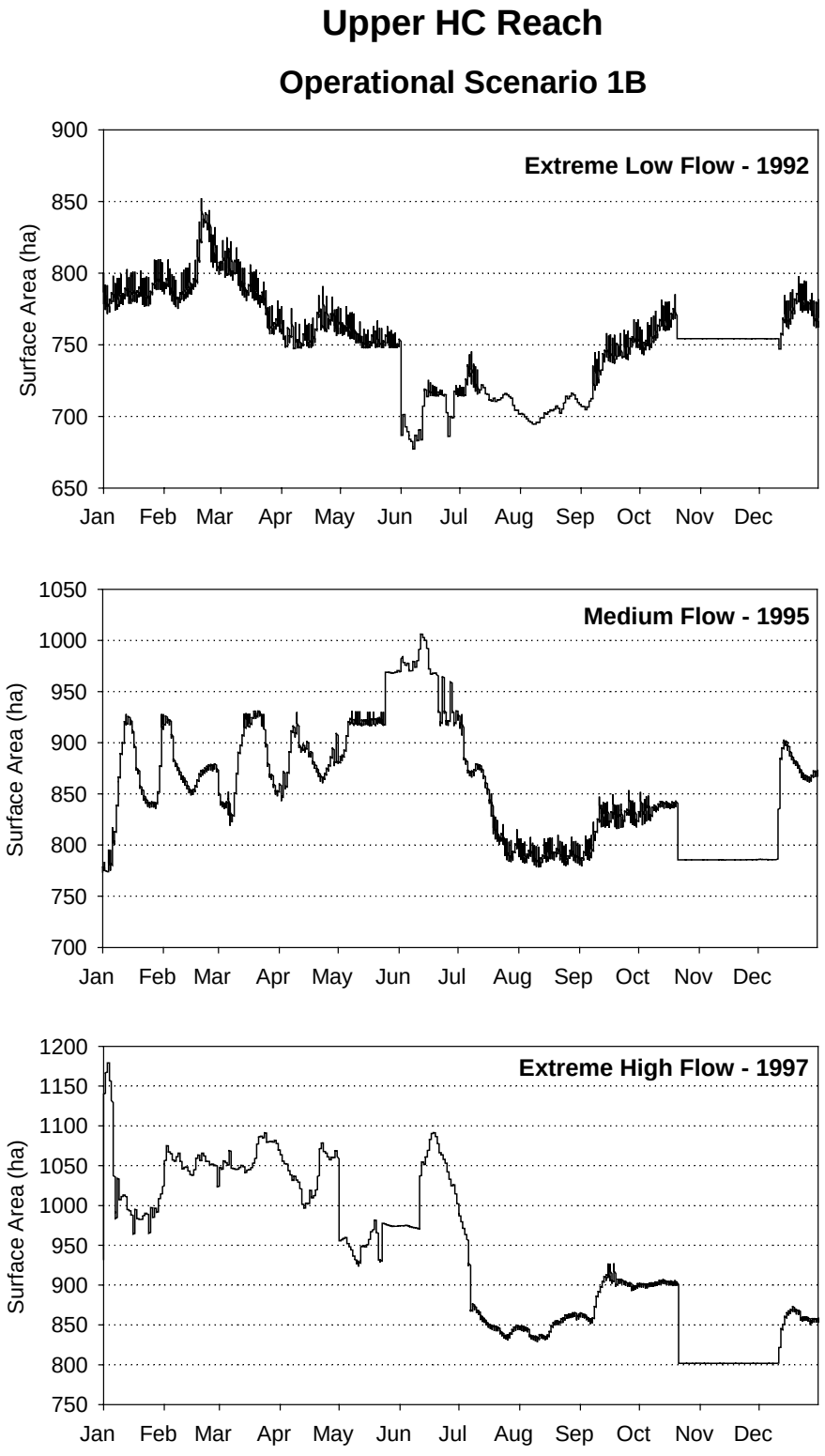


Figure 38. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 1B during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

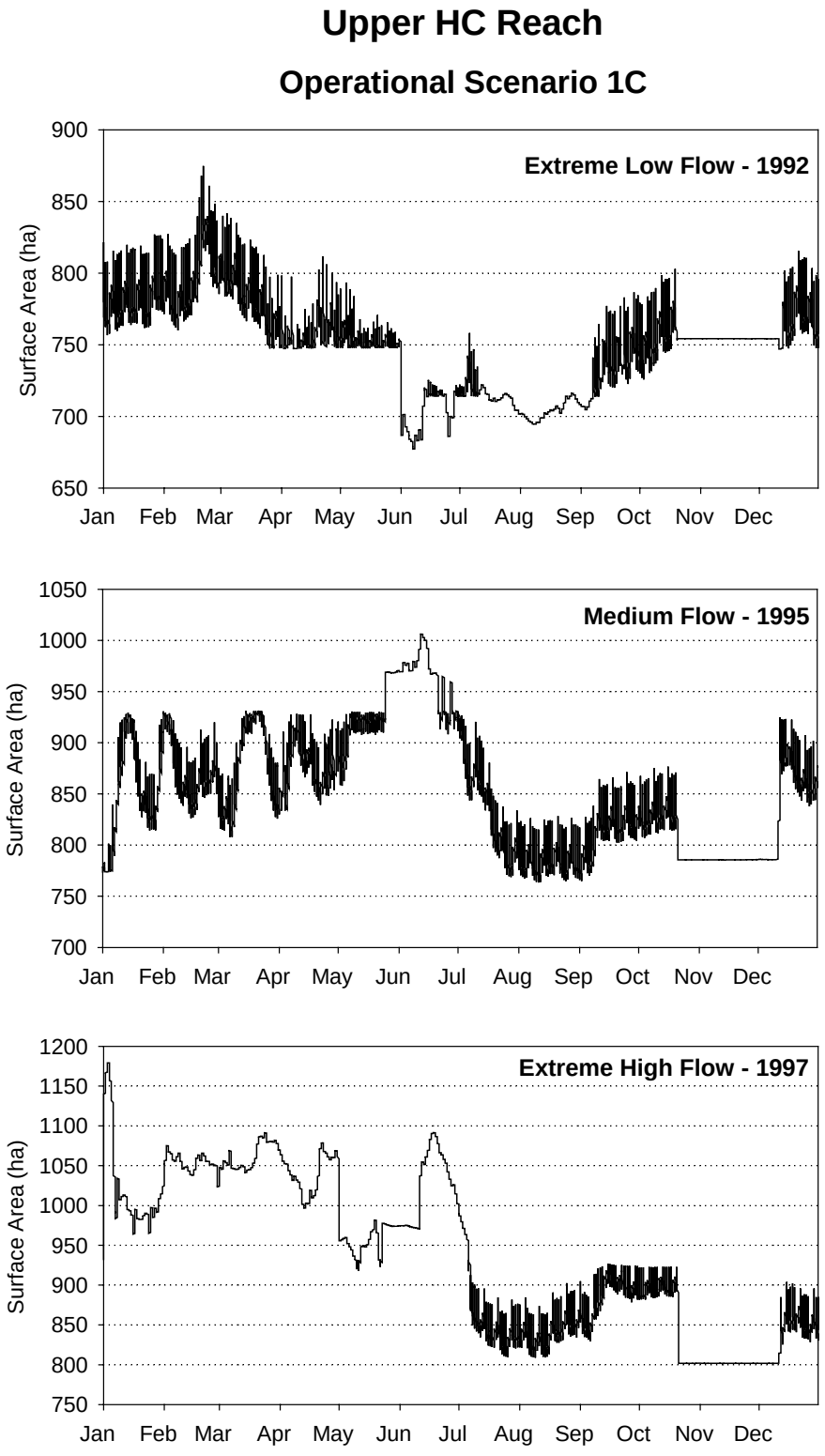


Figure 39. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 1C during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

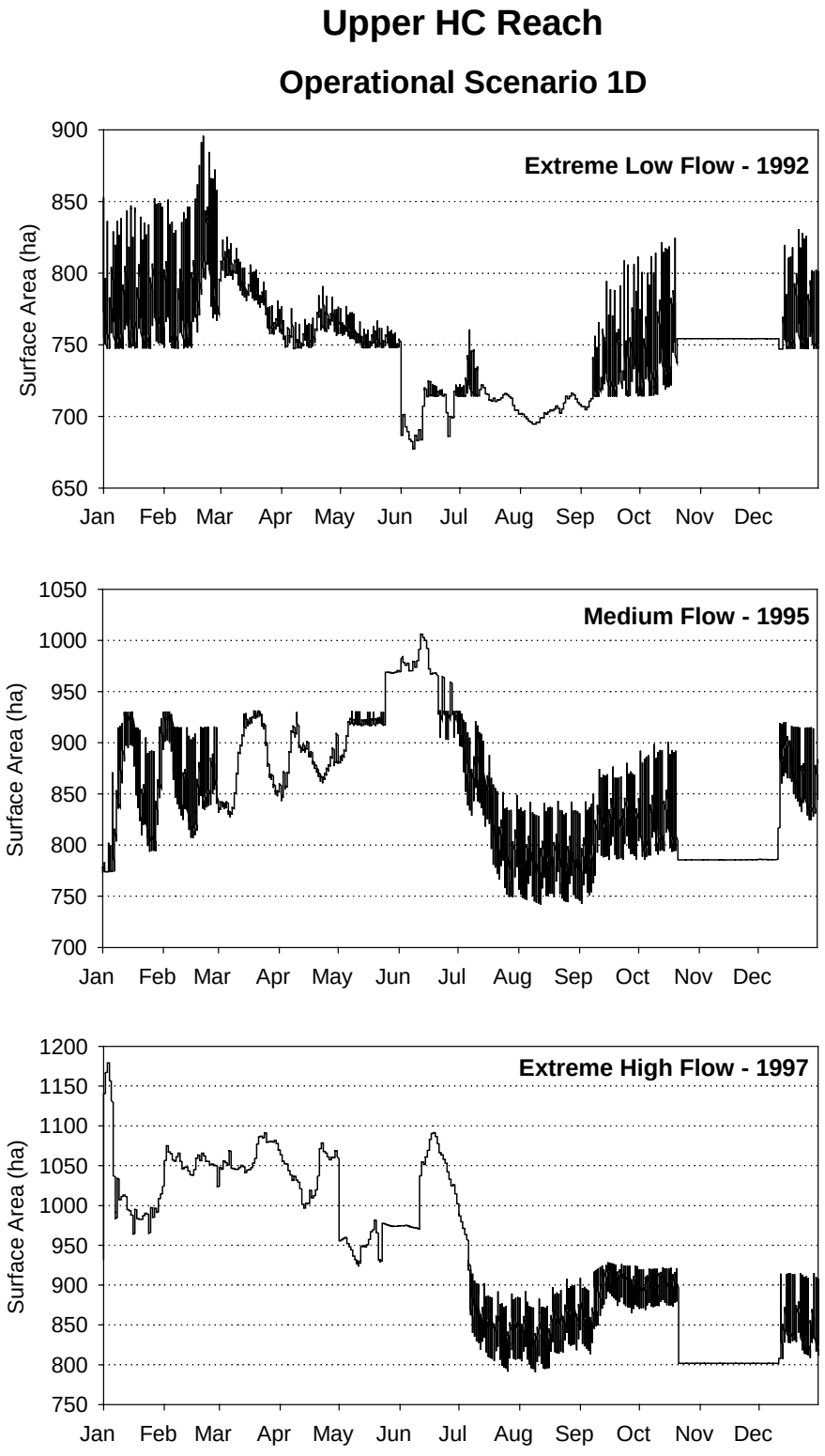


Figure 40. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 1D during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

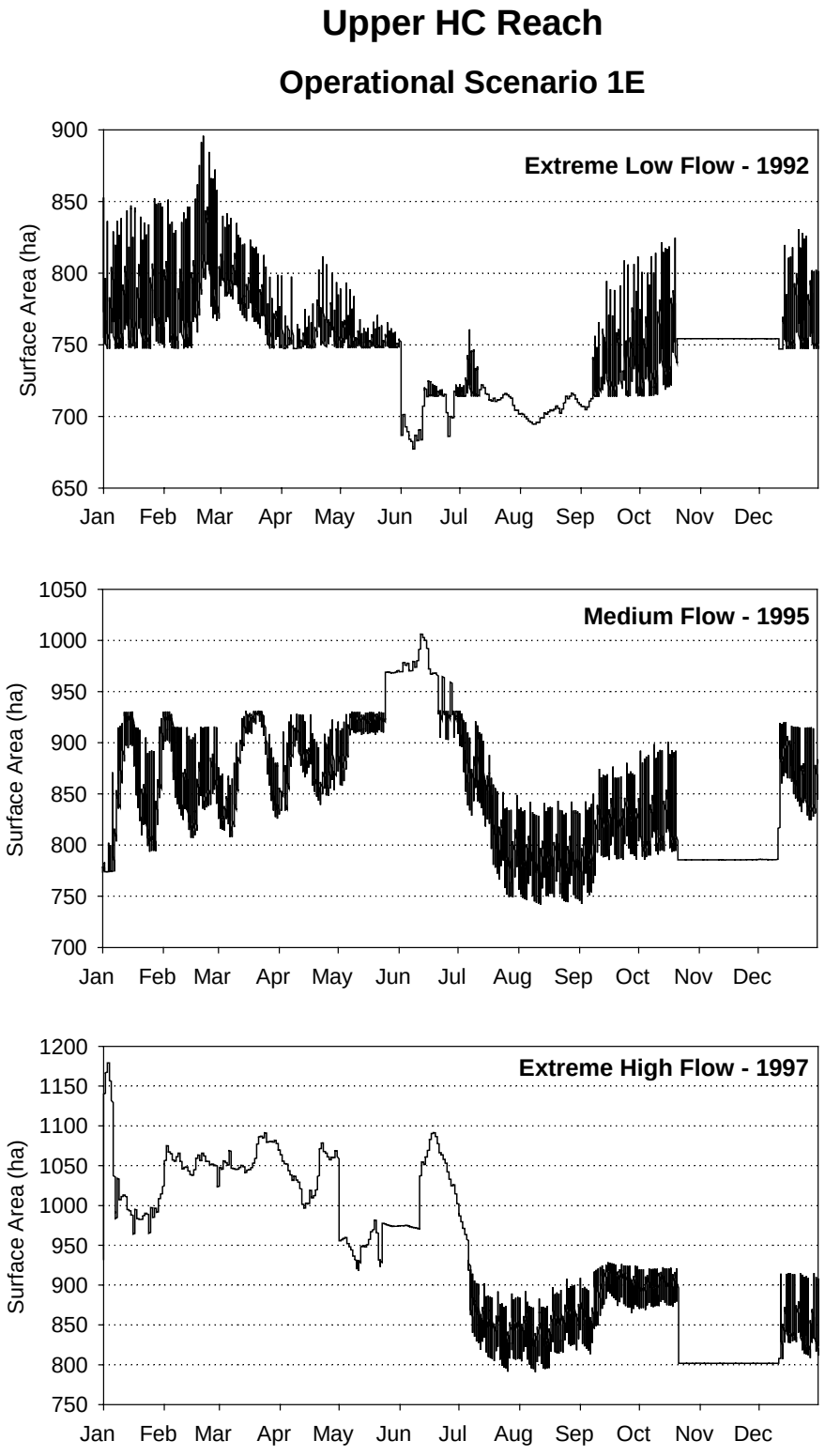


Figure 41. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 1E during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

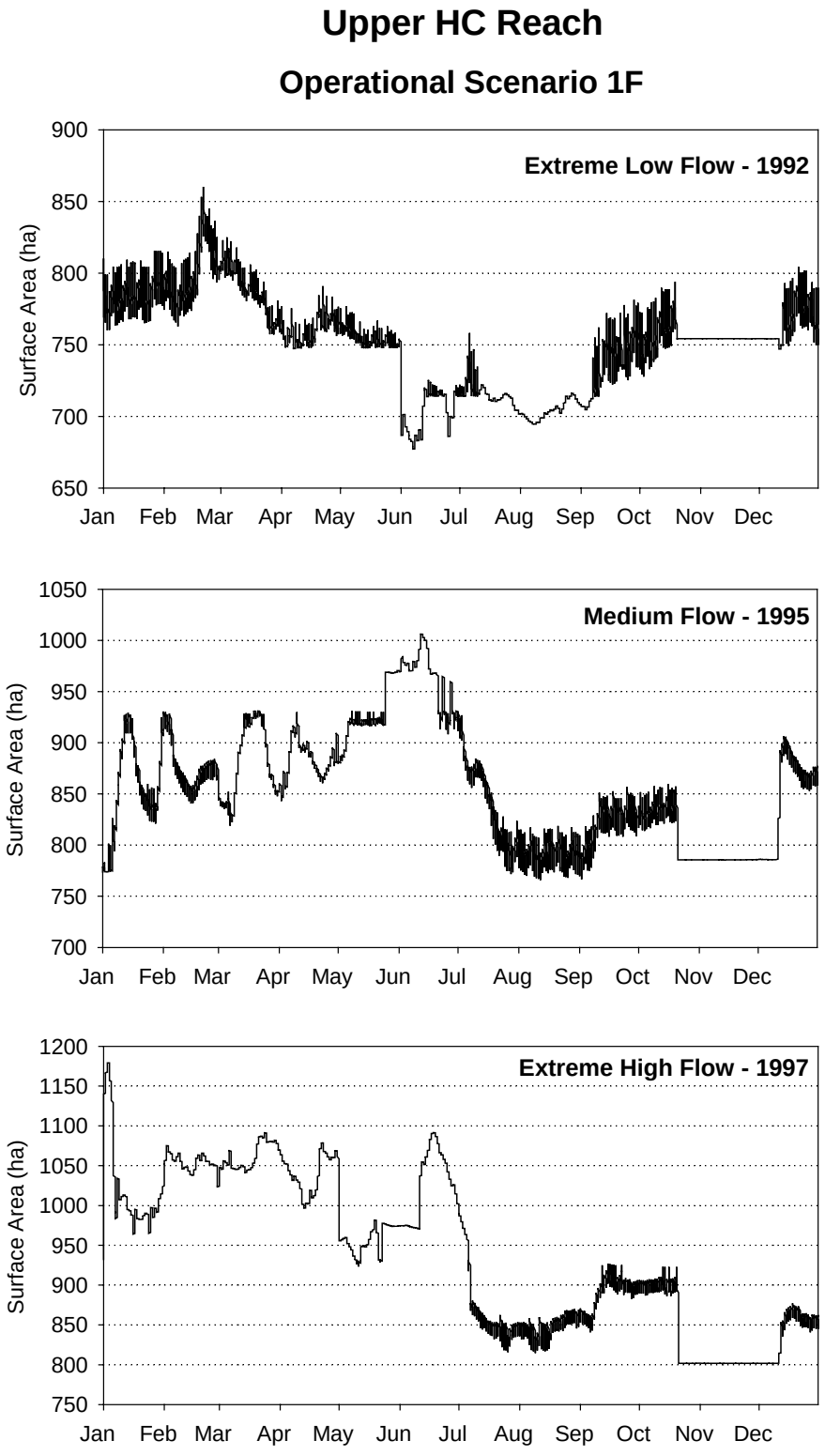


Figure 42. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 1F during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

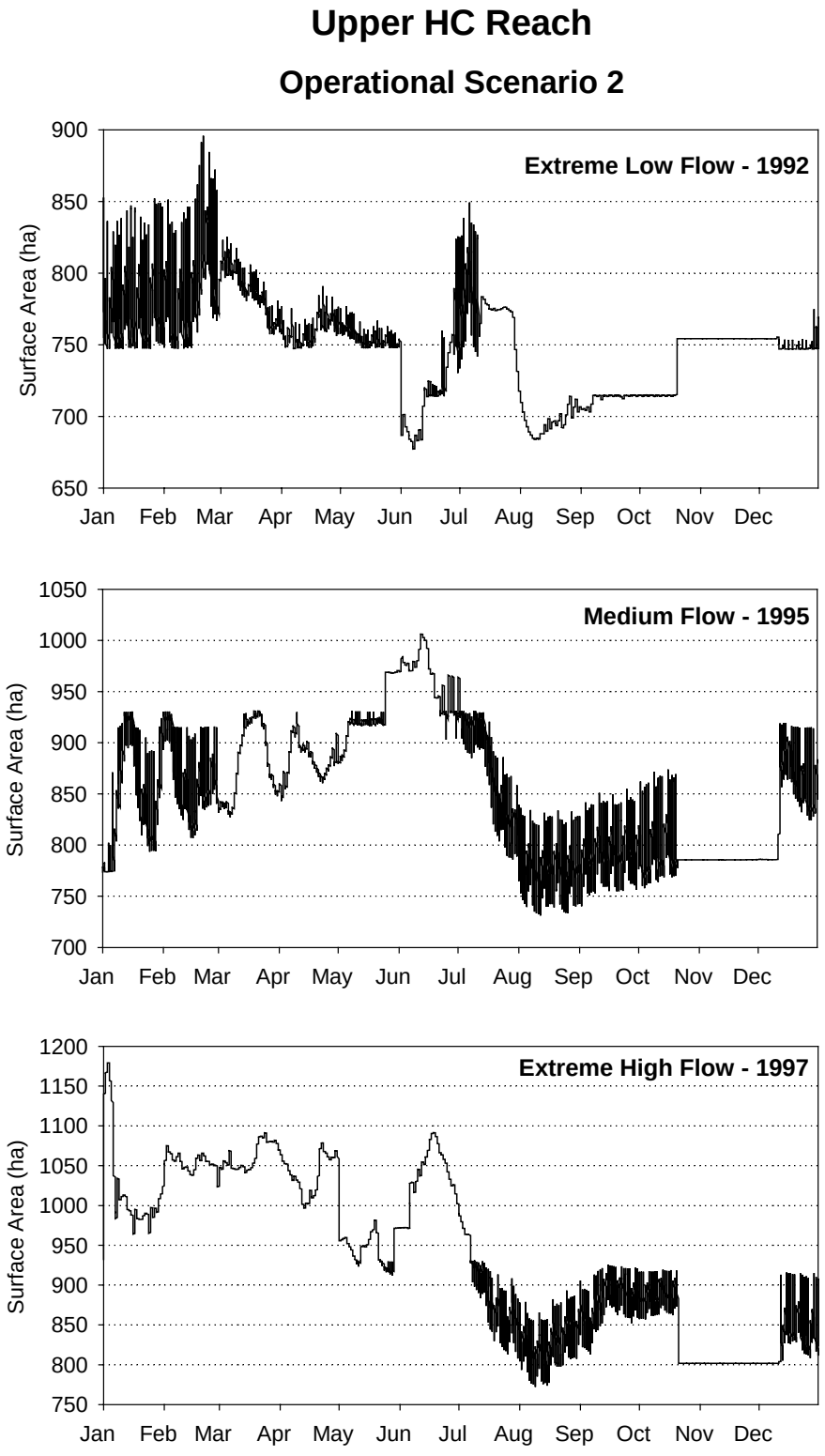


Figure 43. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 2 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

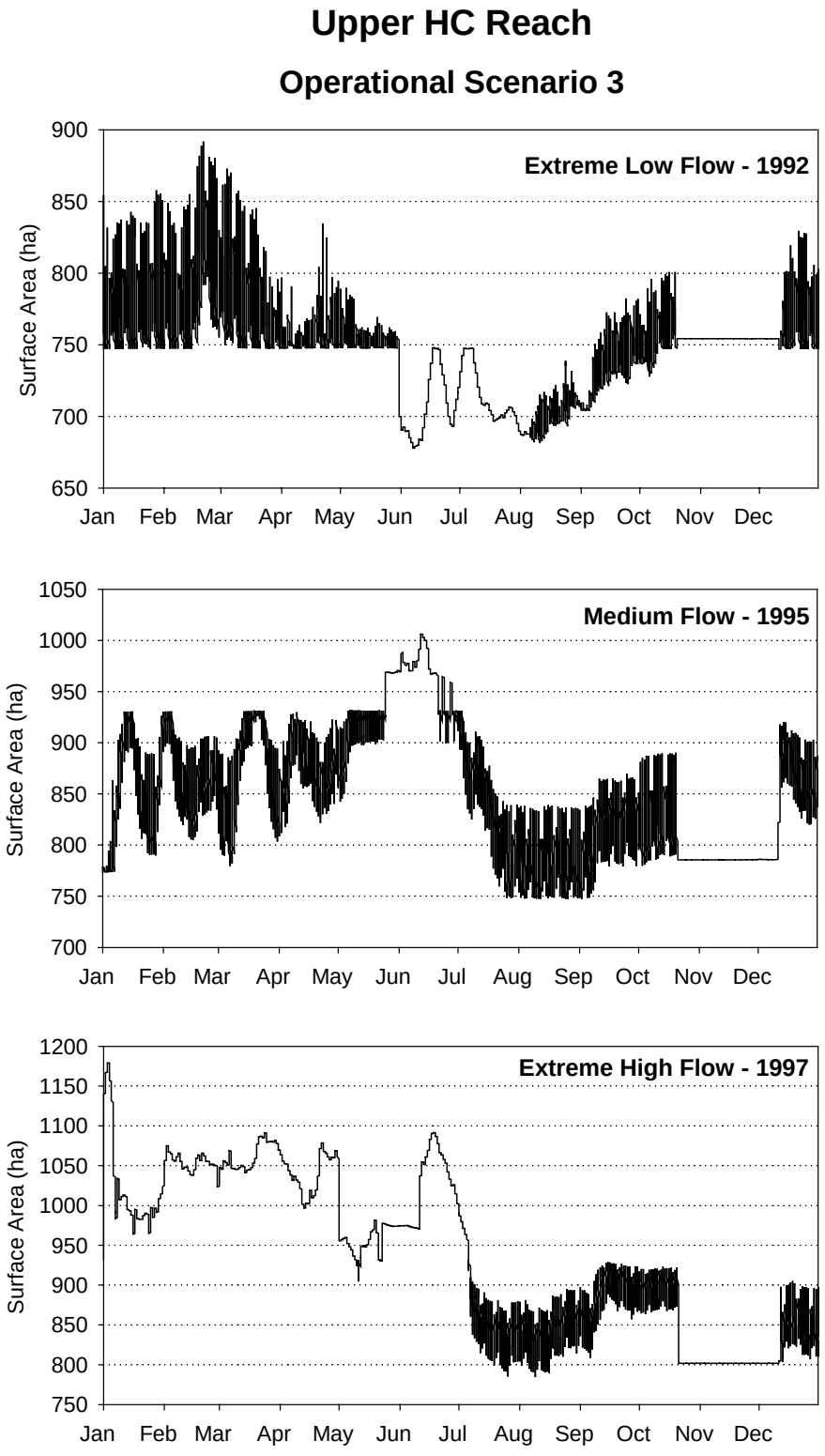


Figure 44. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 3 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

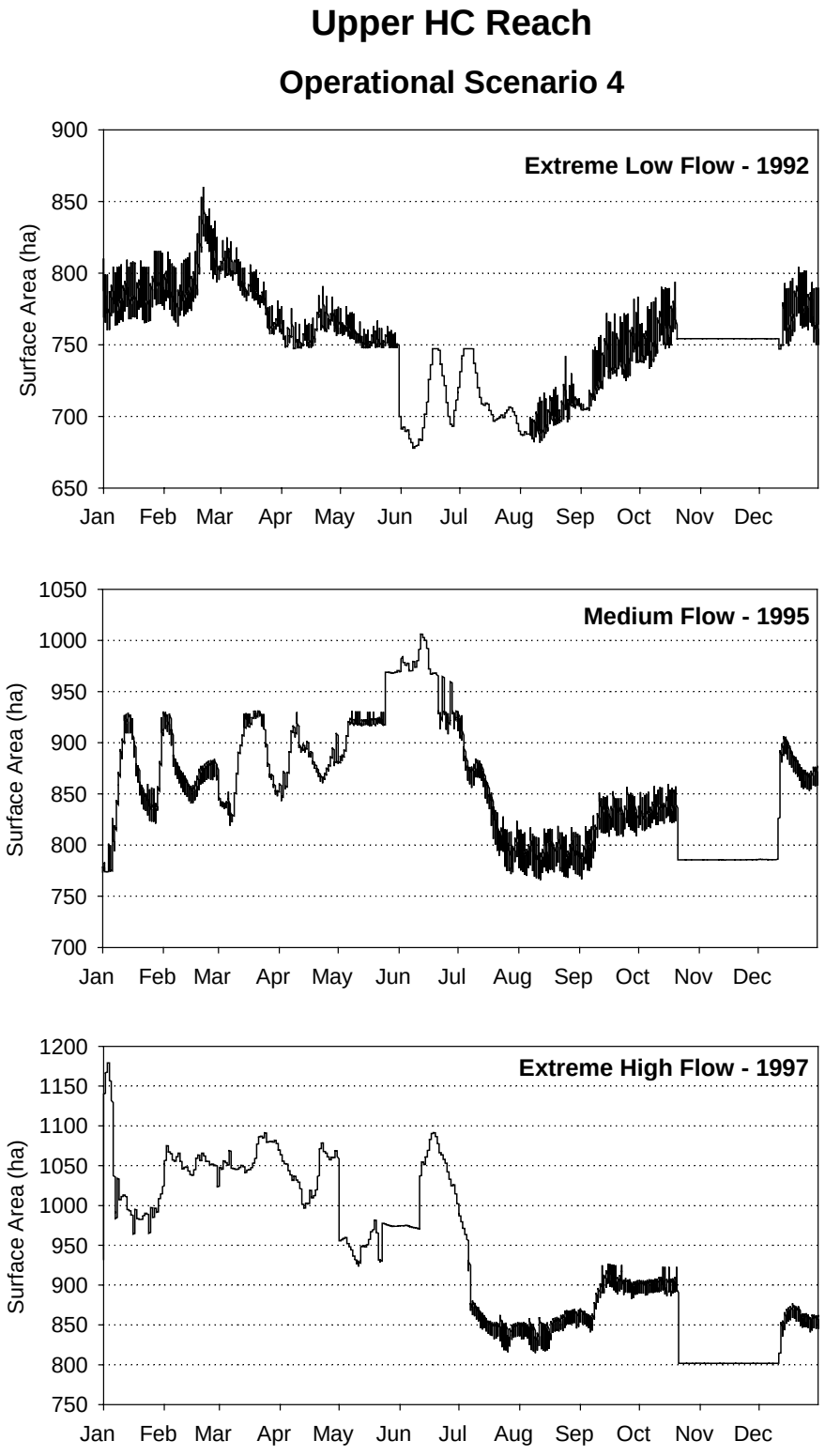


Figure 45. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 4 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

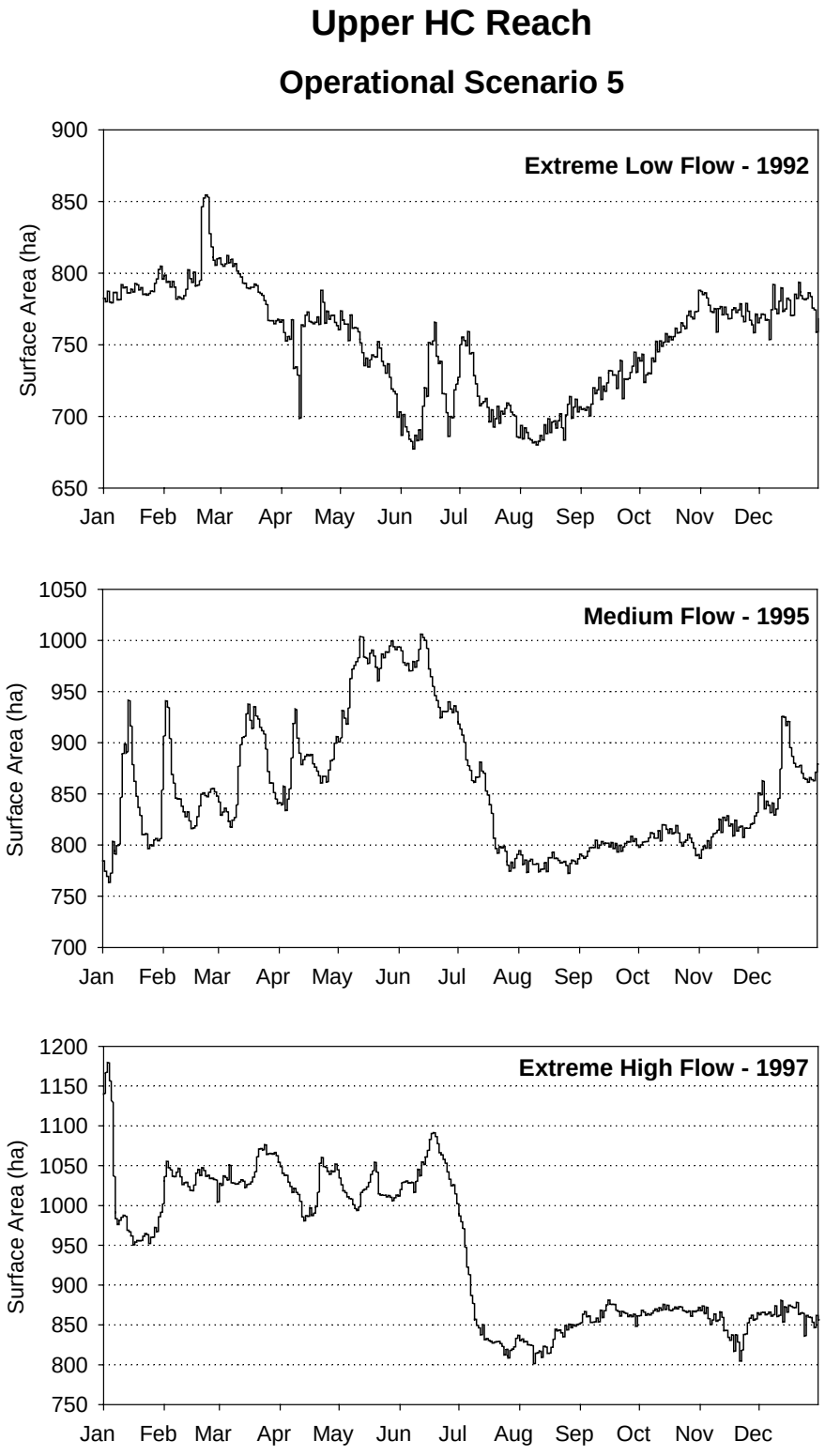


Figure 46. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 5 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

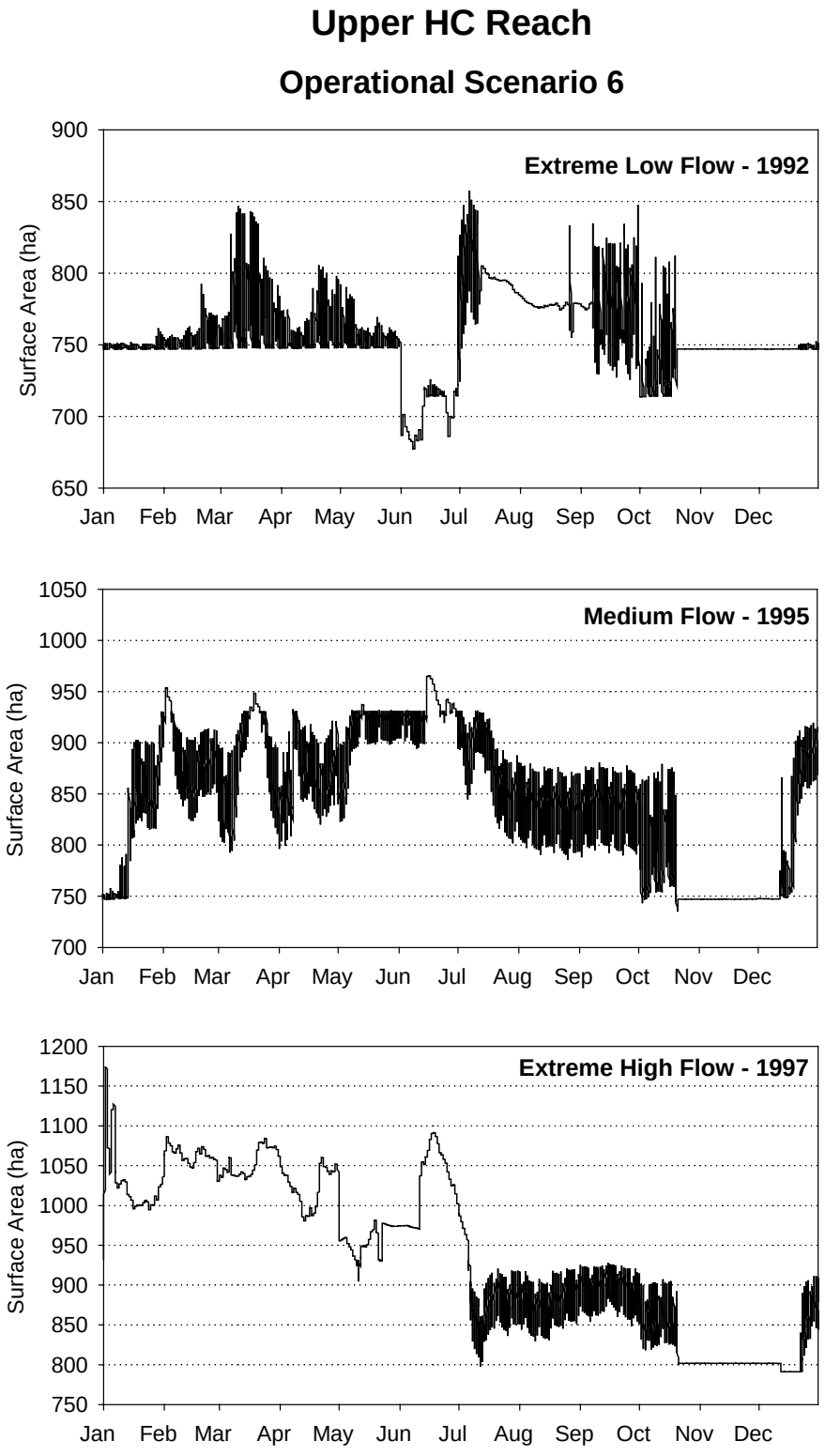


Figure 47. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Operational Scenario 6 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

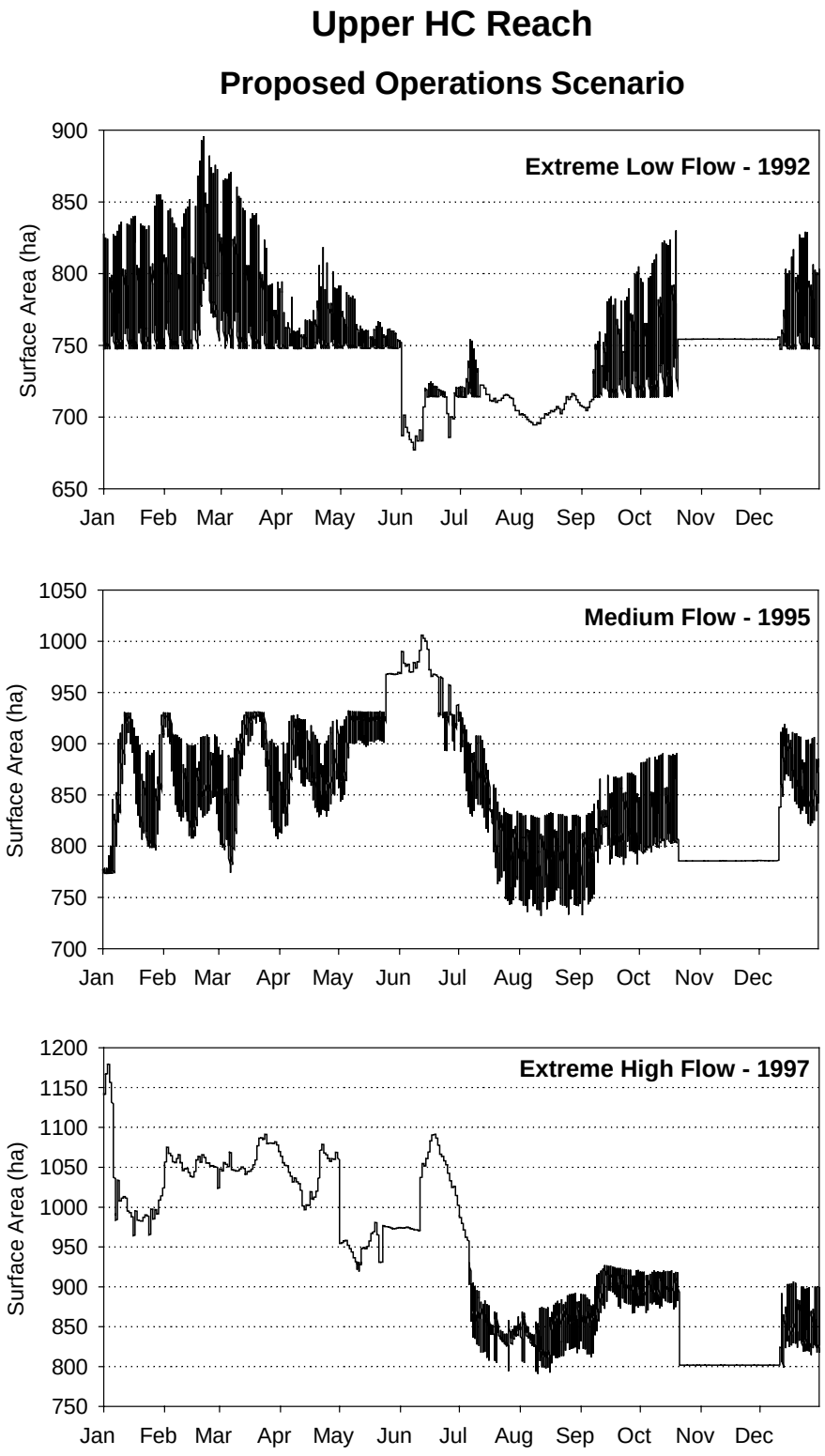


Figure 48. Total surface area (wetted stream area) predicted for the upper HC reach modeled under Proposed Operations Scenario during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

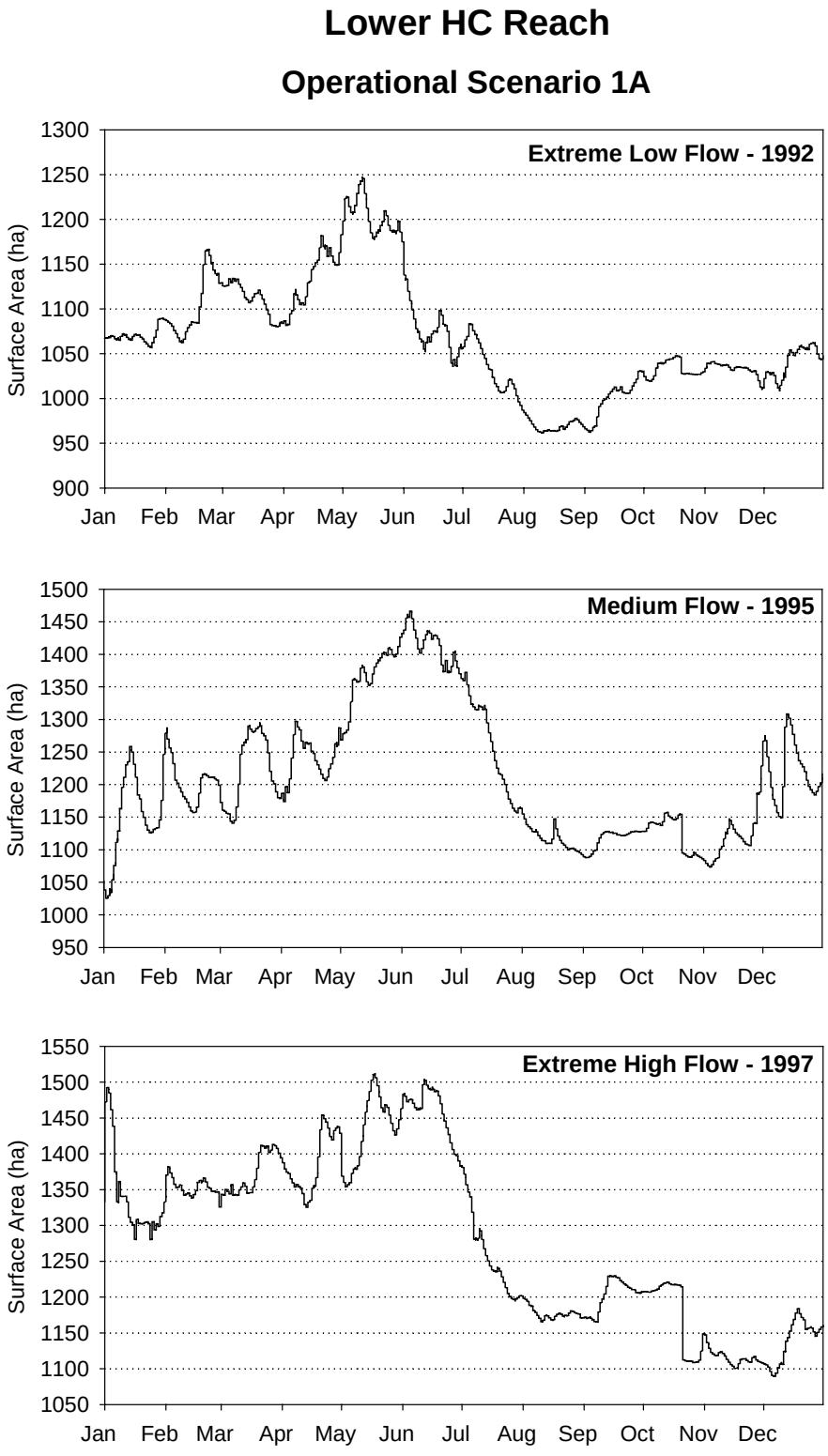


Figure 49. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 1A during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

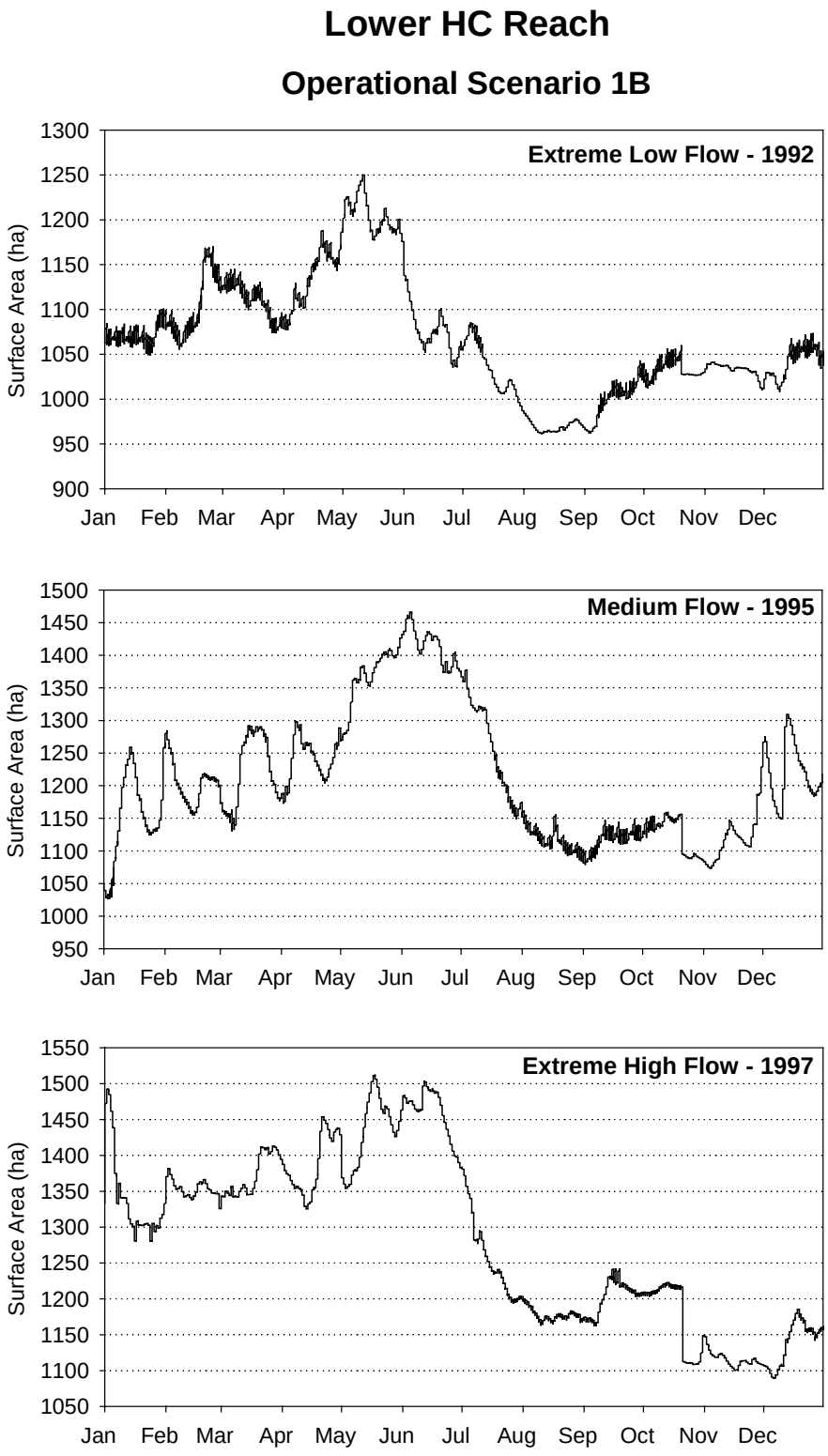


Figure 50. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 1B during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

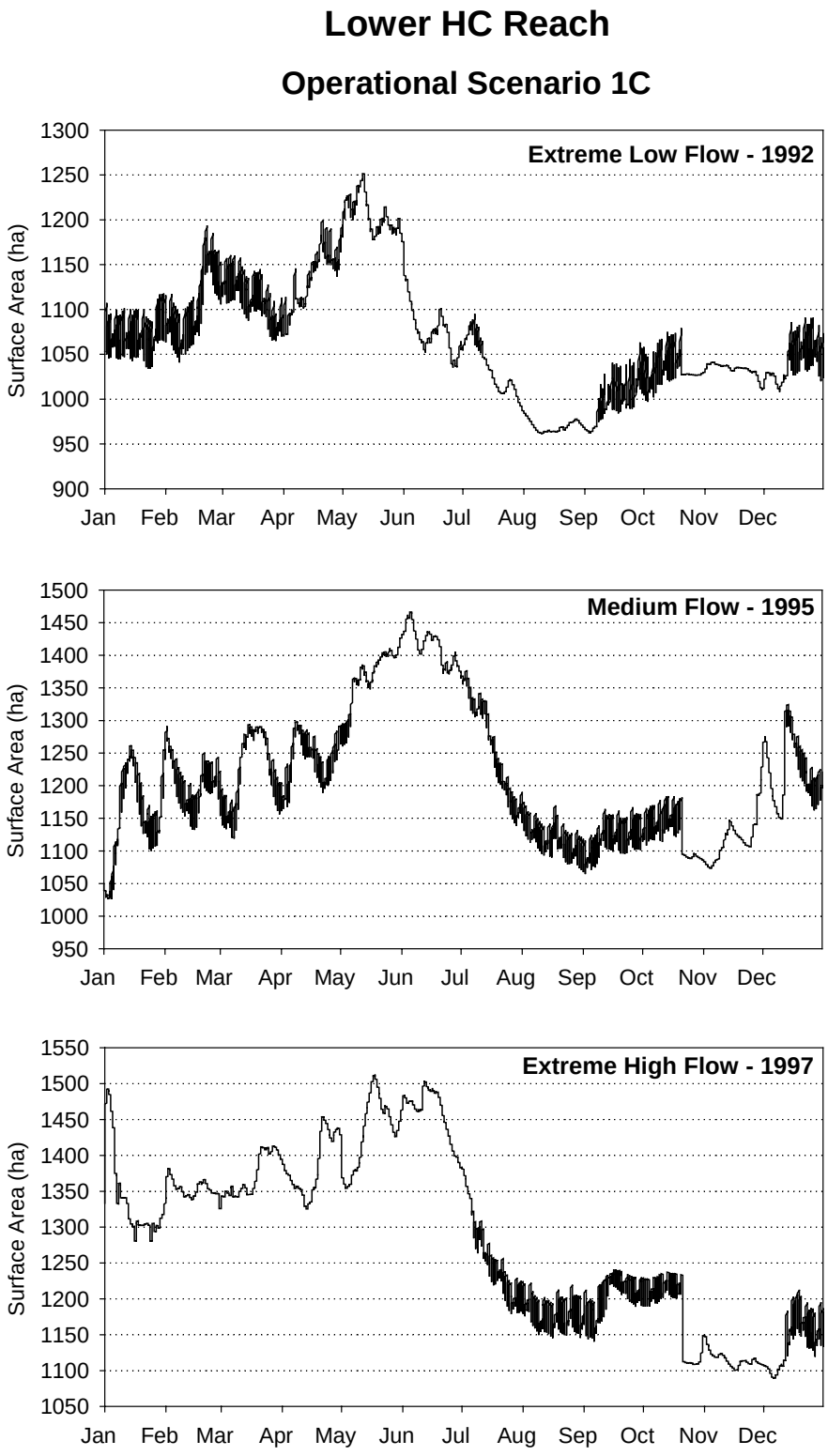


Figure 51. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 1C during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

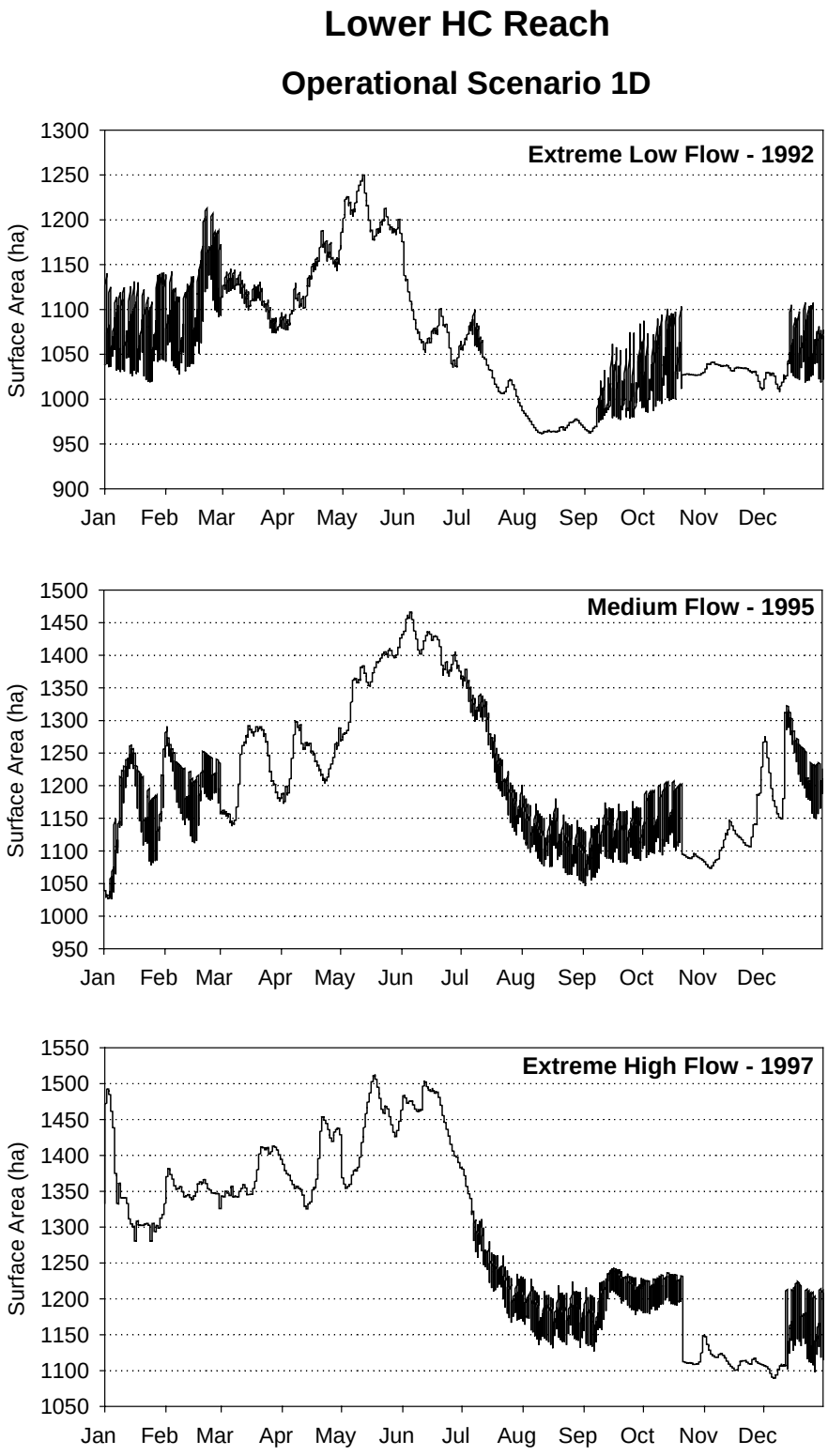


Figure 52. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 1D during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

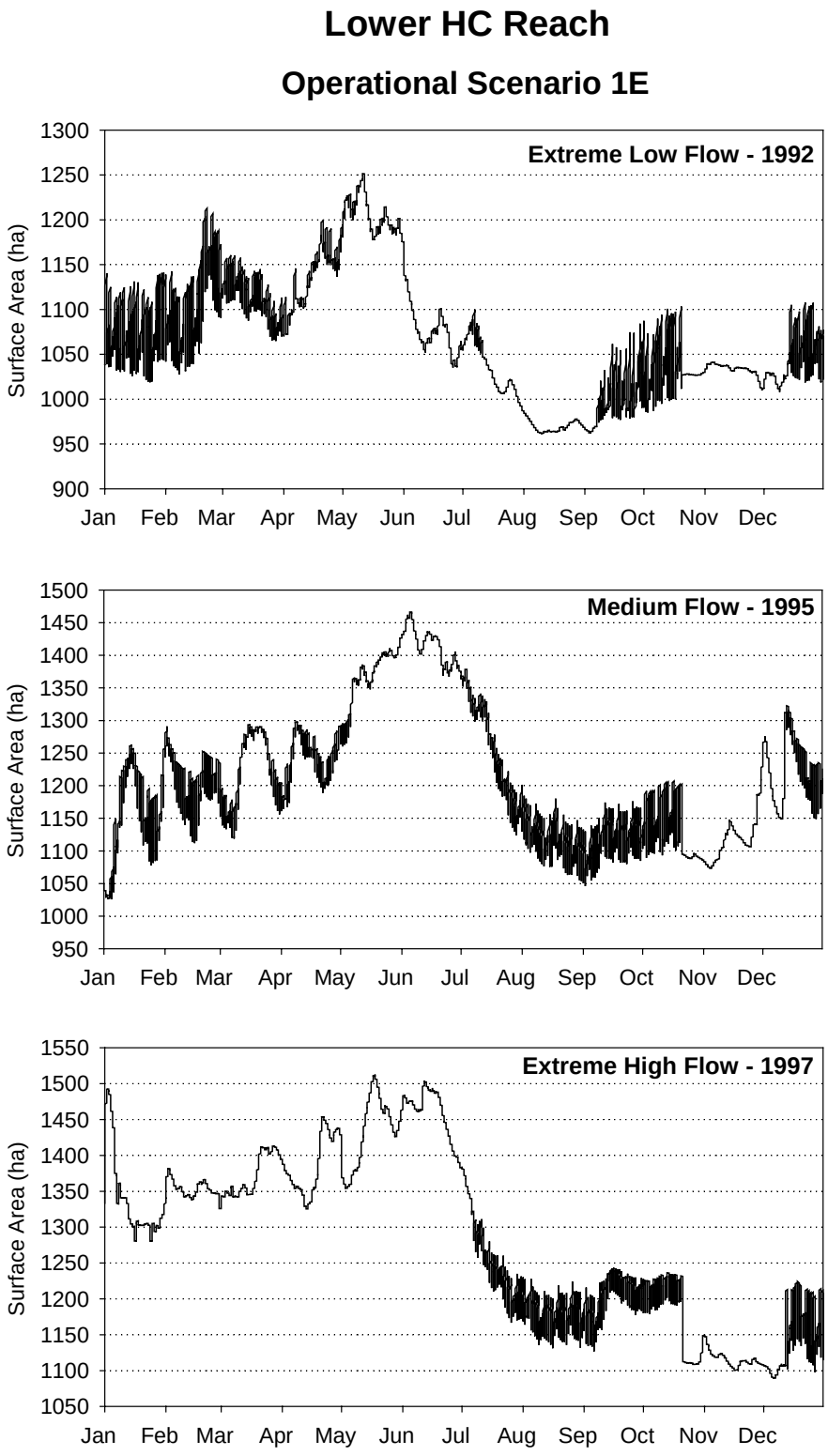


Figure 53. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 1E during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

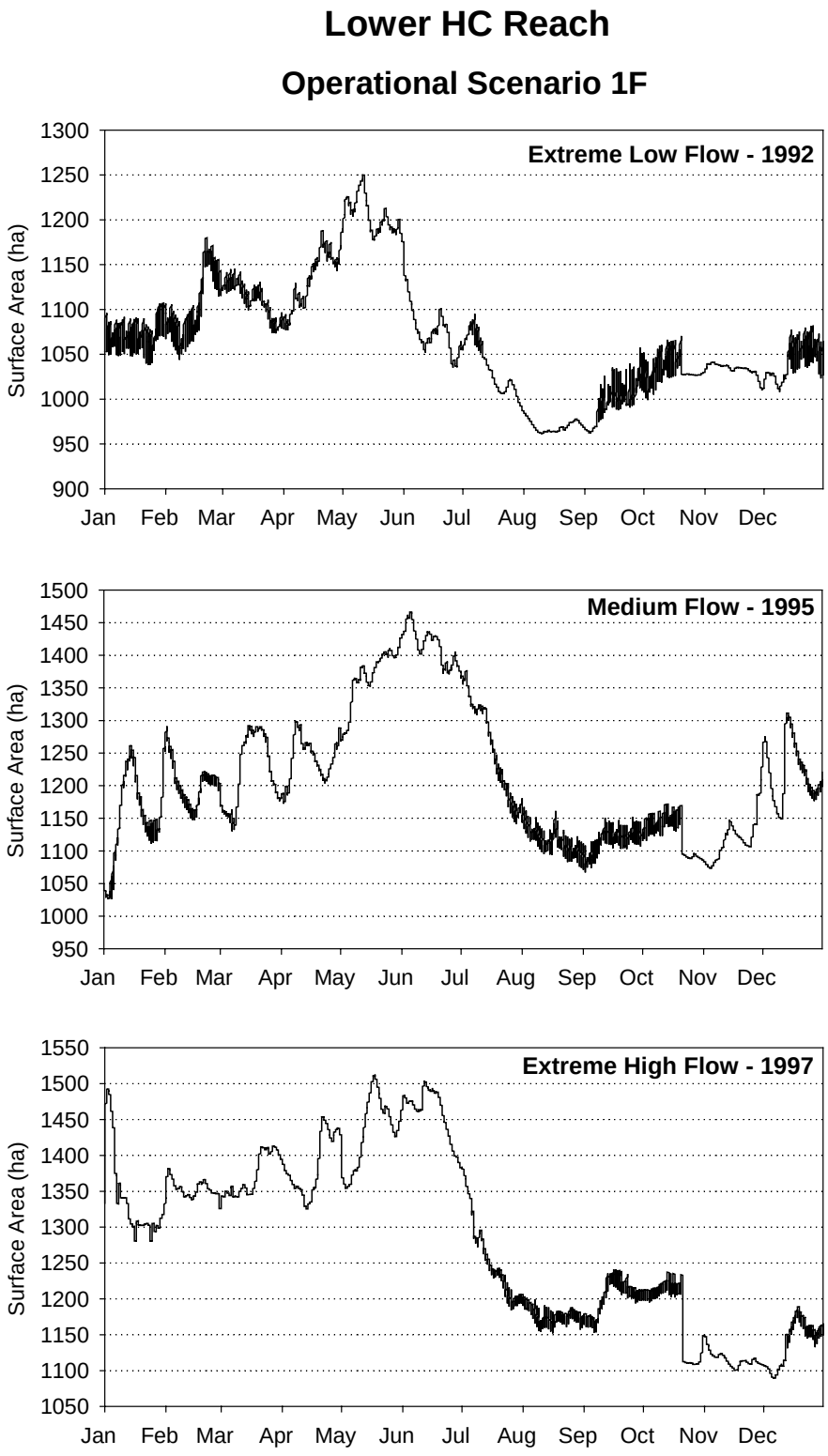


Figure 54. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 1F during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

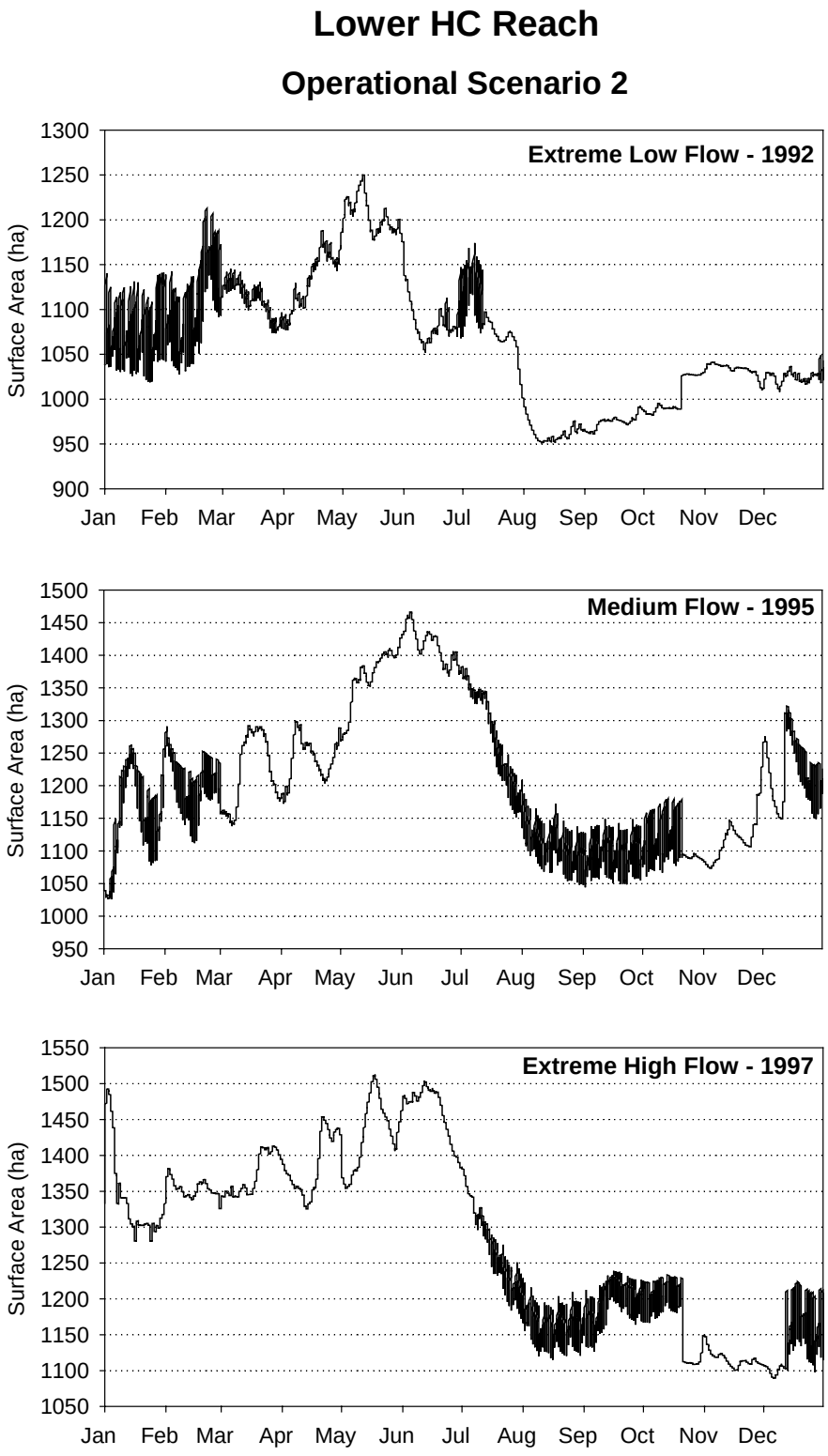


Figure 55. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 2 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

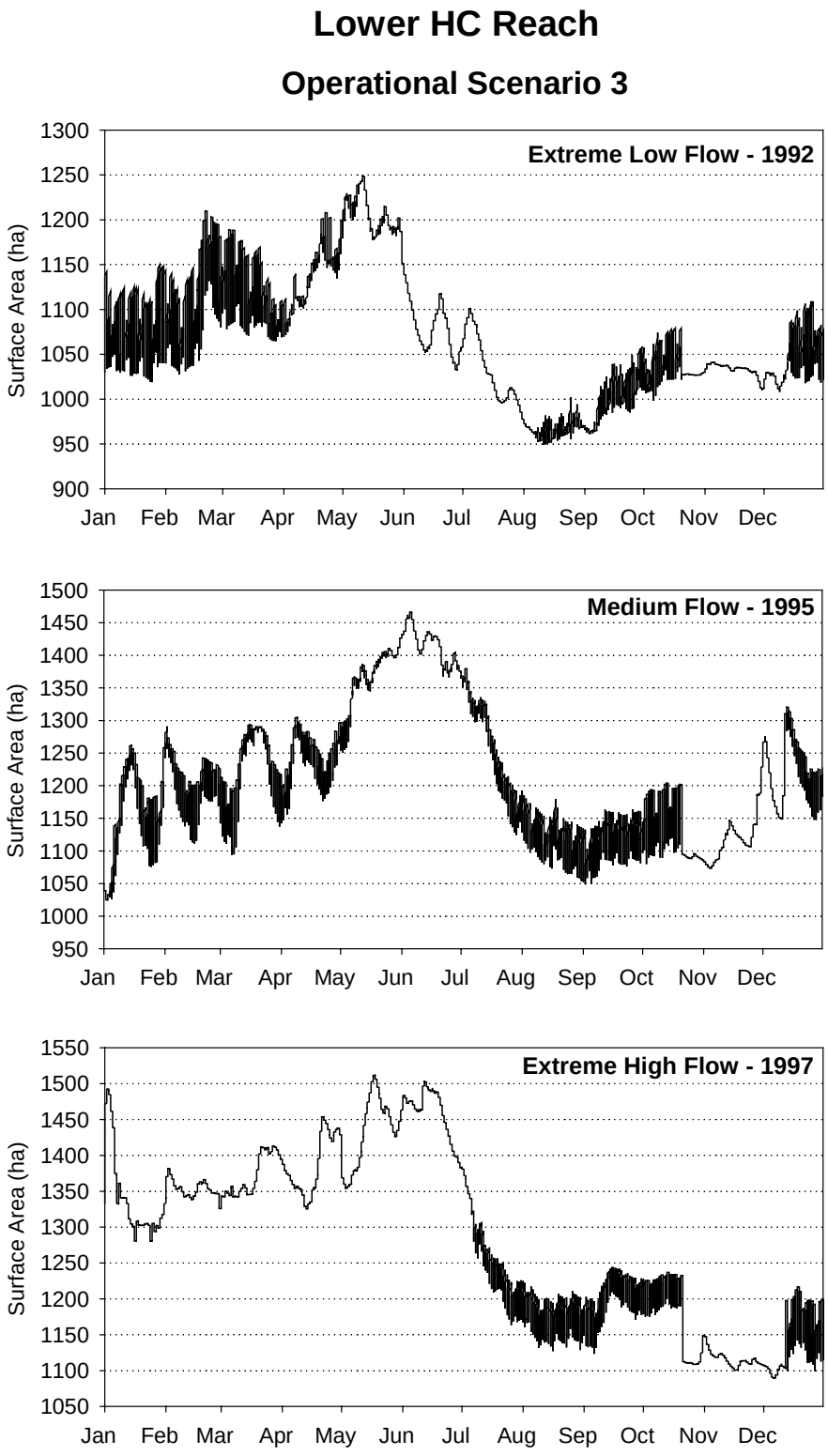


Figure 56. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 3 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

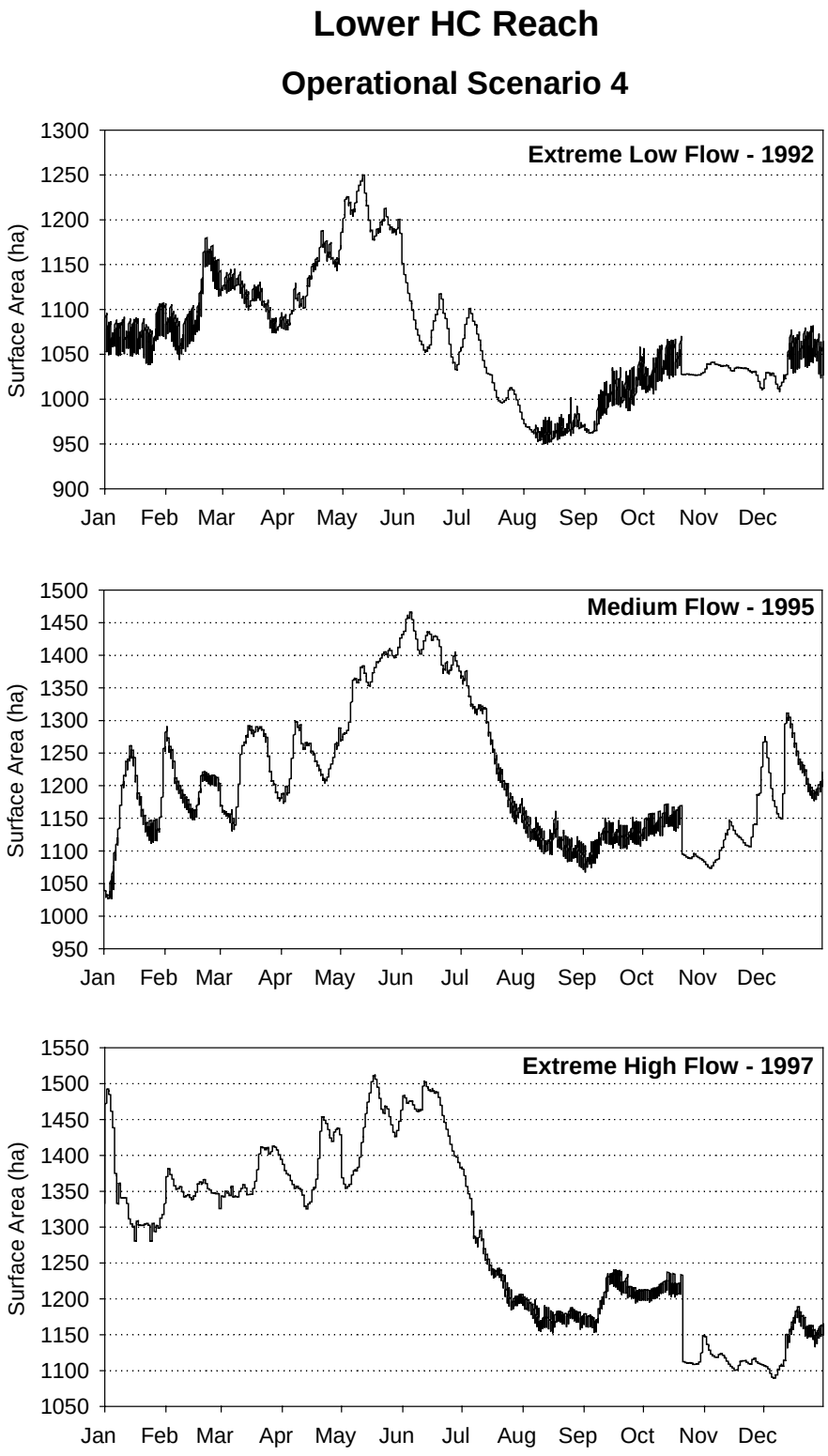


Figure 57. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 4 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

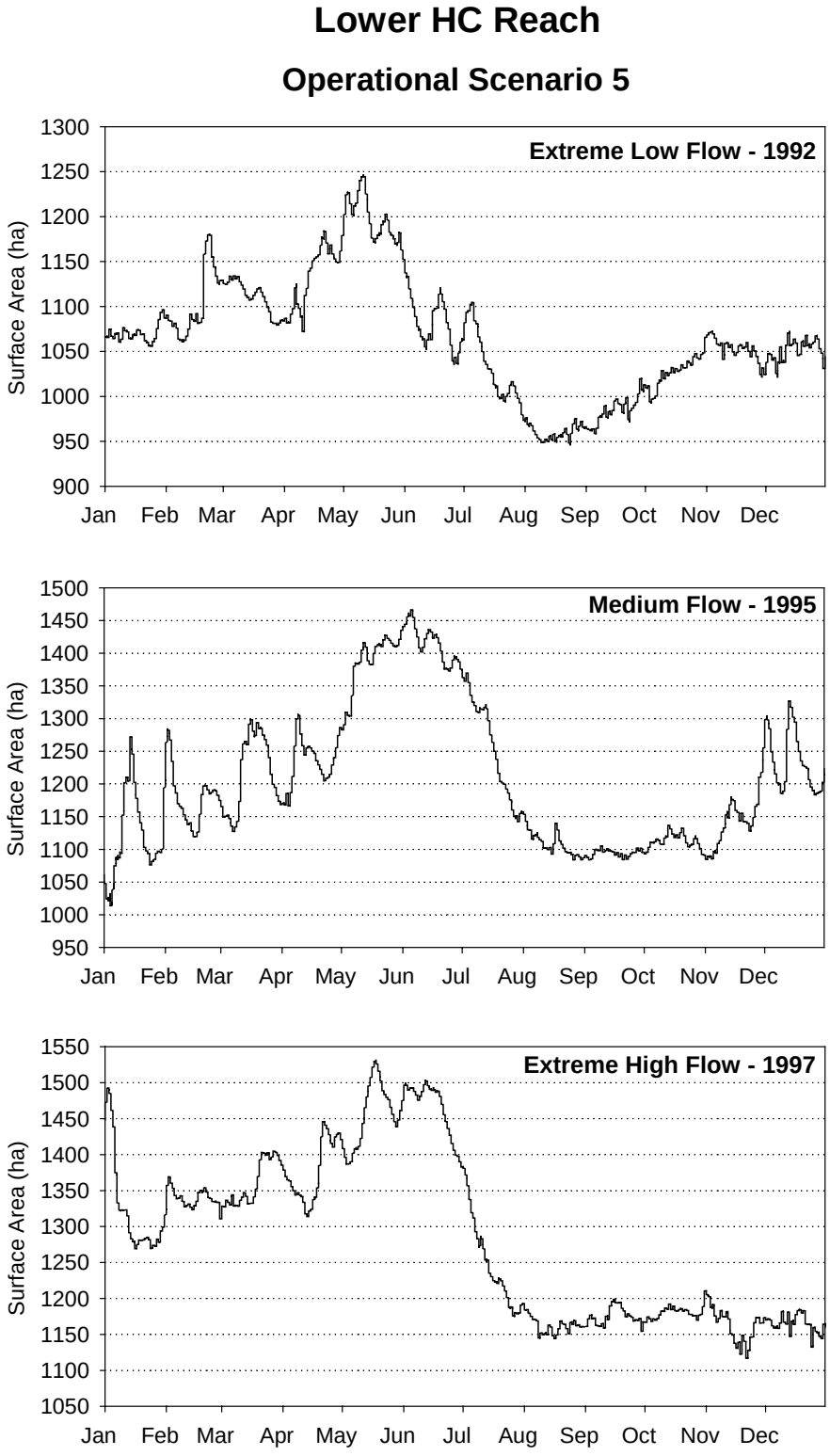


Figure 58. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 5 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

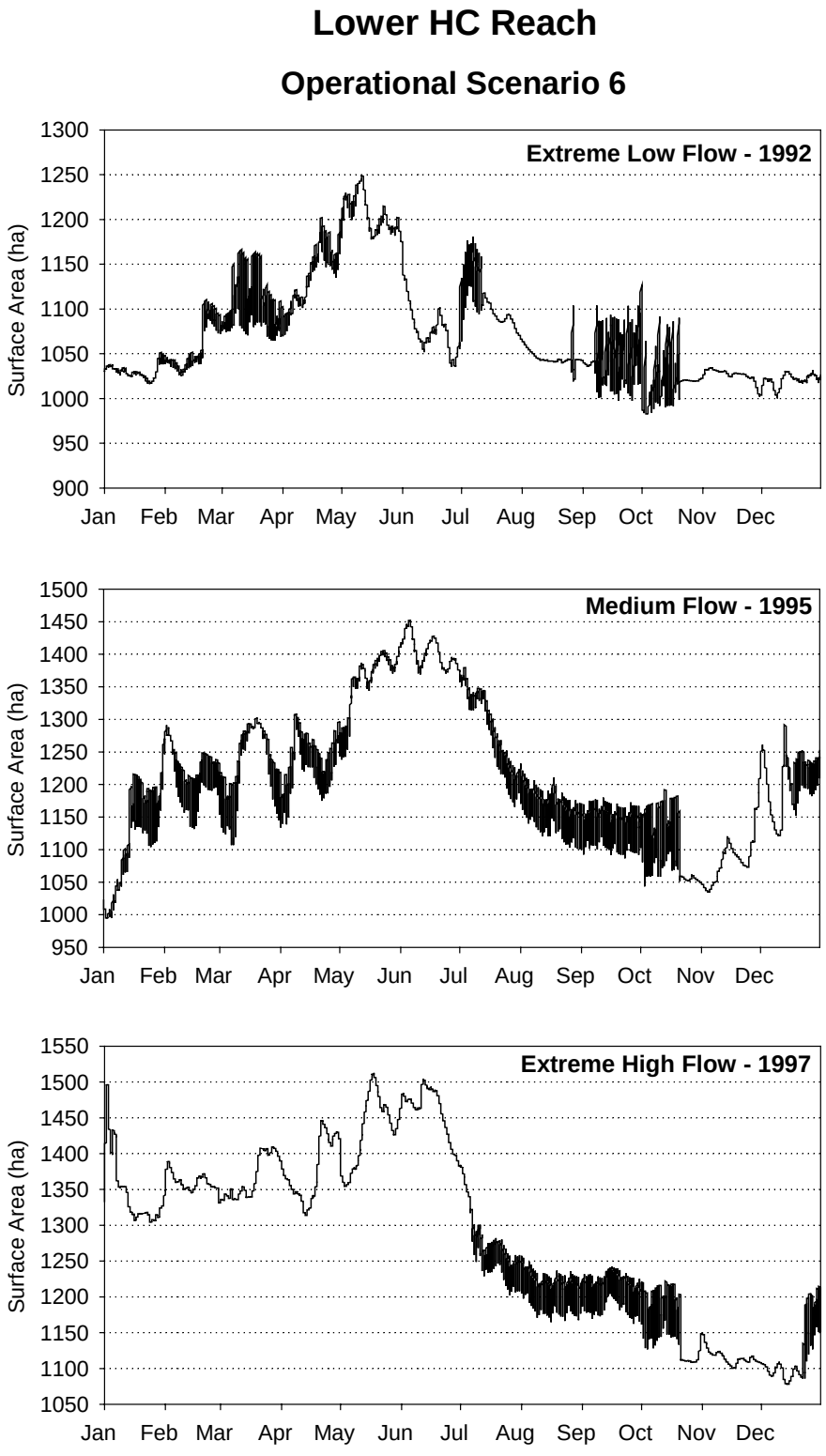


Figure 59. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Operational Scenario 6 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

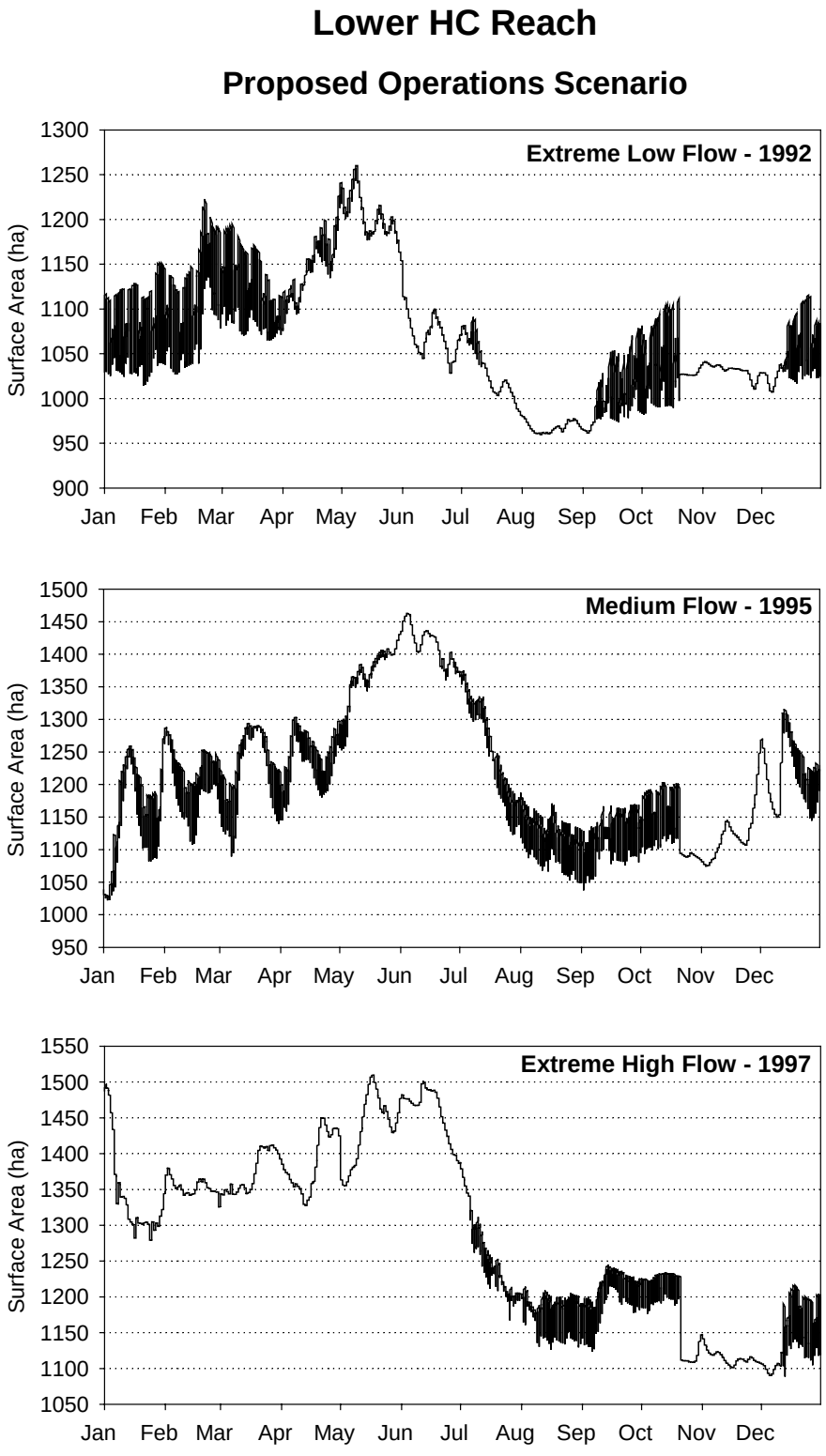


Figure 60. Total surface area (wetted stream area) predicted for the lower HC reach modeled under Proposed Operations Scenario during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

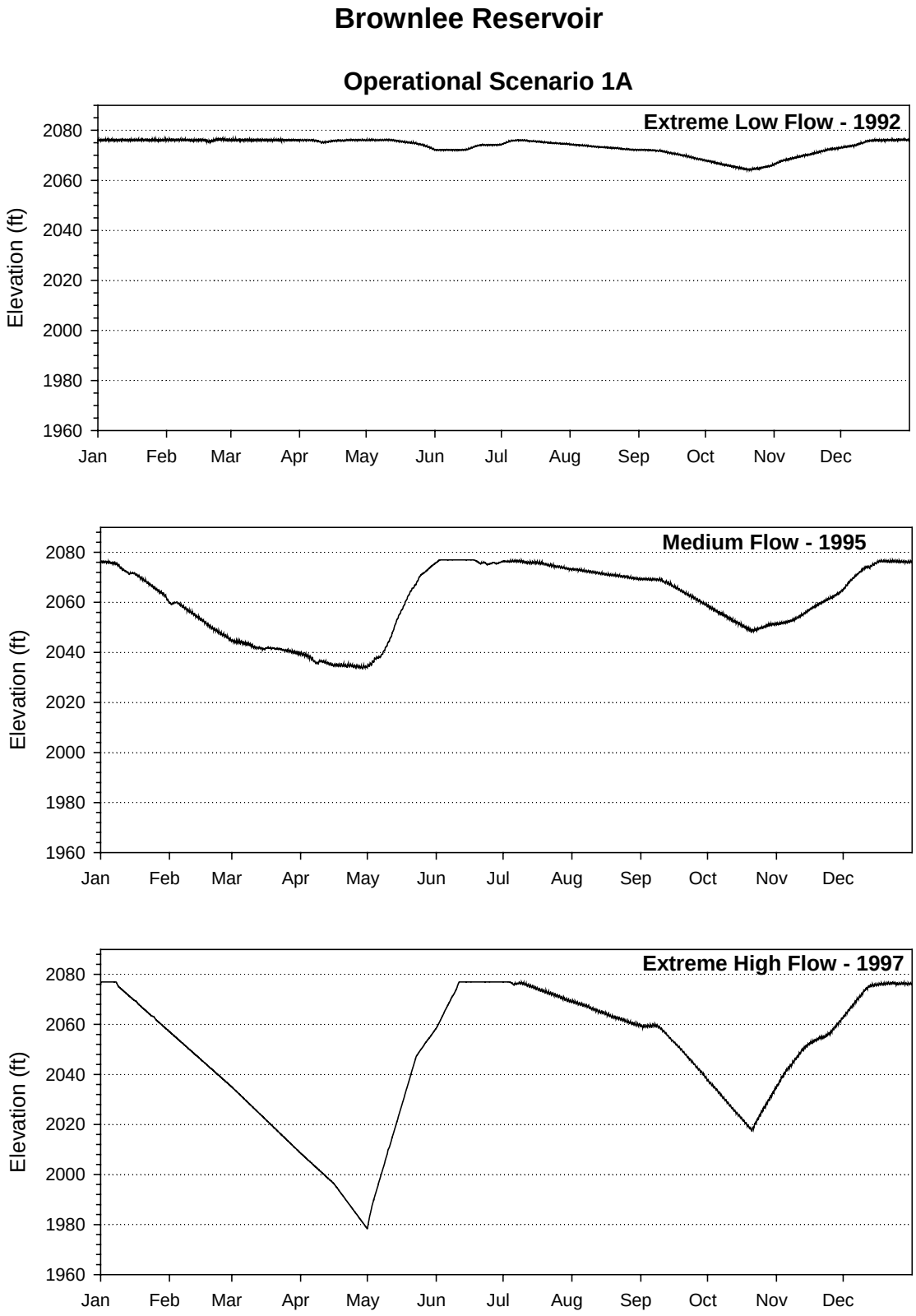


Figure 61. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1A during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

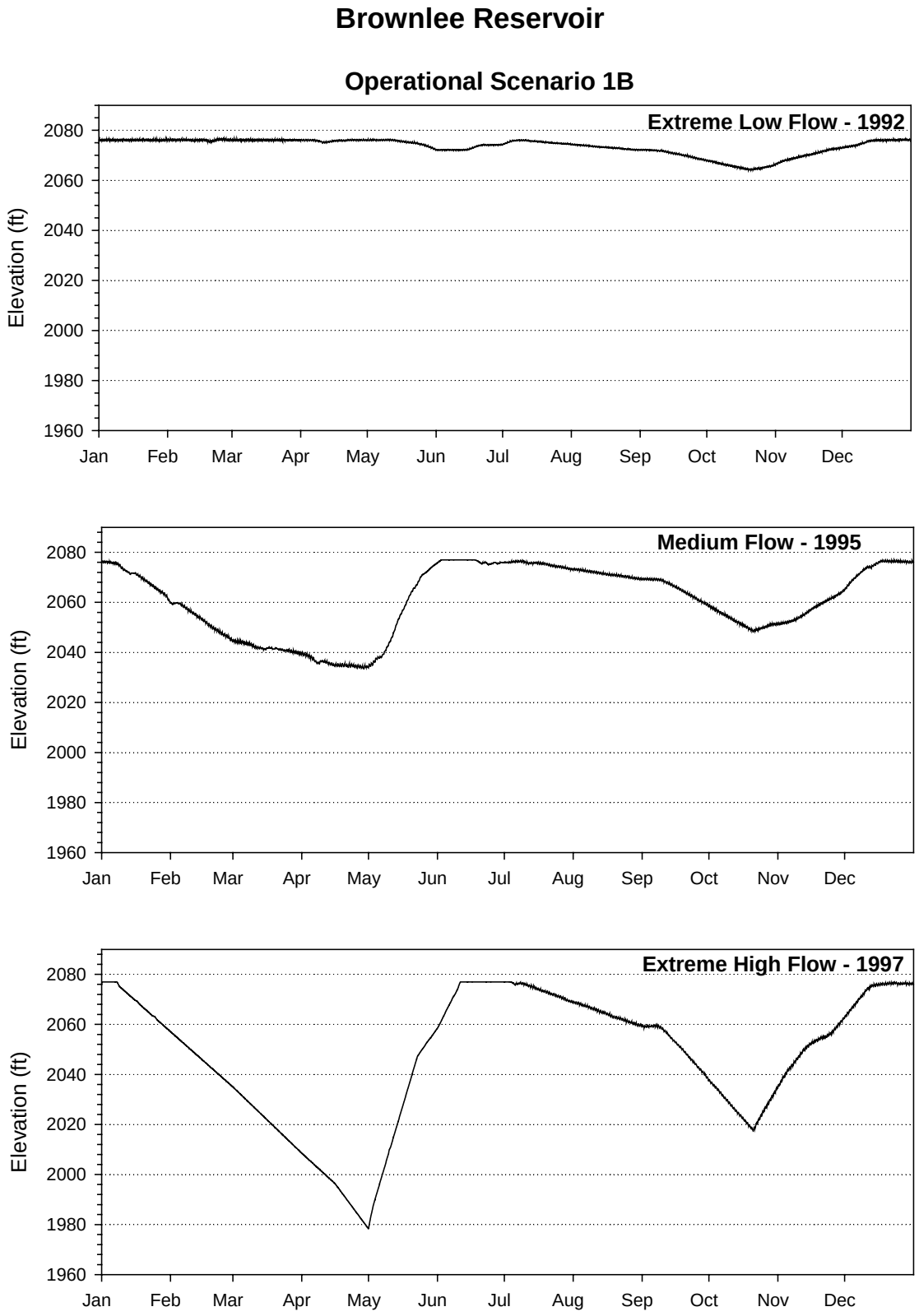


Figure 62. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1B during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

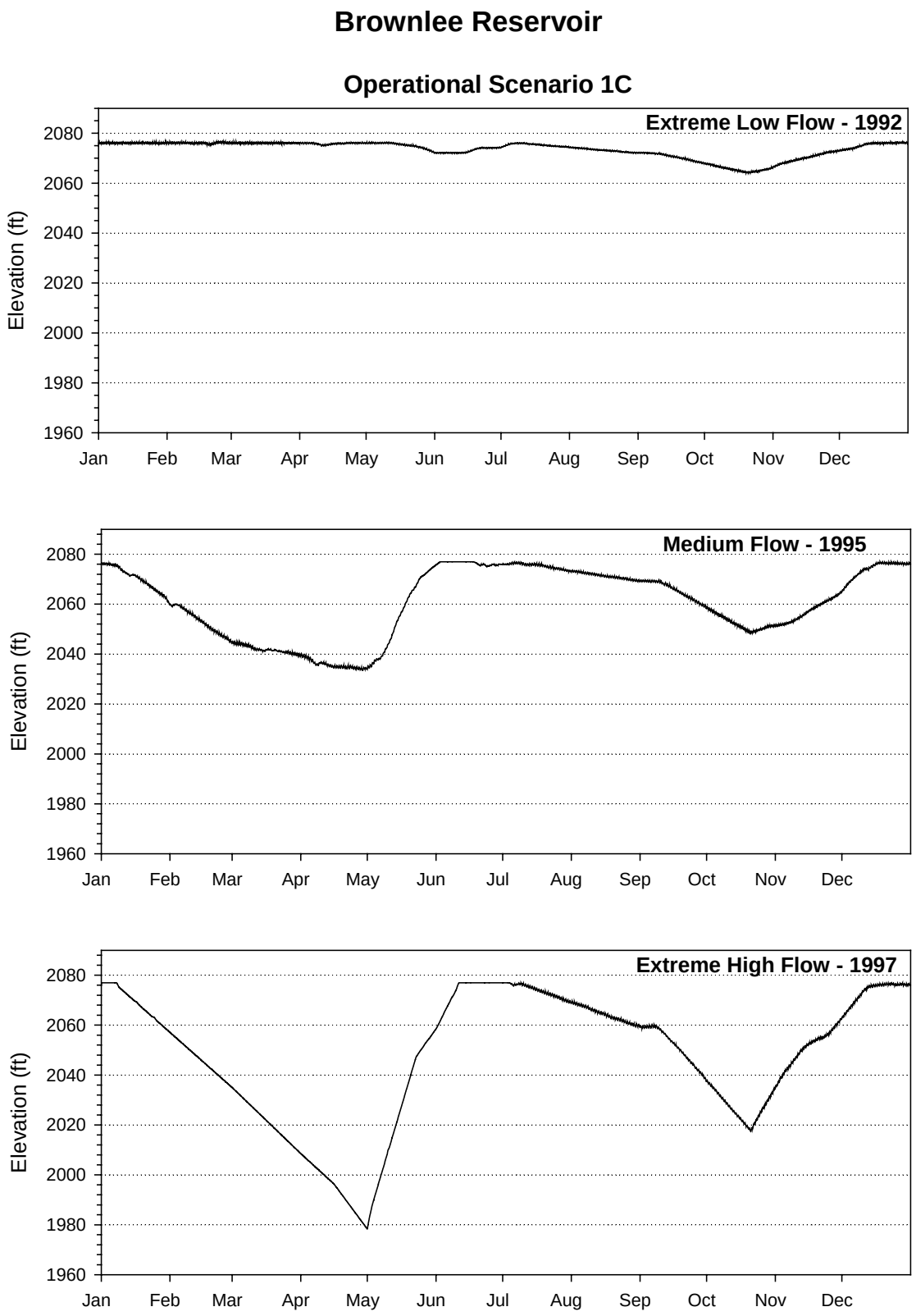


Figure 63. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1C during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

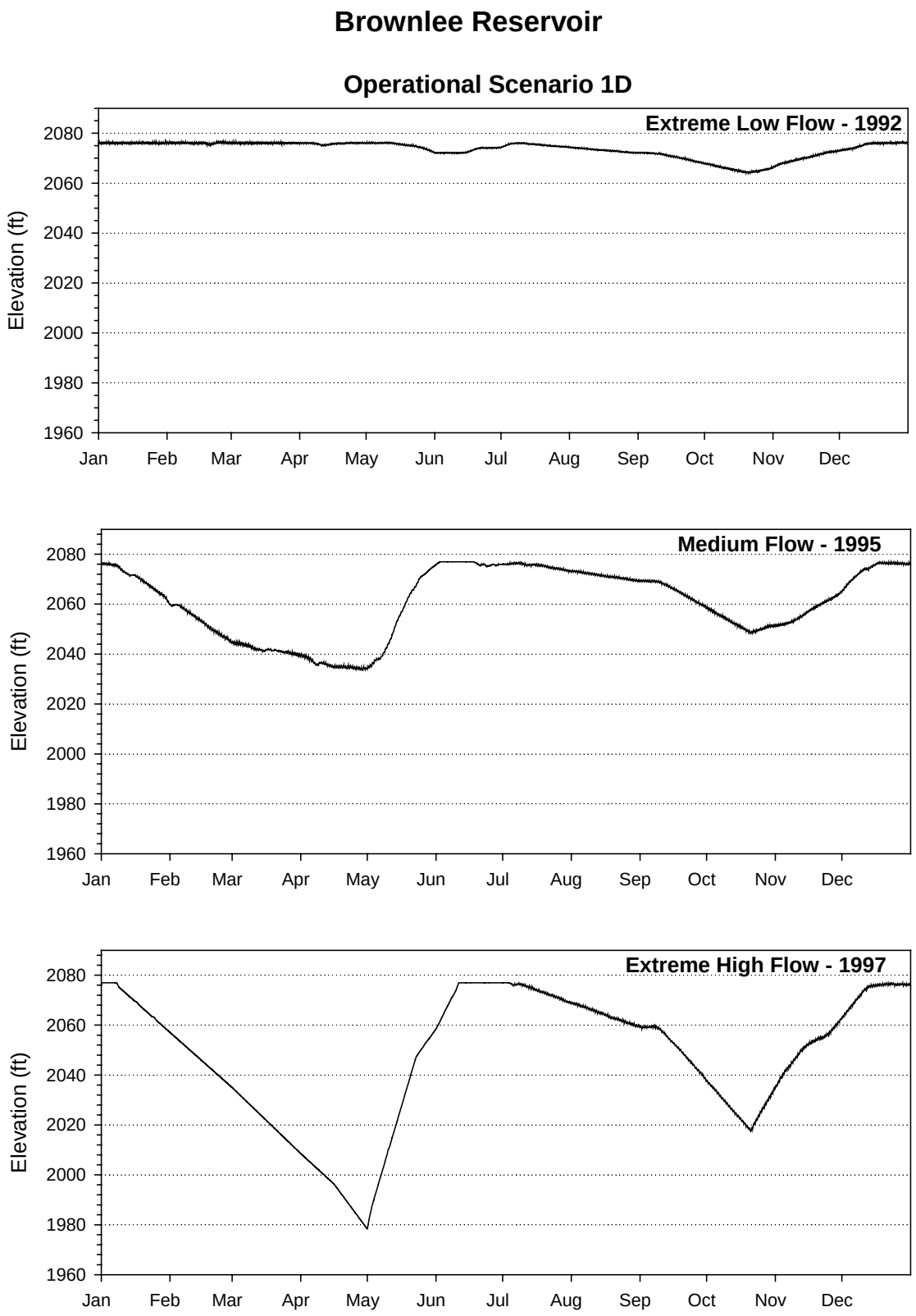


Figure 64. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1D during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

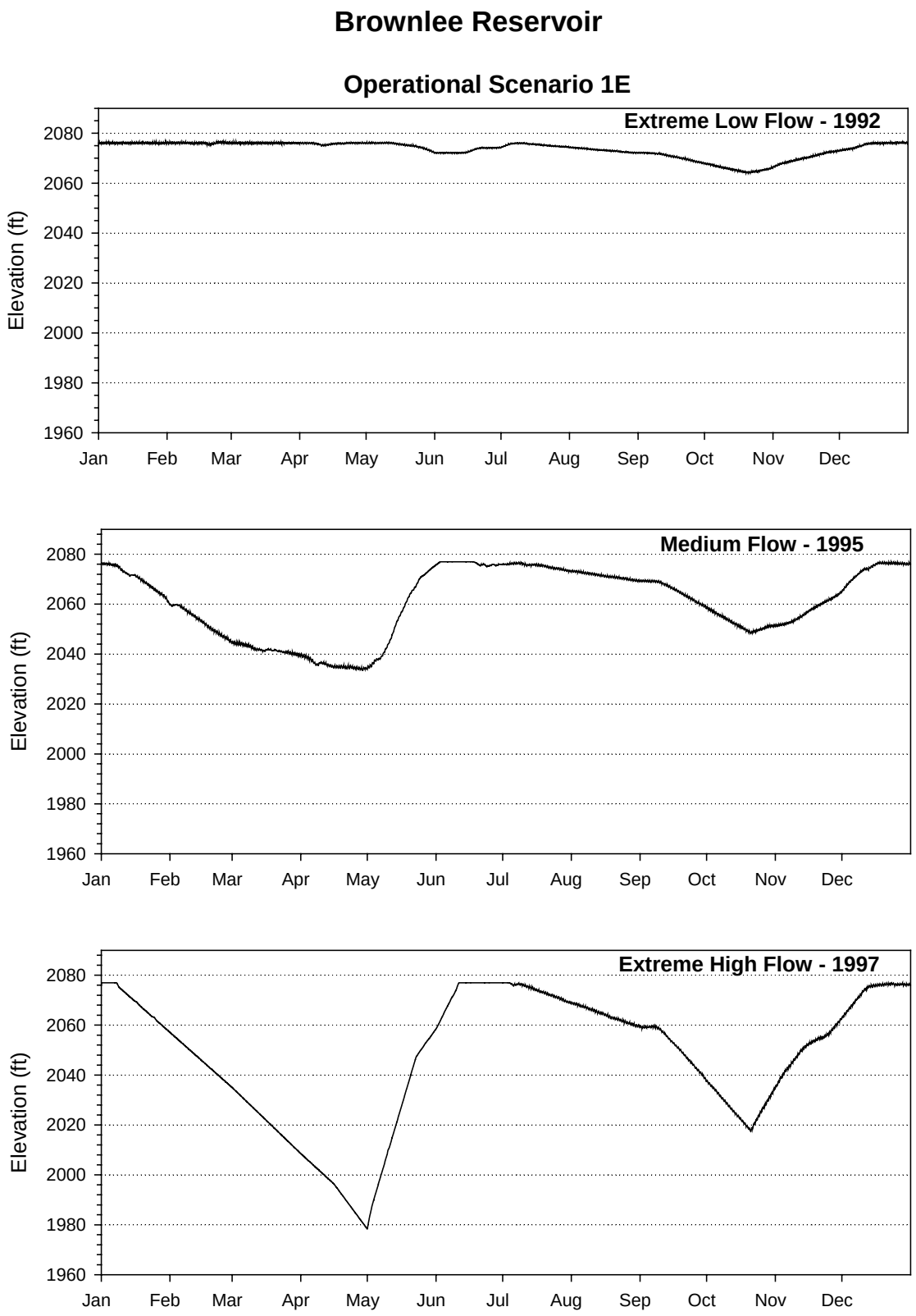


Figure 65. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1E during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

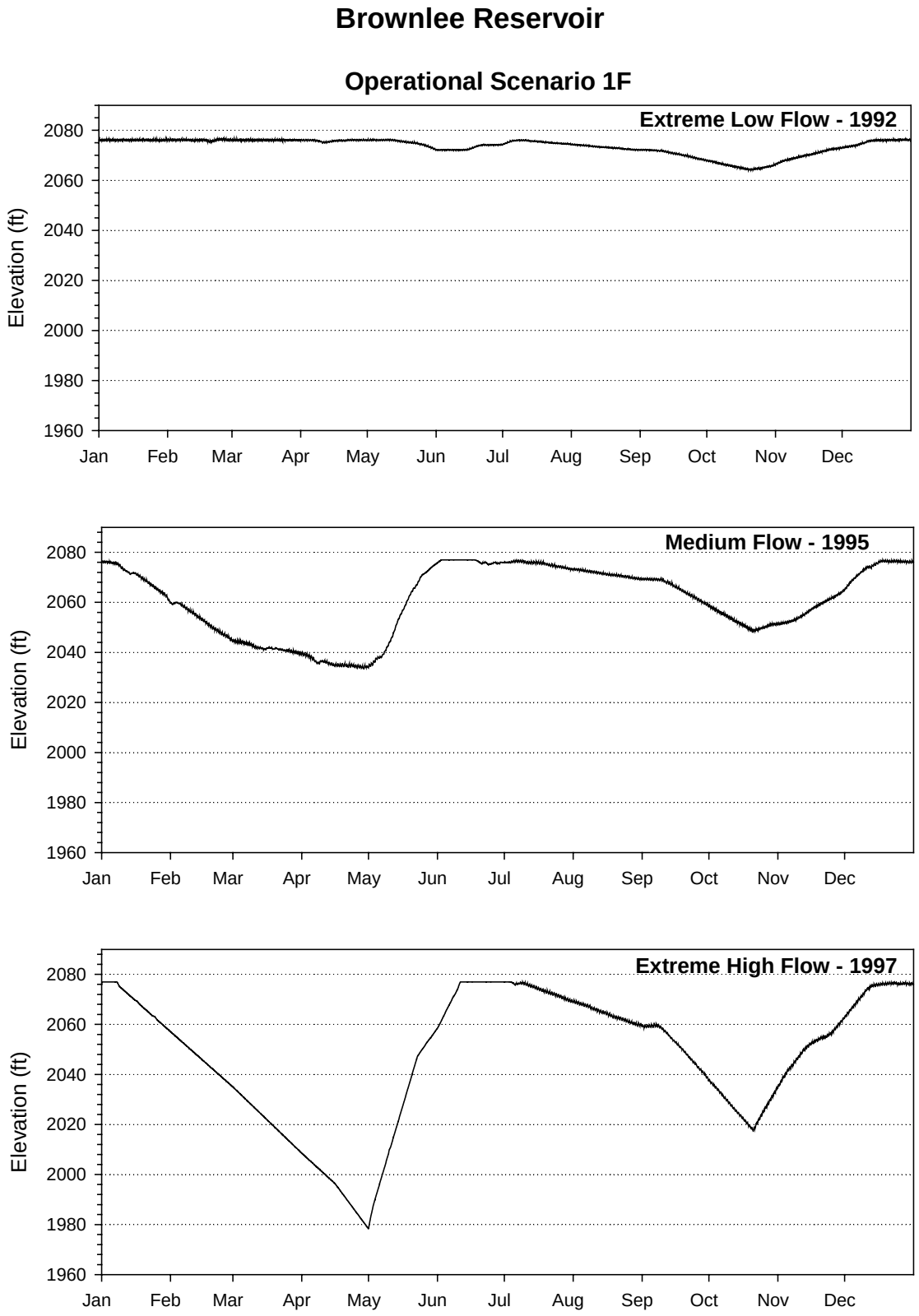


Figure 66. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1F during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

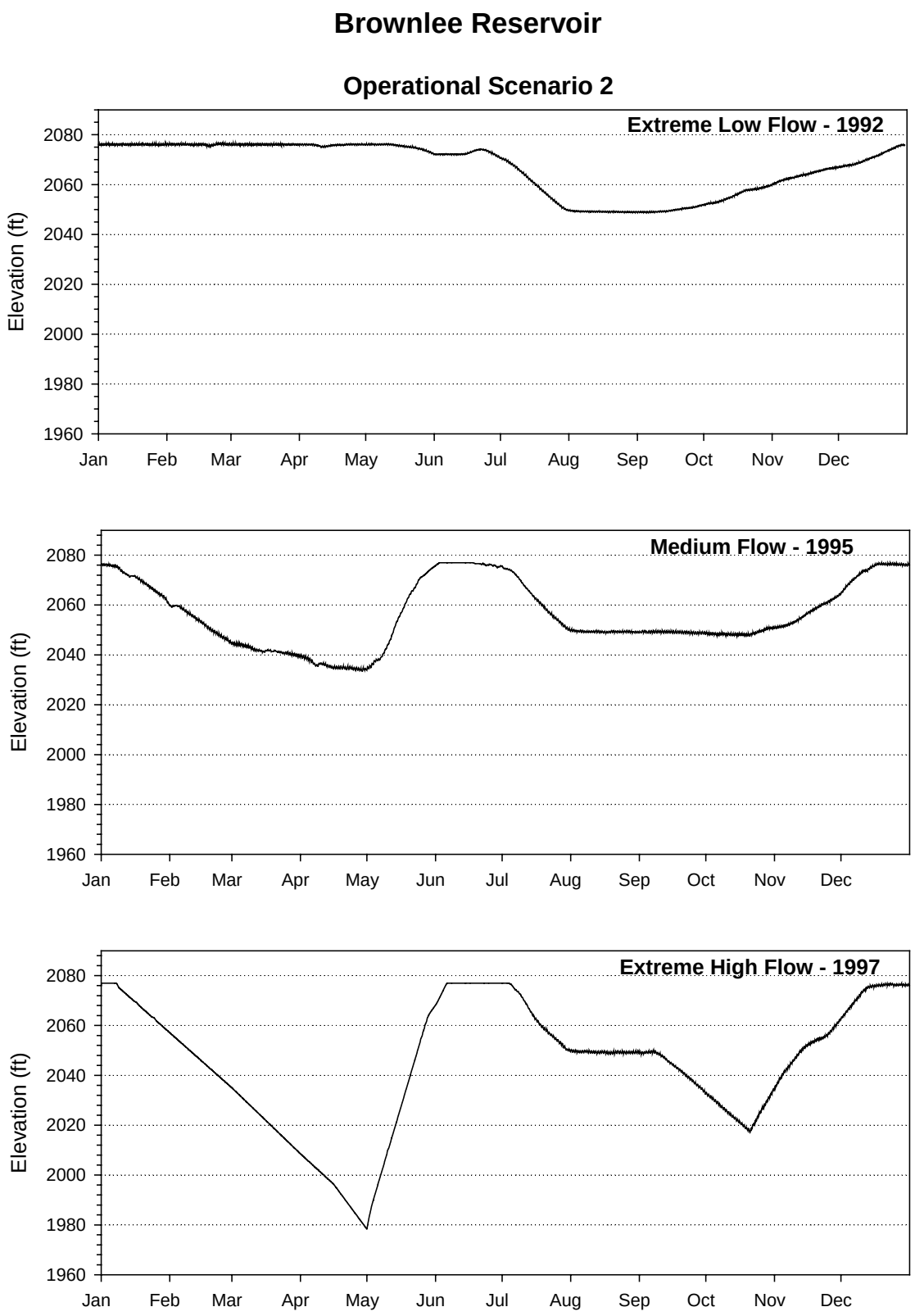


Figure 67. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 2 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

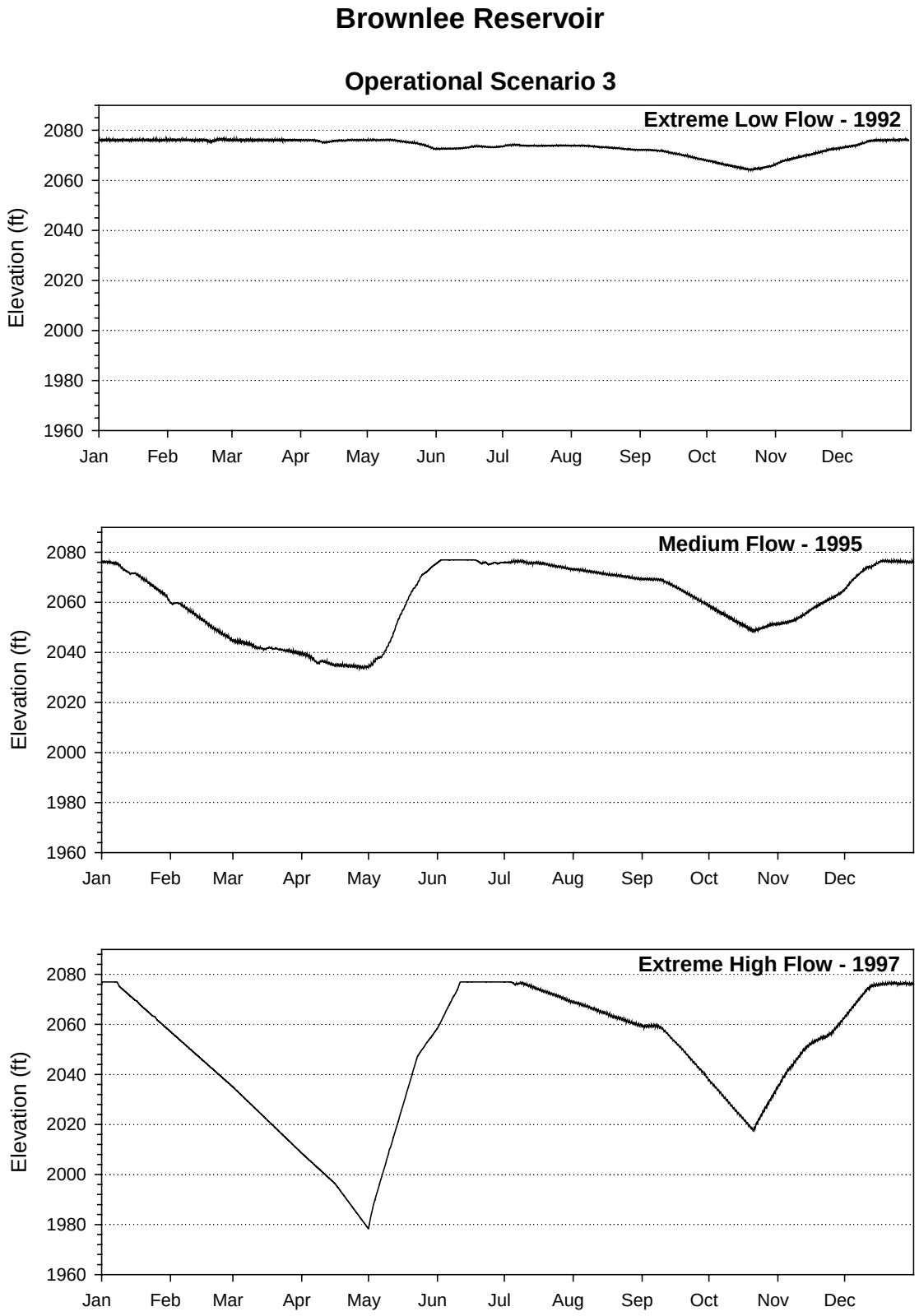


Figure 68. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 3 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

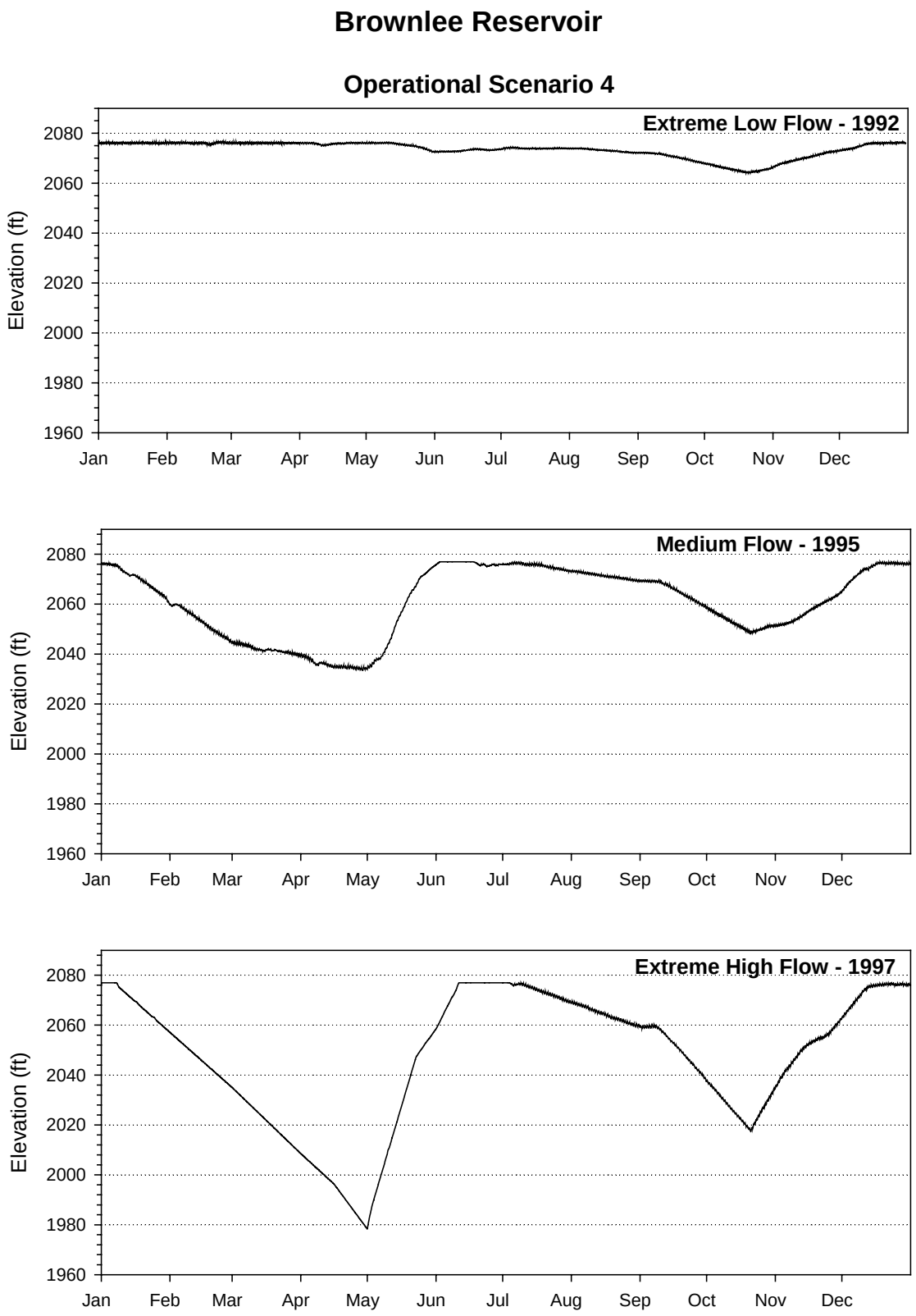


Figure 69. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 4 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

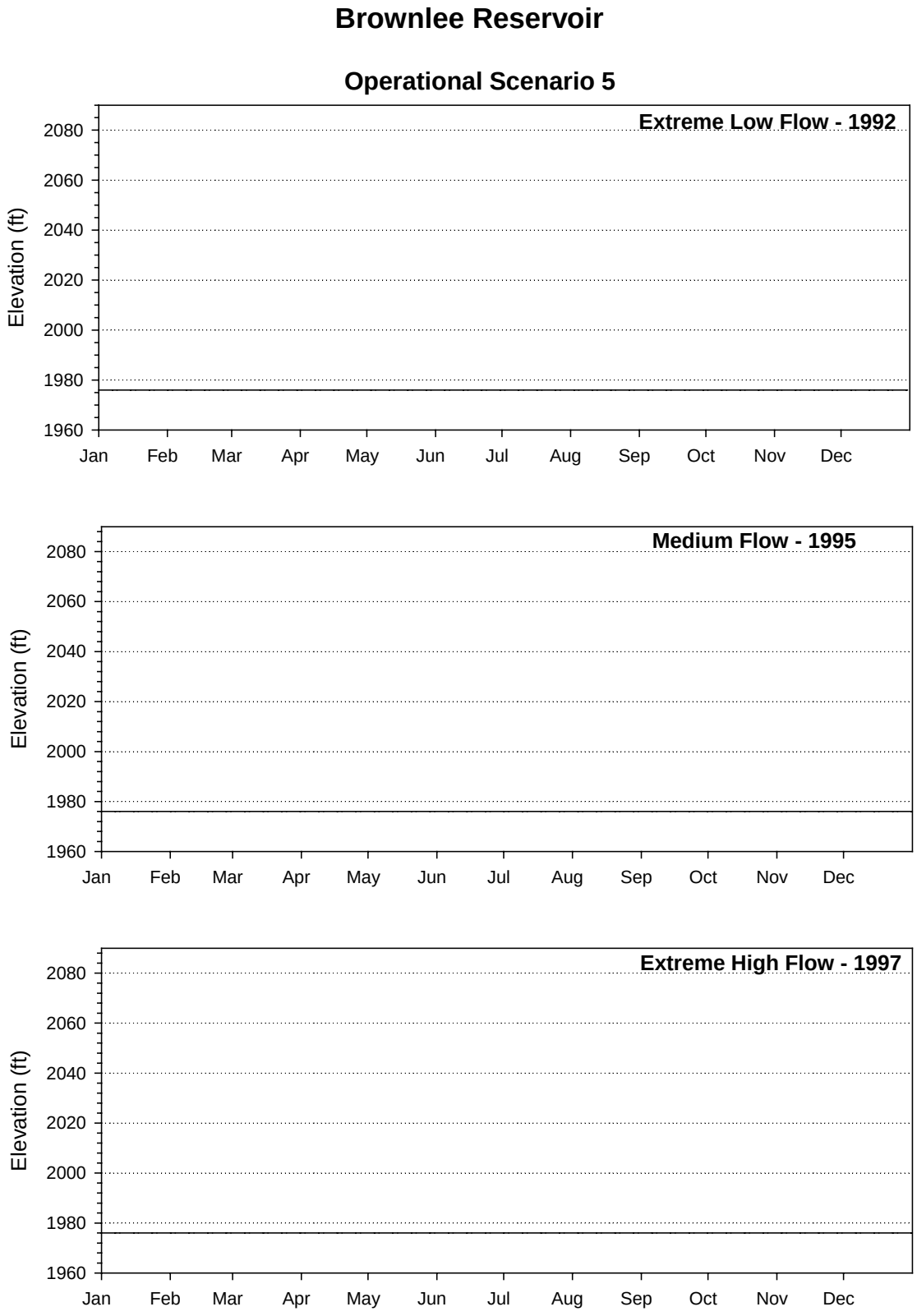


Figure 70. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 5 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

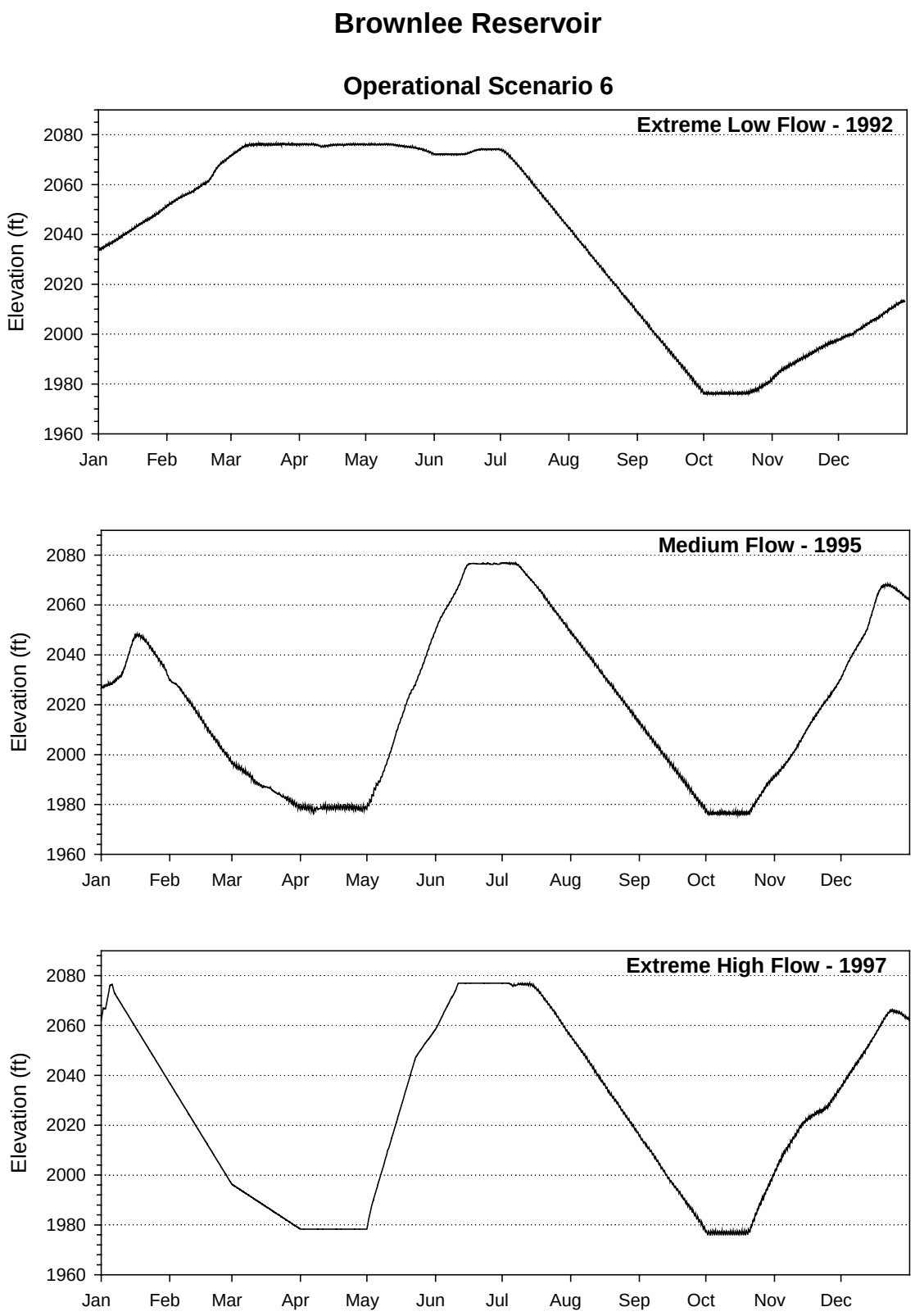


Figure 71. Brownlee reservoir water surface elevations modeled with CHEOPS under Operational Scenario 6 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

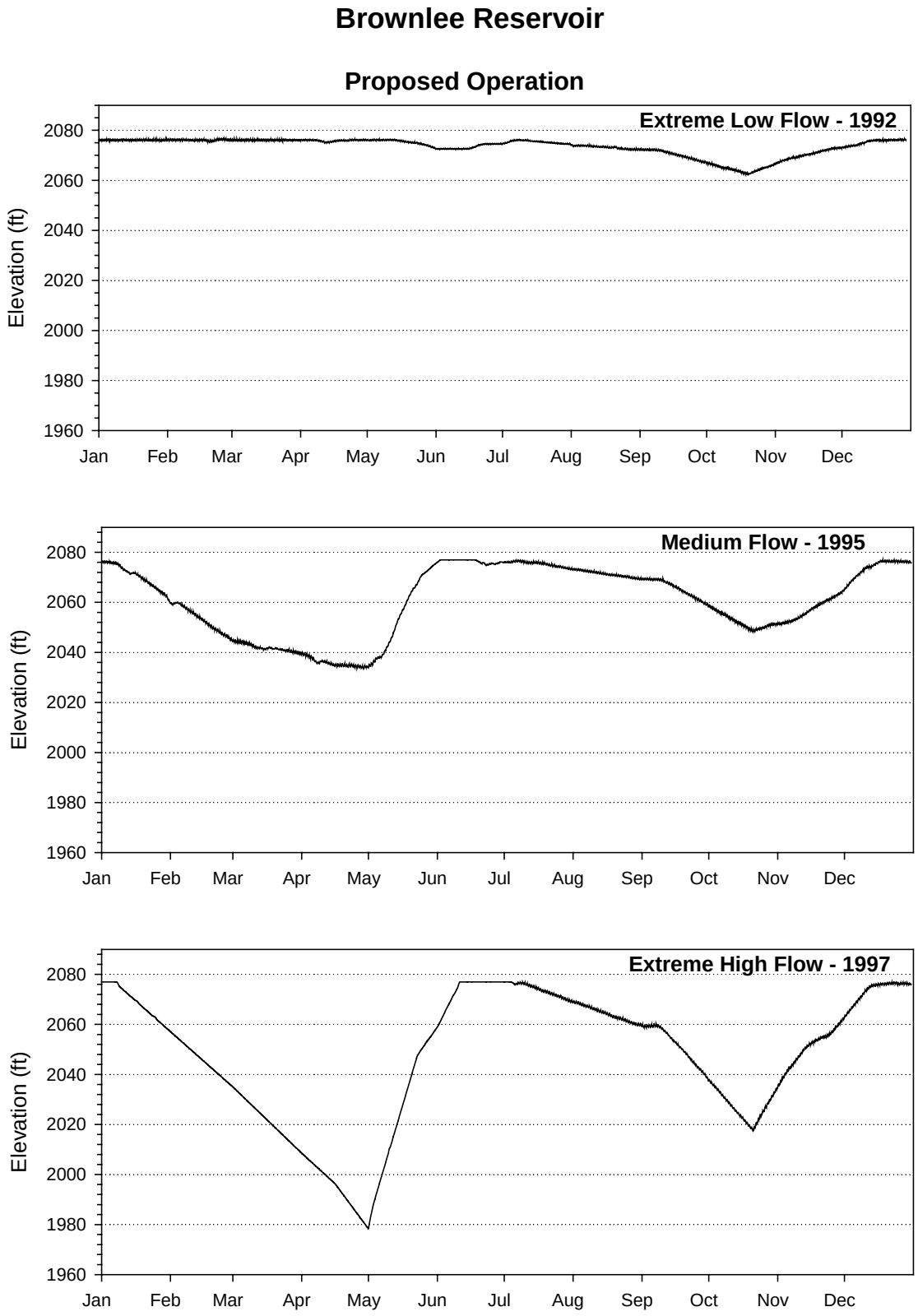


Figure 72. Brownlee reservoir water surface elevations modeled with CHEOPS under Proposed Operations during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

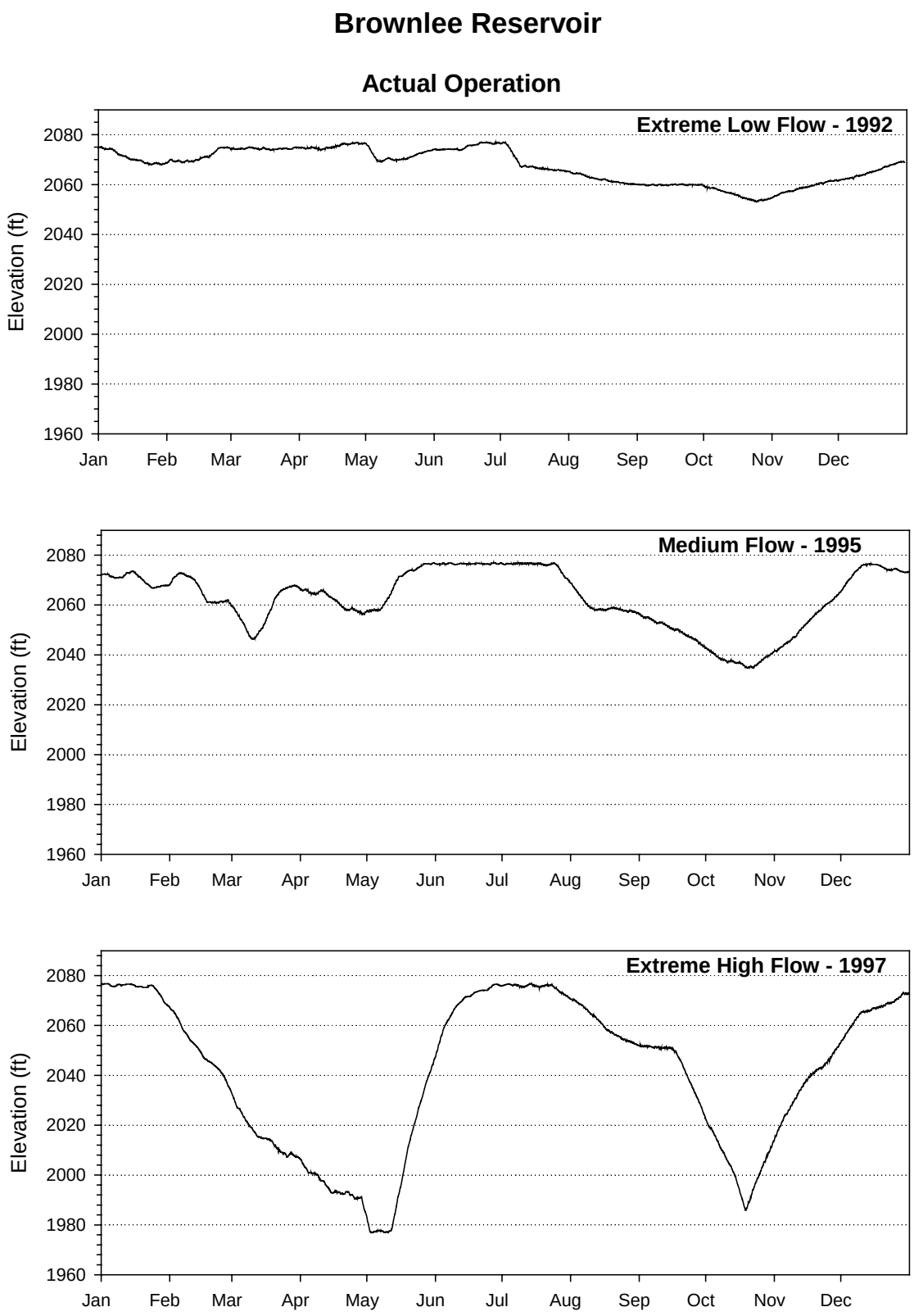


Figure 73. Actual water surface elevations in Brownlee reservoir measured during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

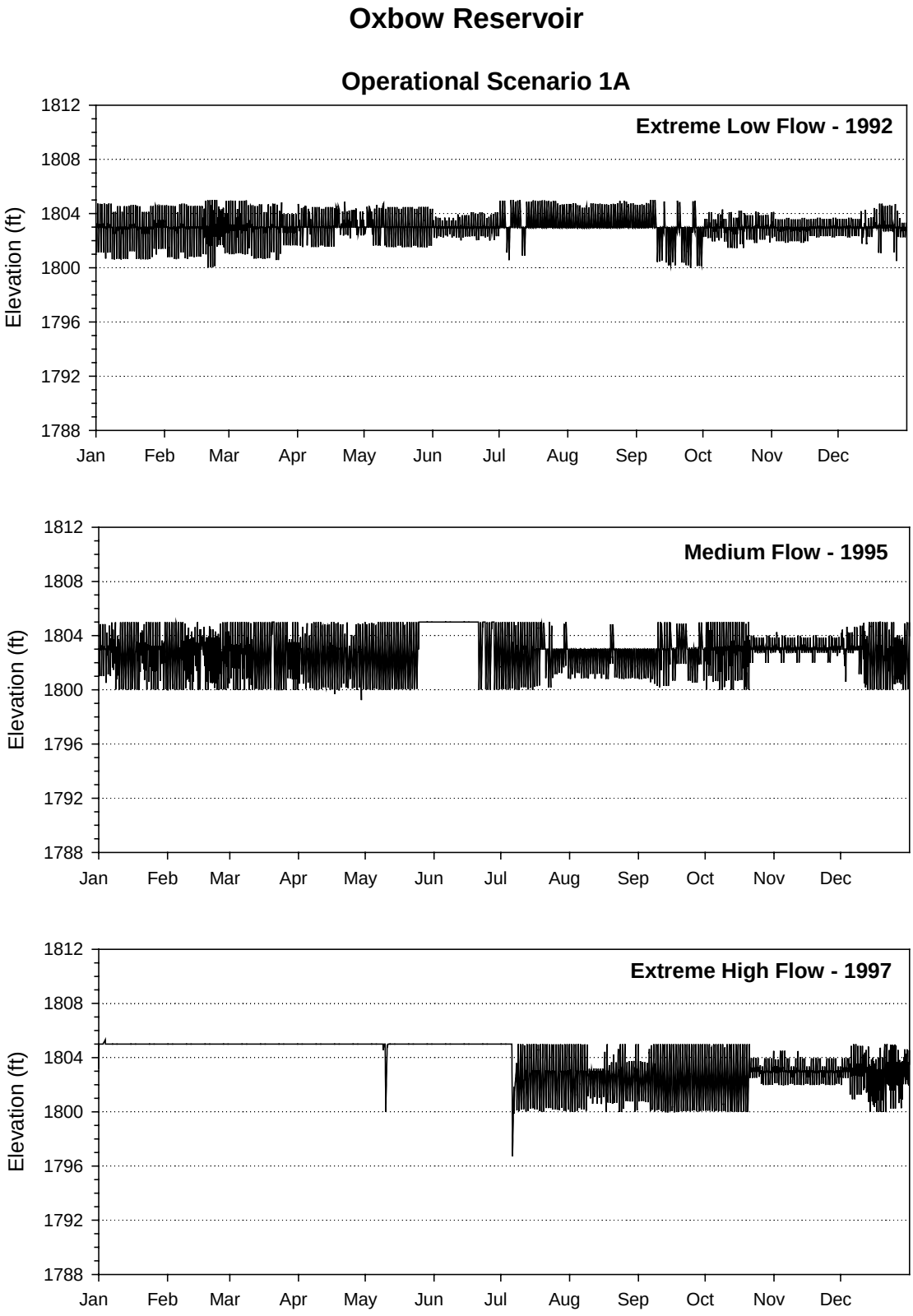


Figure 74. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1A during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

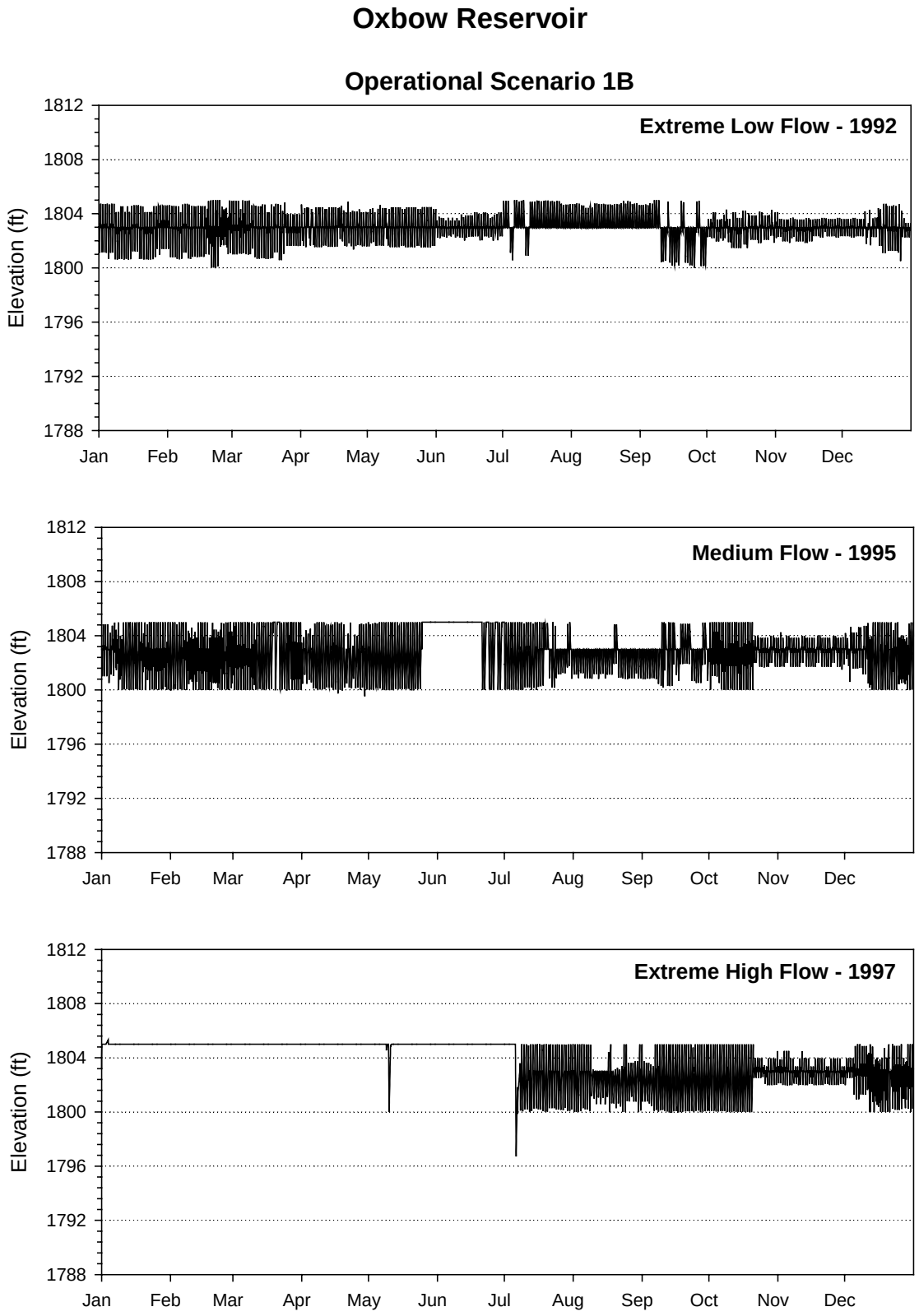


Figure 75. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1B during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

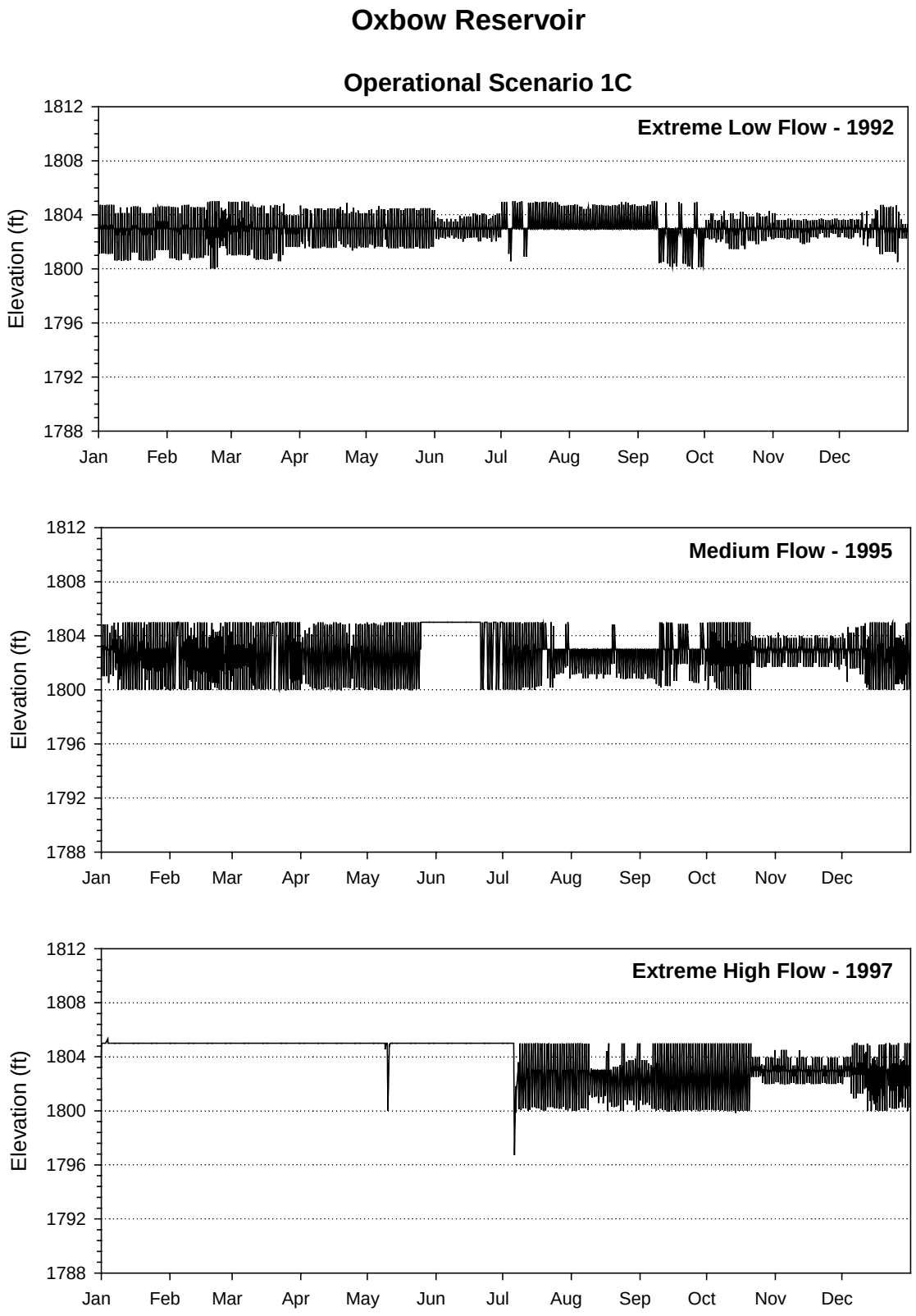


Figure 76. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1C during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

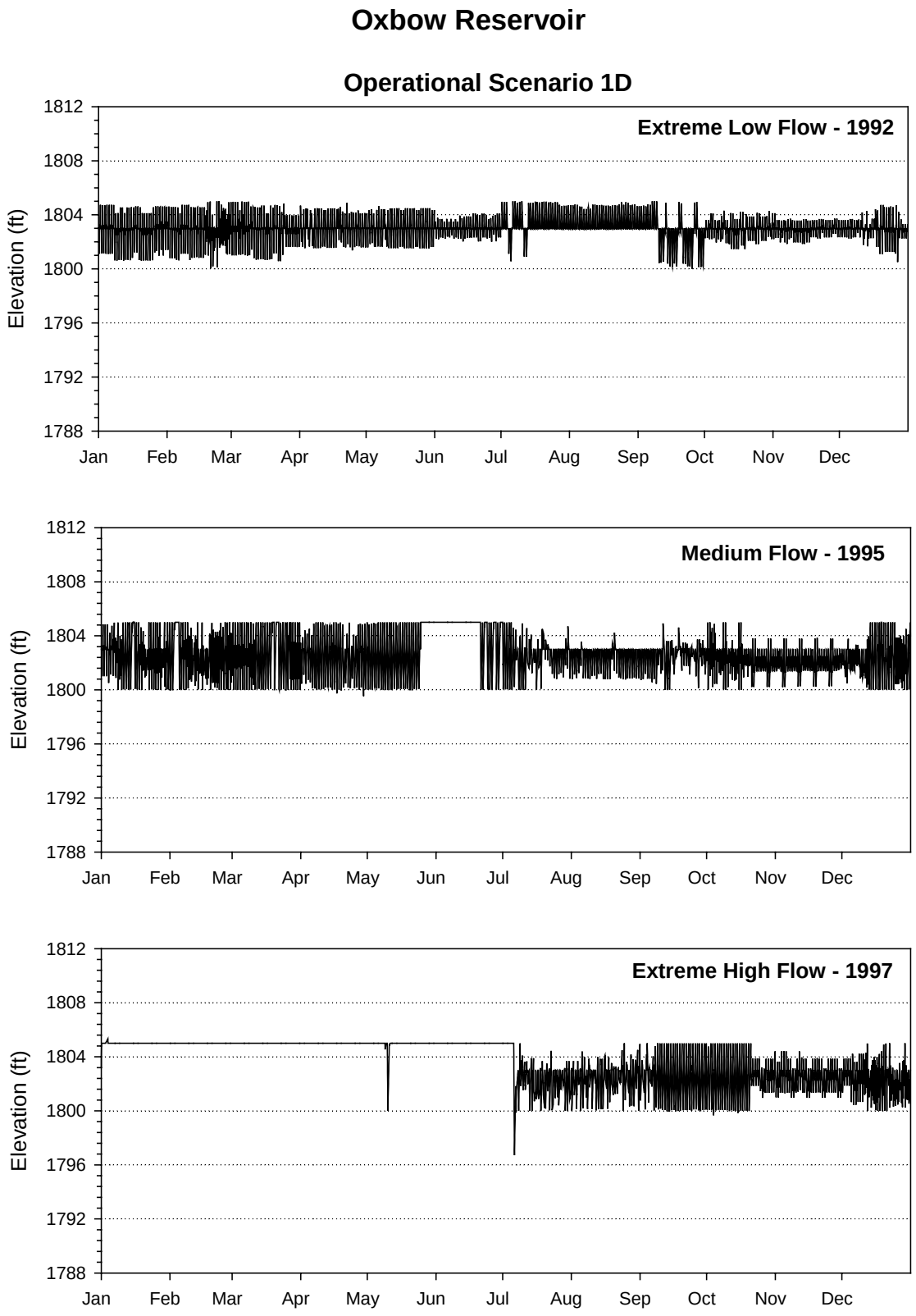


Figure 77. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1D during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

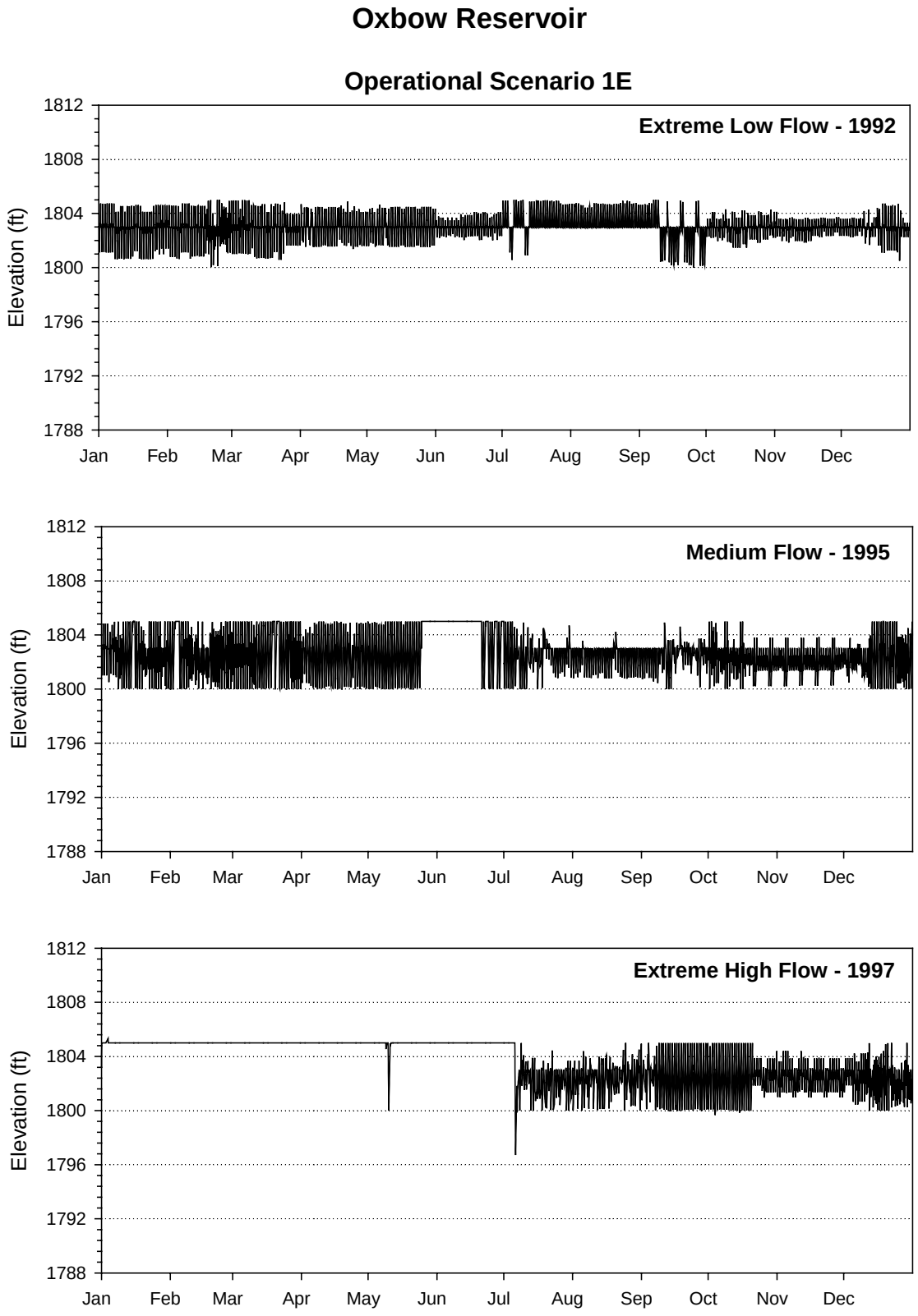


Figure 78. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1E during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

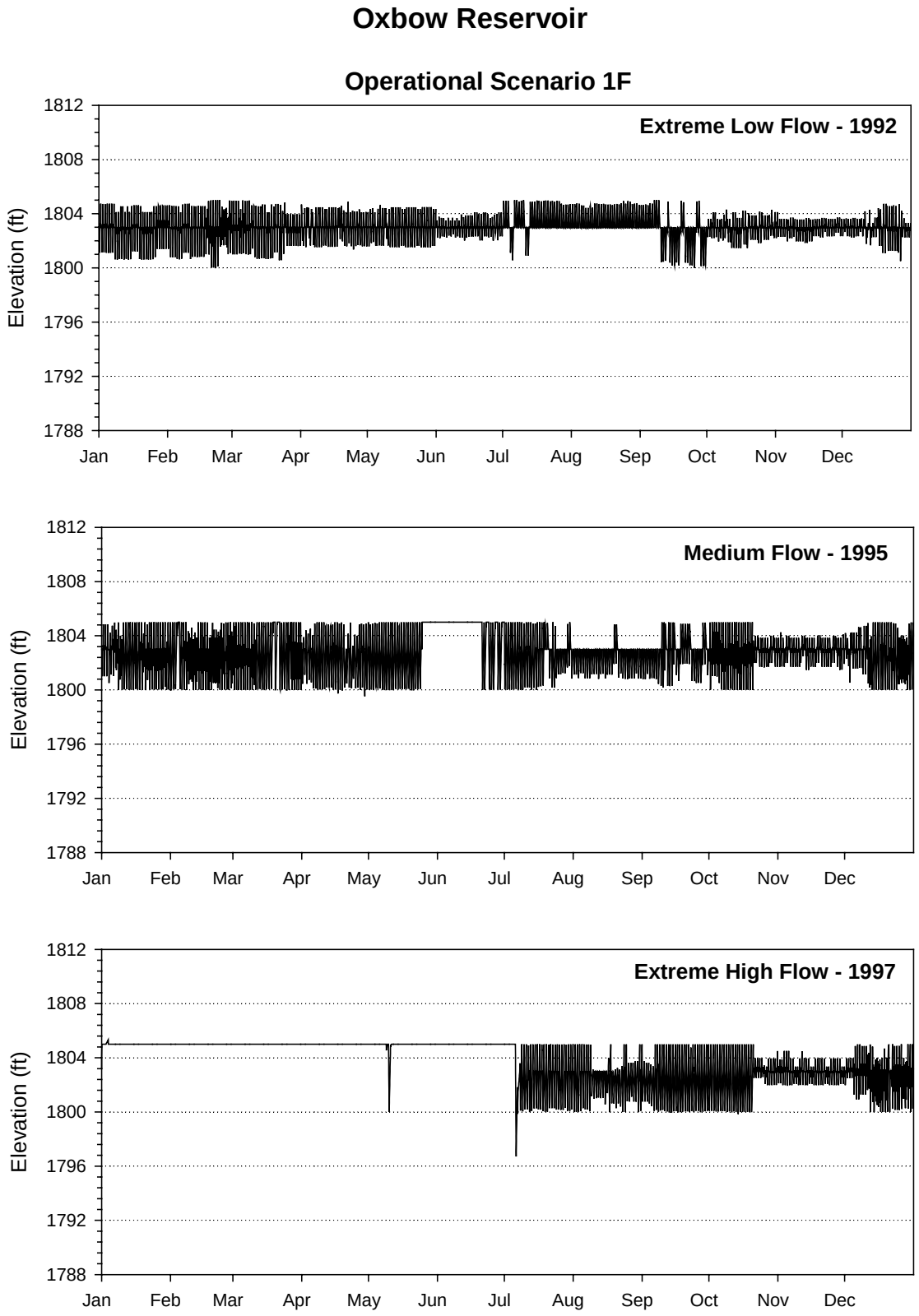


Figure 79. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1F during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

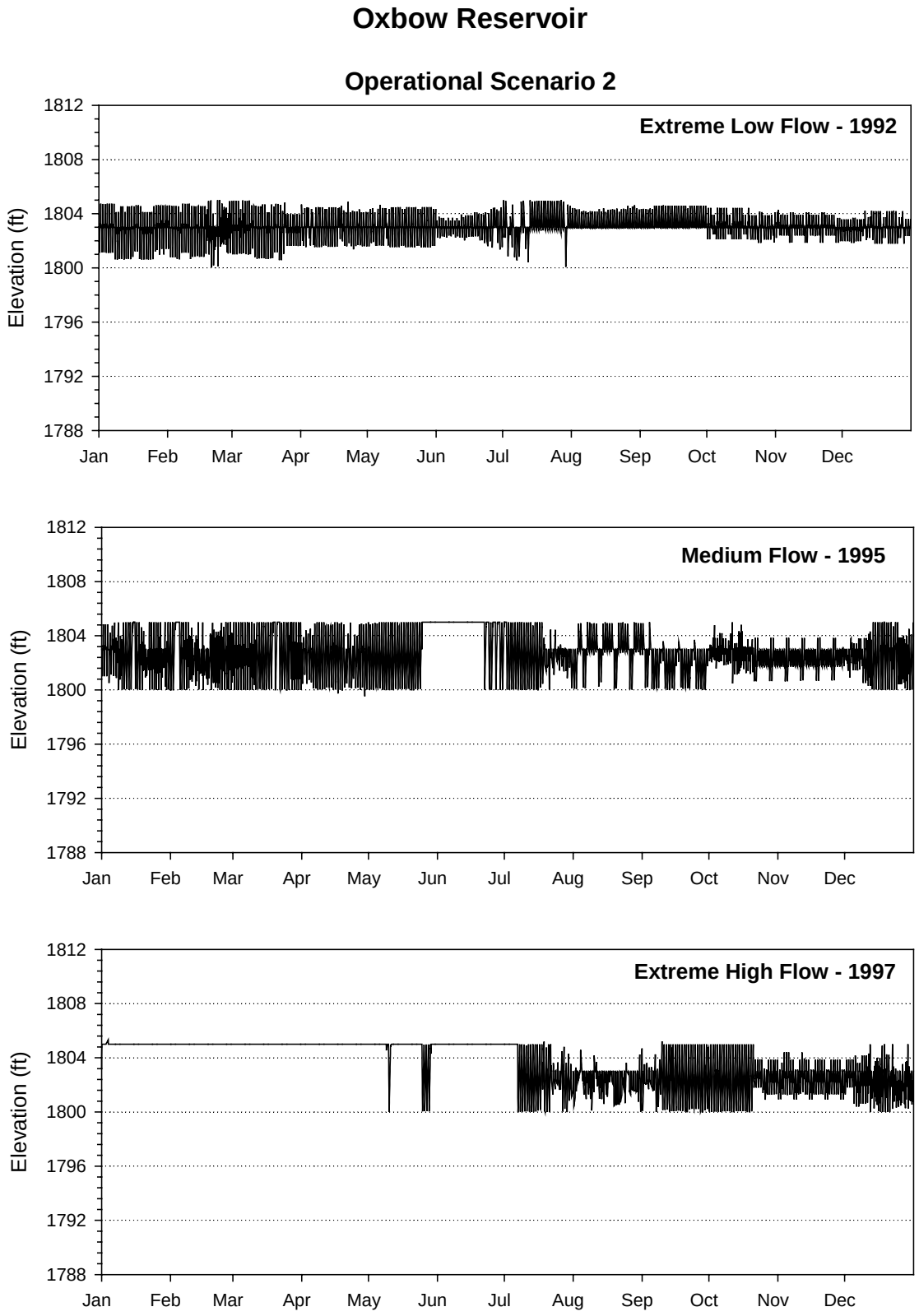


Figure 80. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 2 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

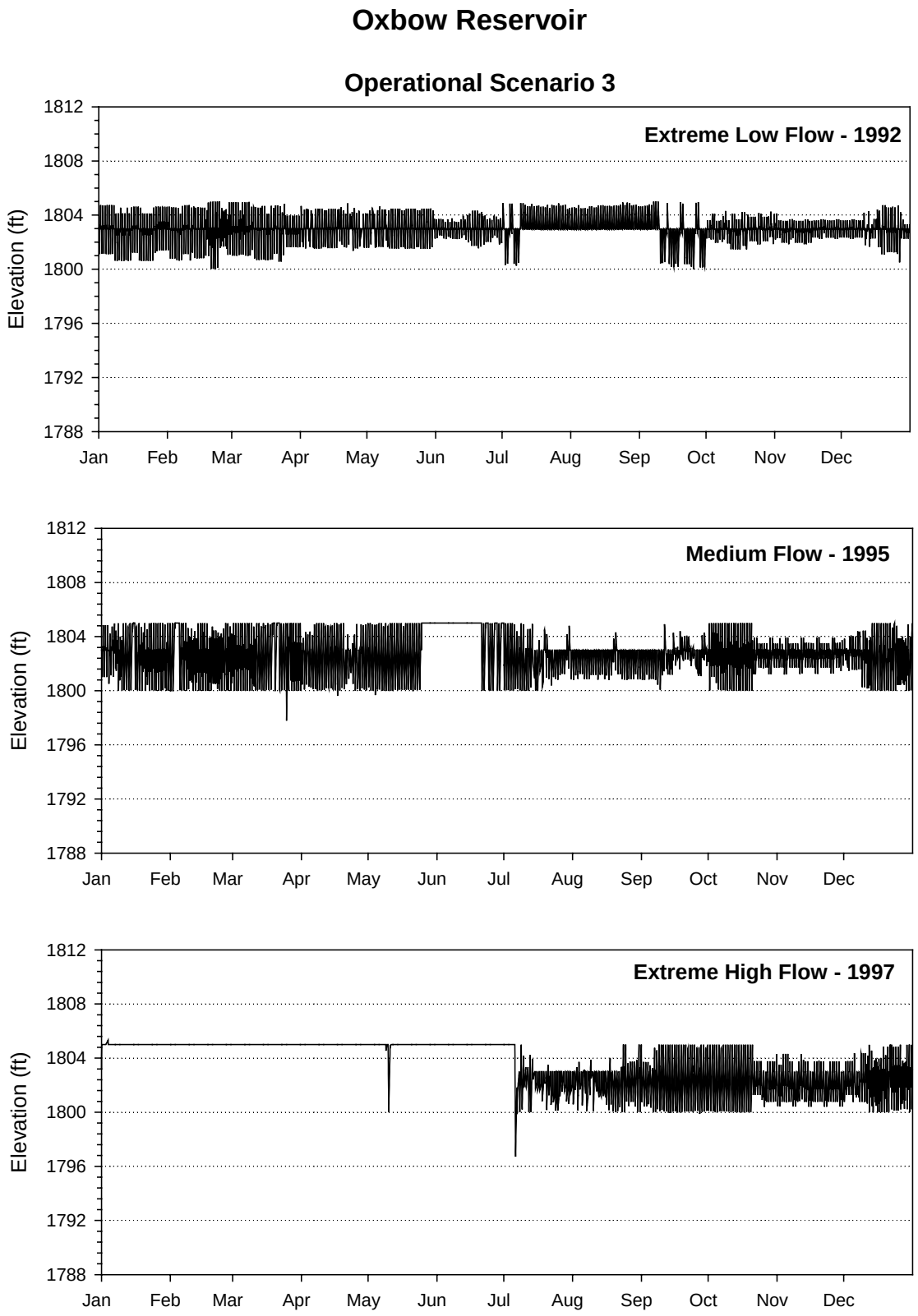


Figure 81. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1A during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

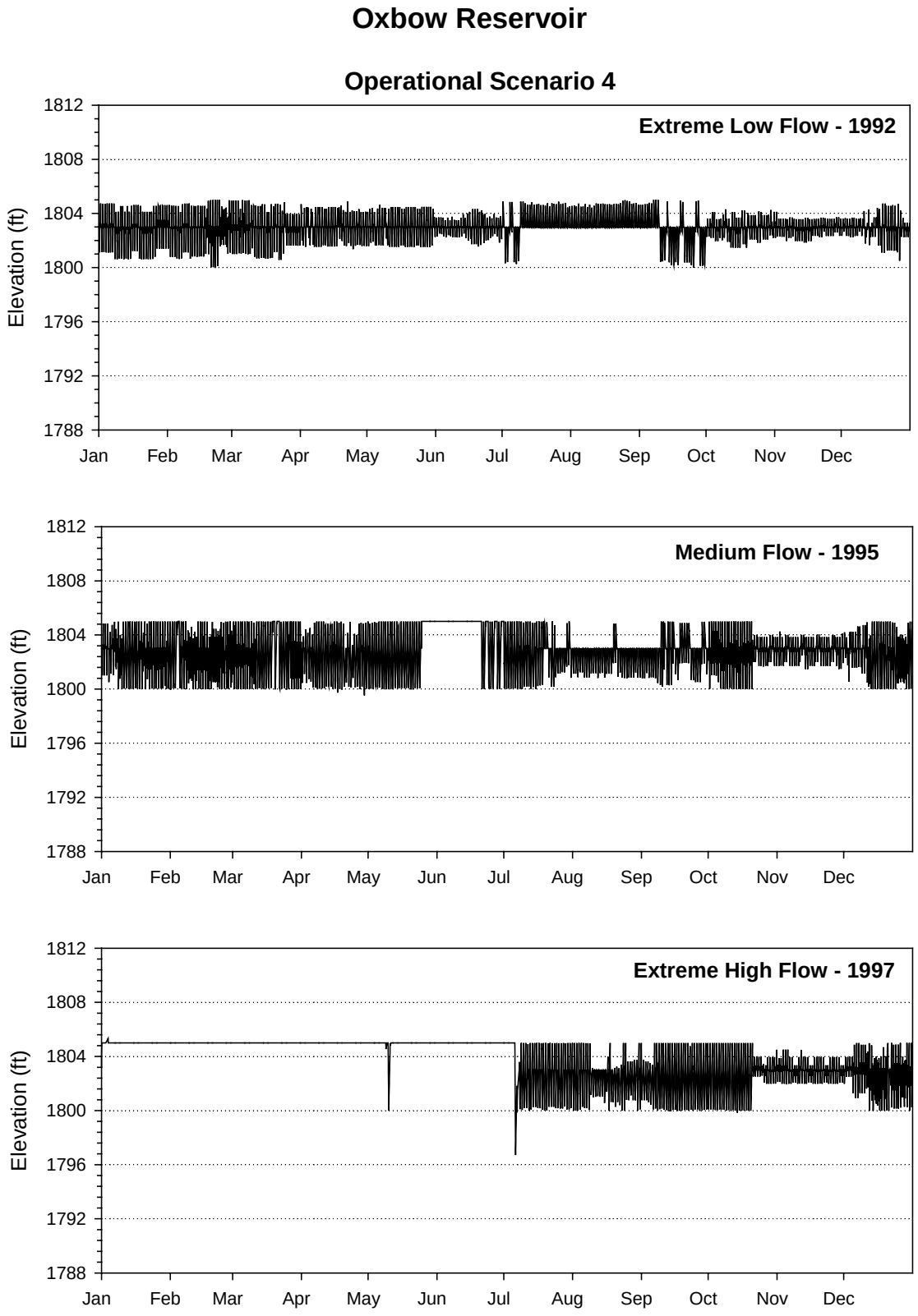


Figure 82. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 4 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

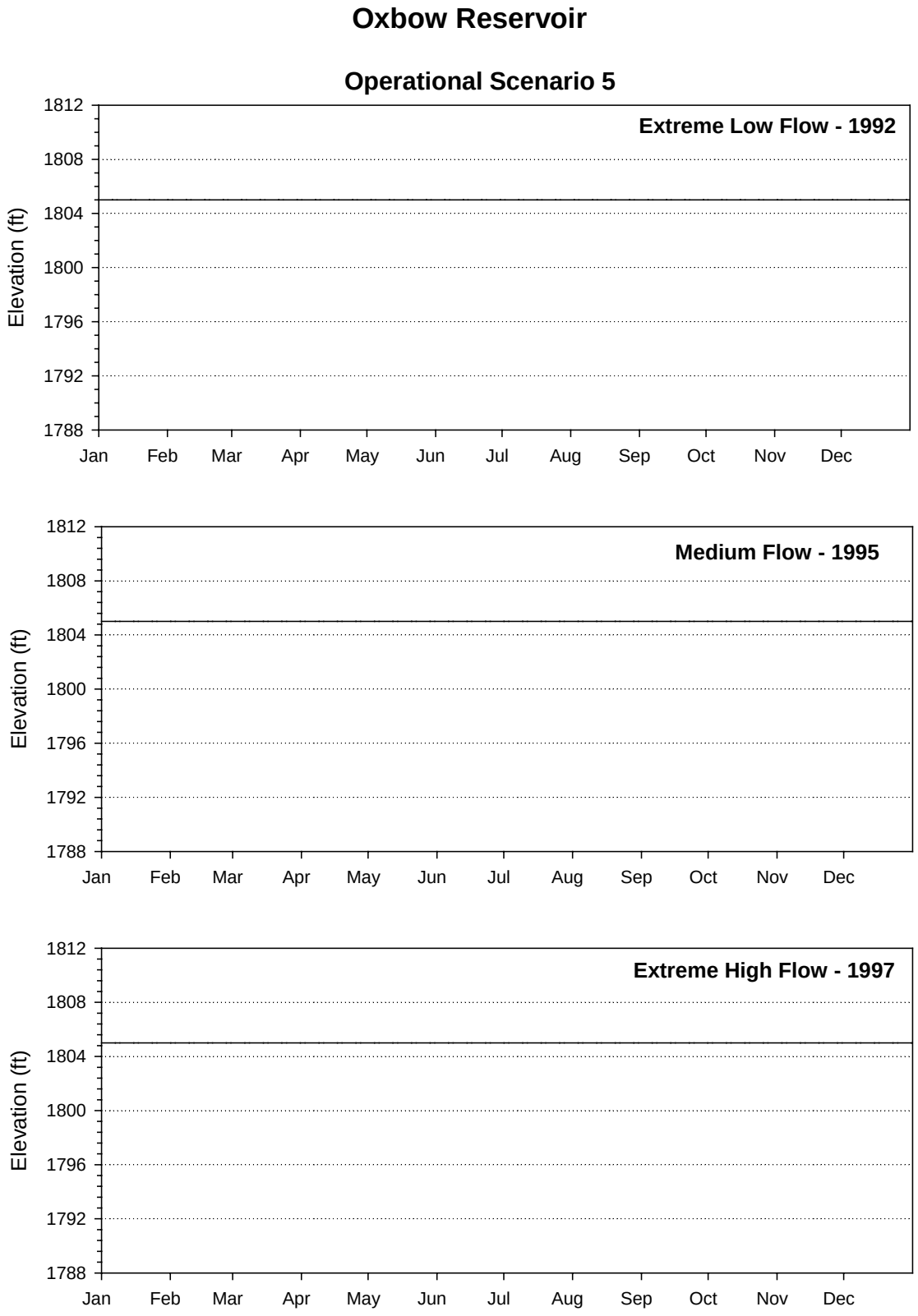


Figure 83. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 5 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

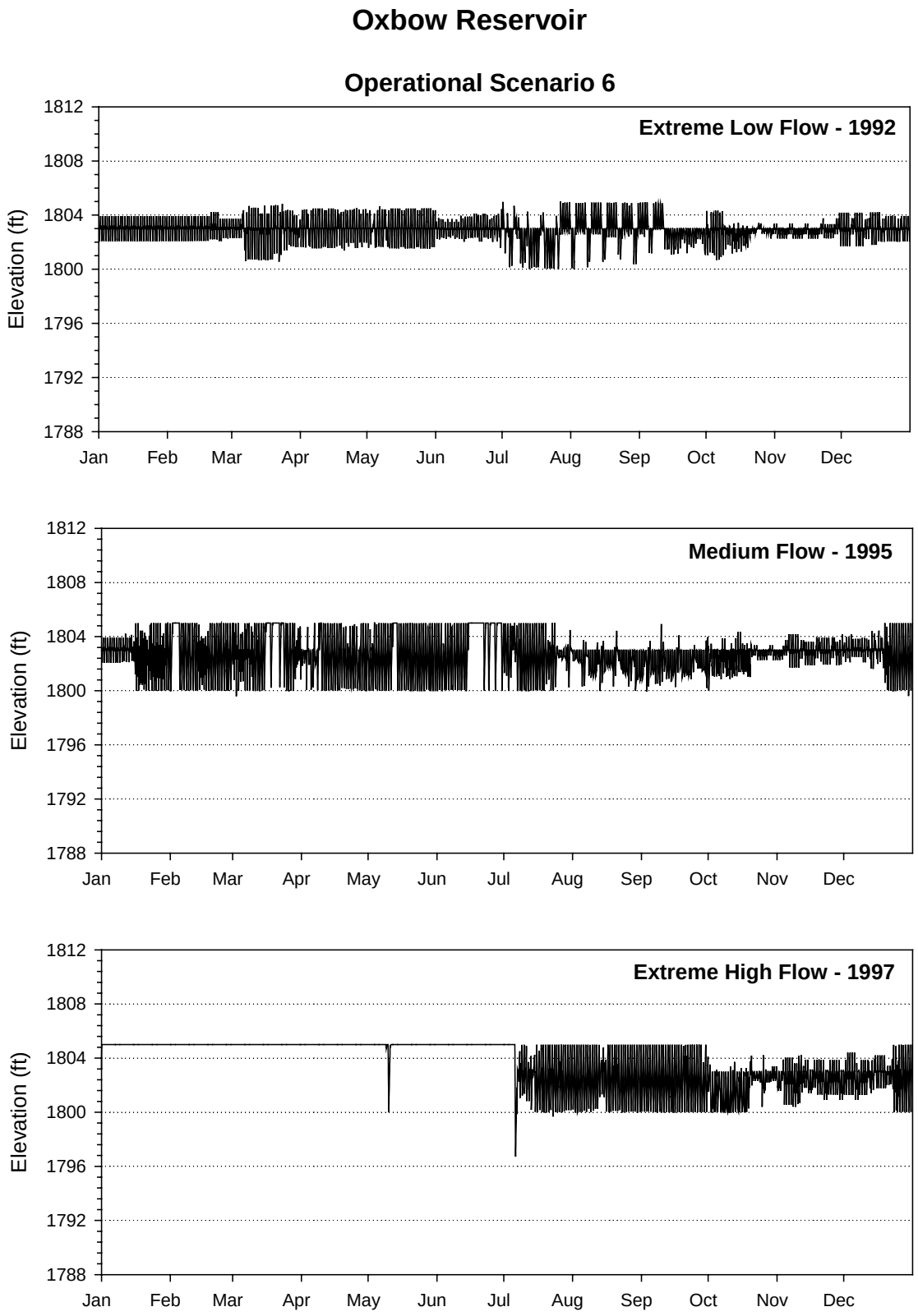


Figure 84. Oxbow reservoir water surface elevations modeled with CHEOPS under Operational Scenario 6 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

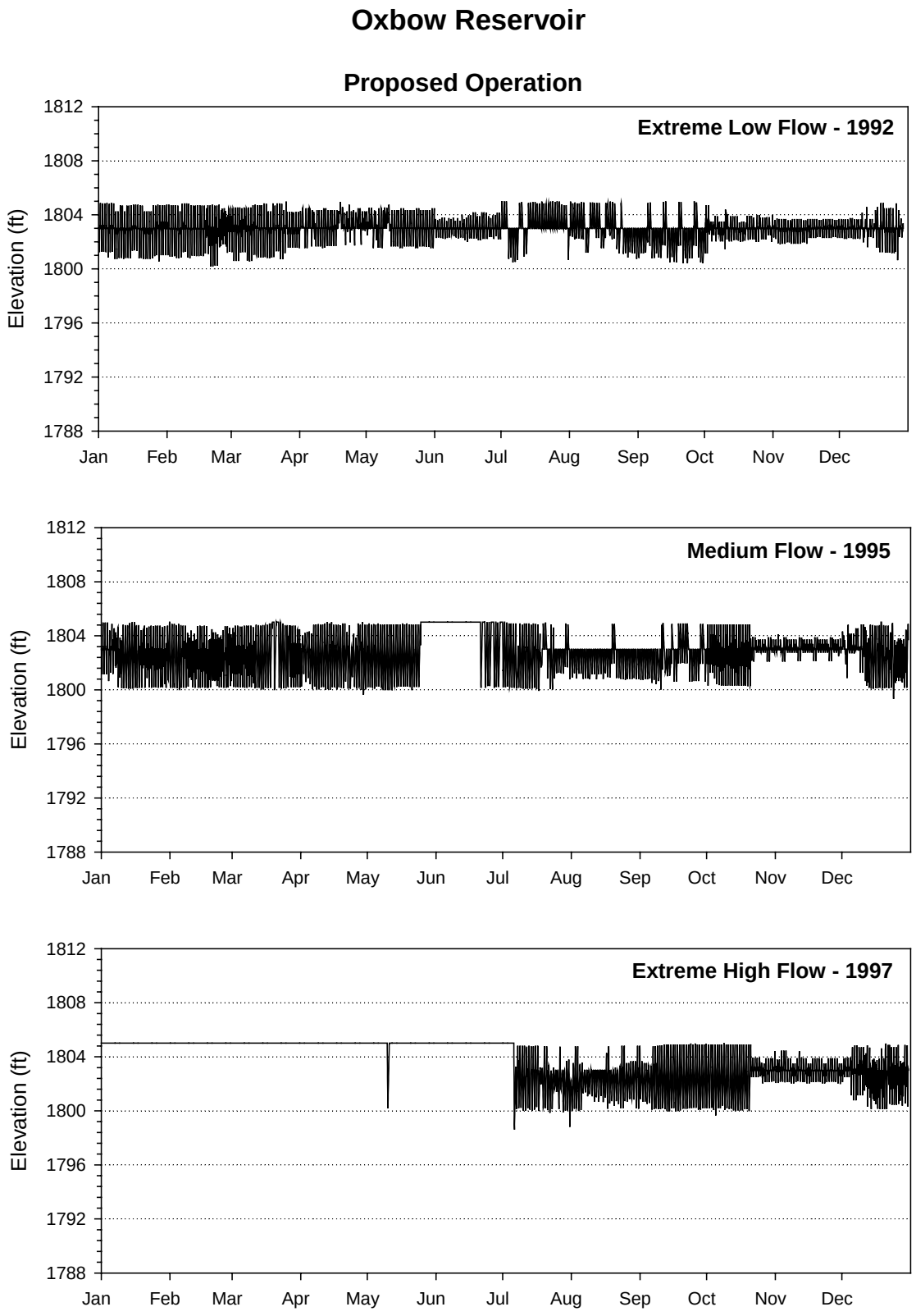


Figure 85. Oxbow reservoir water surface elevations modeled with CHEOPS under Proposed Operations during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

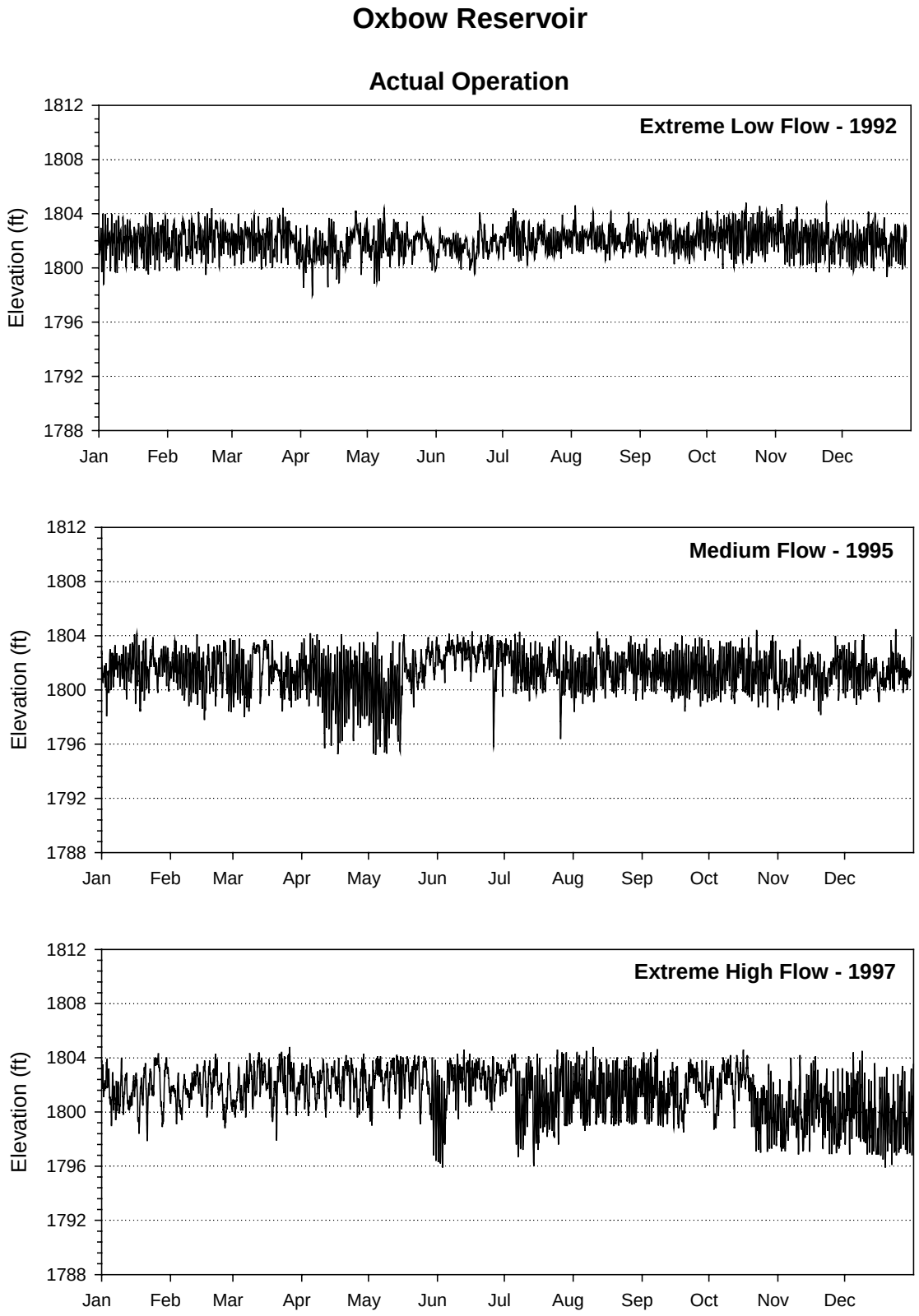


Figure 86. Actual water surface elevations in Oxbow reservoir measured during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

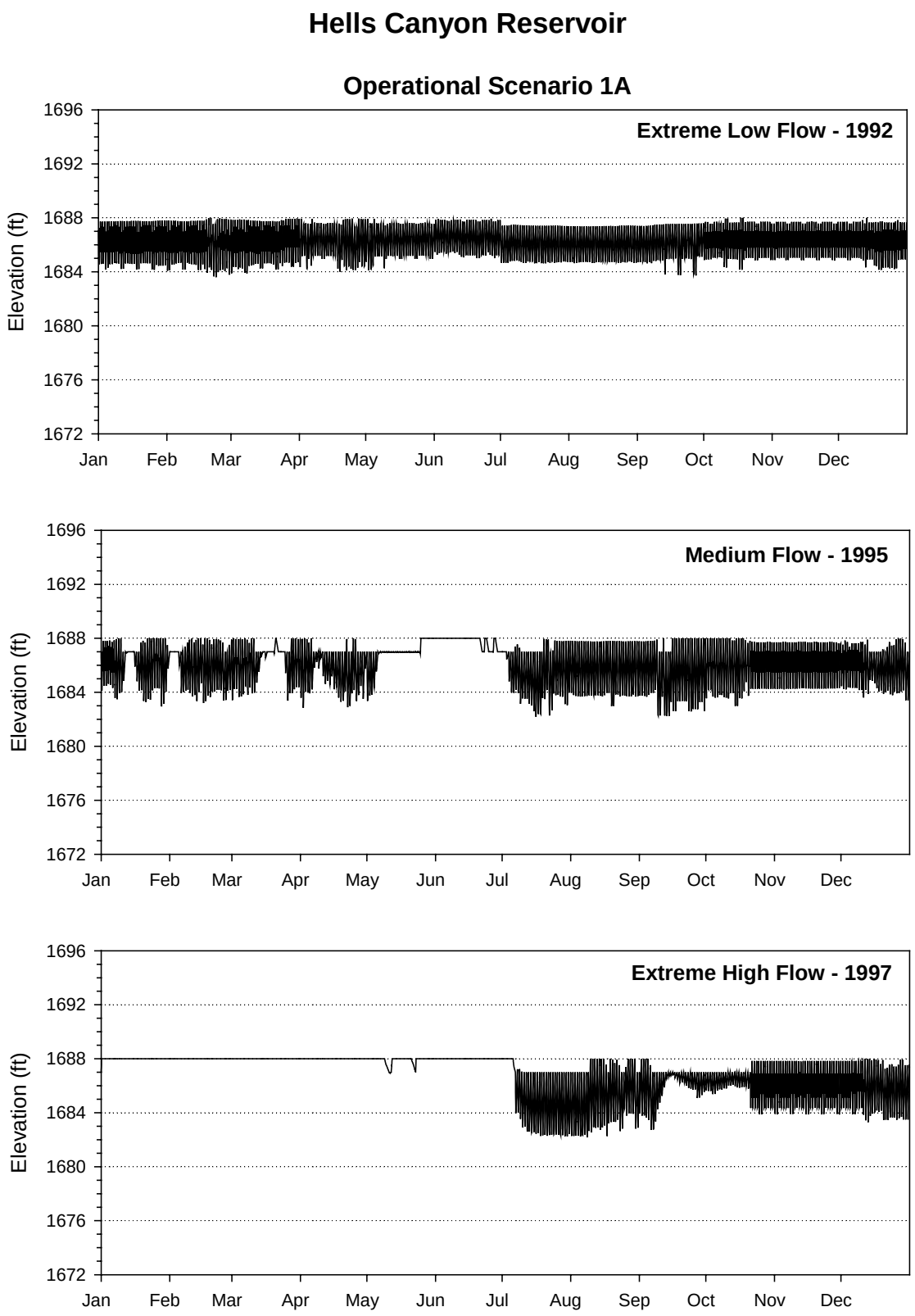


Figure 87. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1A during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

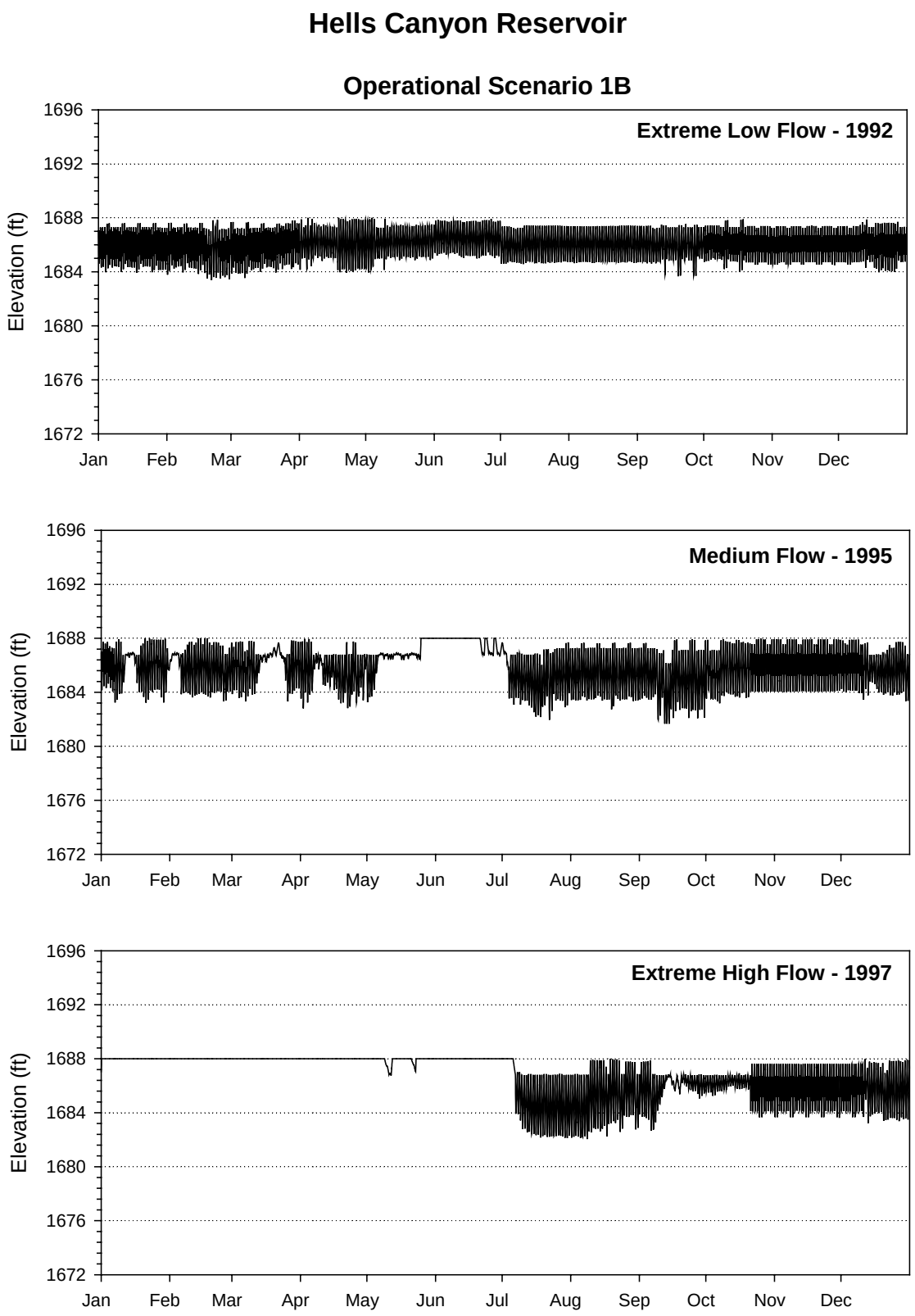


Figure 88. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1B during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

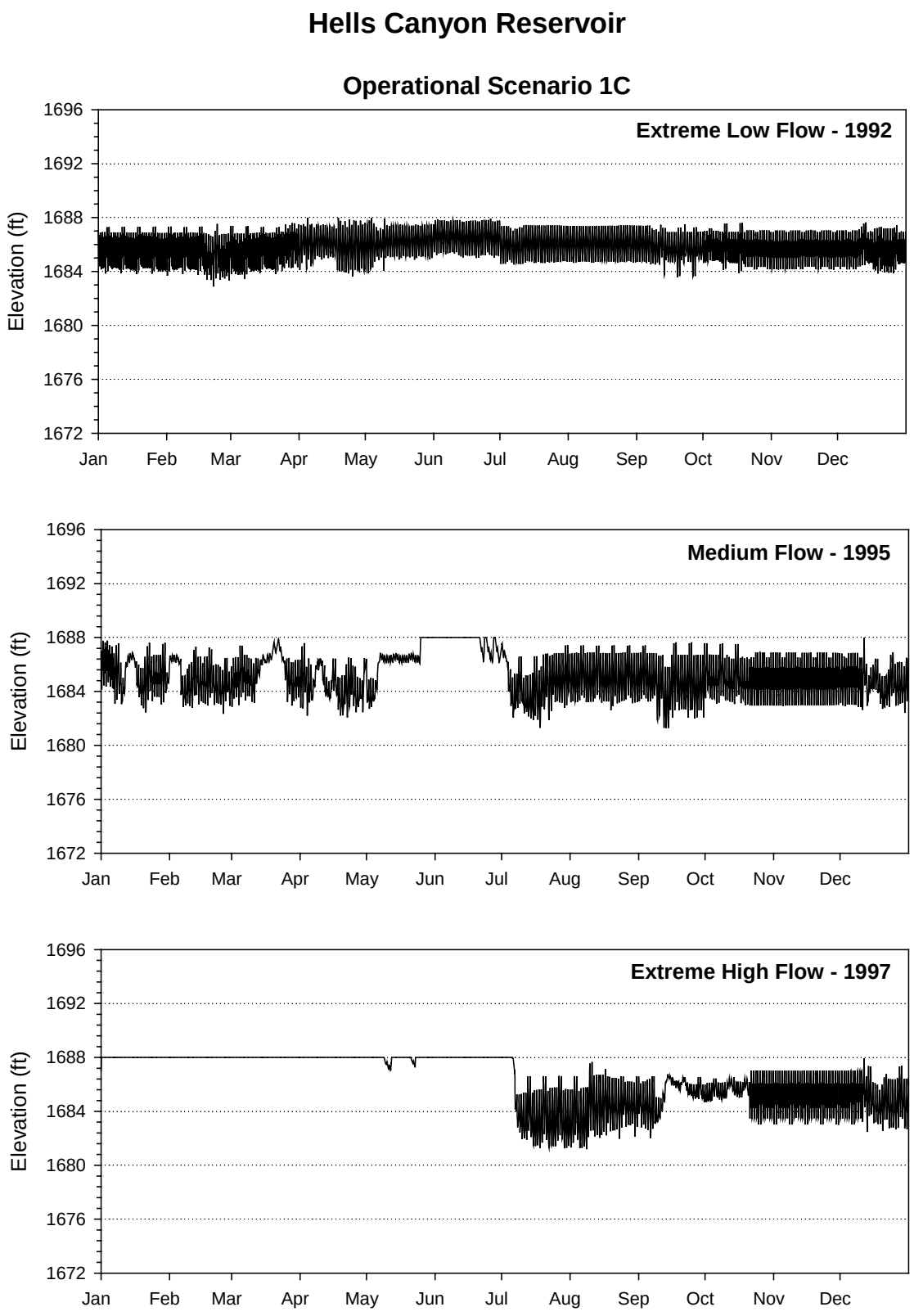


Figure 89. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1C during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

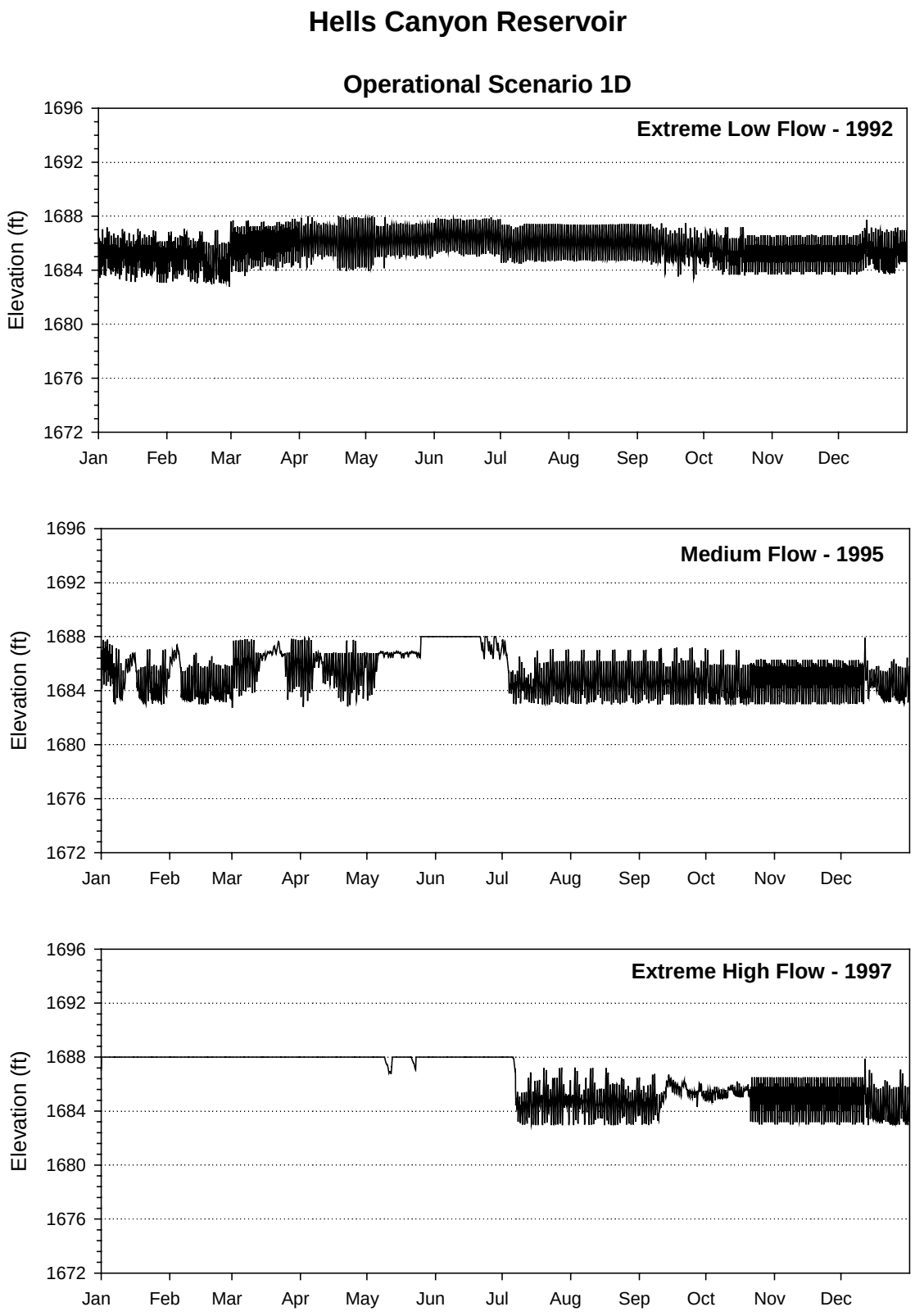


Figure 90. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1D during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

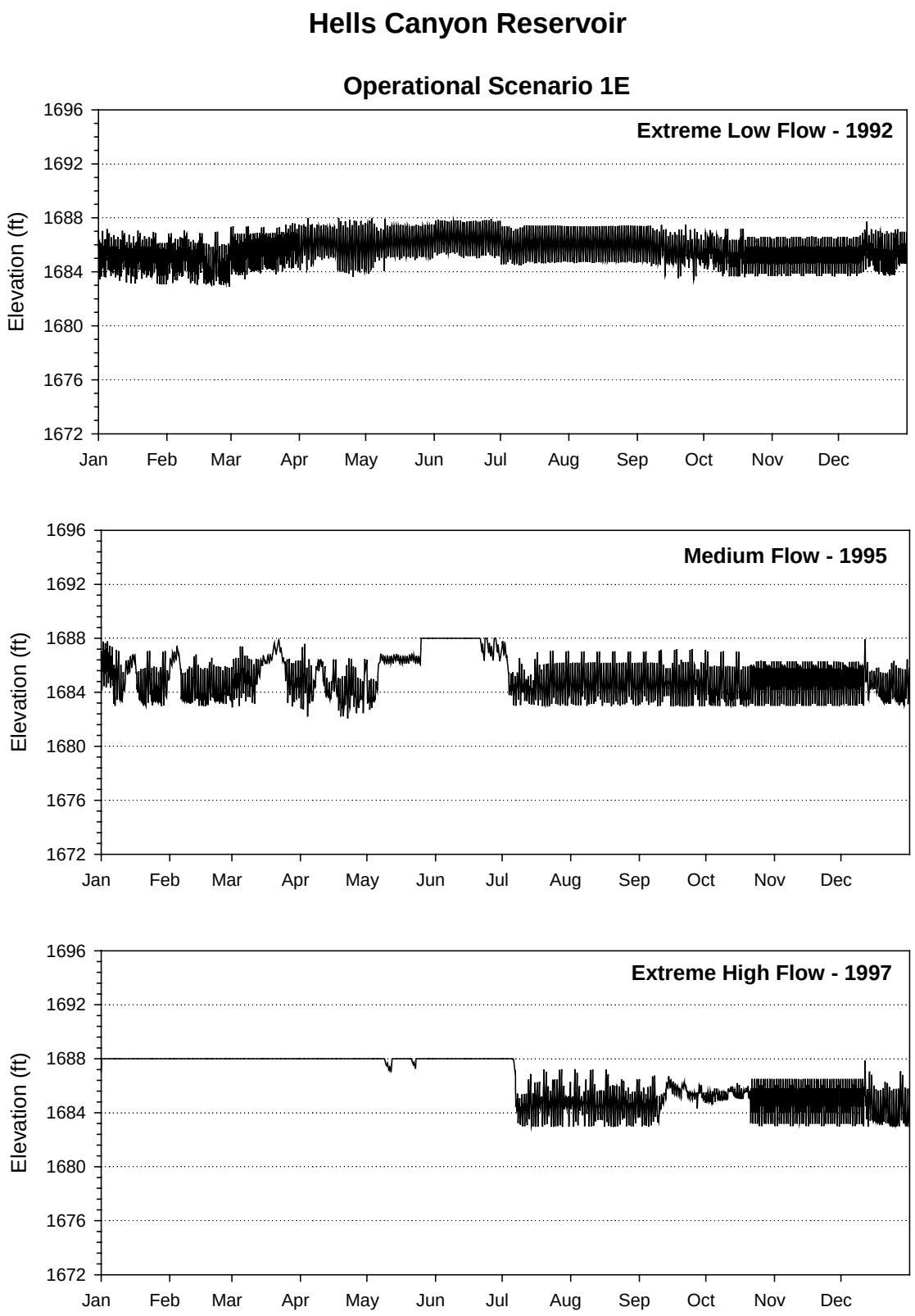


Figure 91. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1E during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

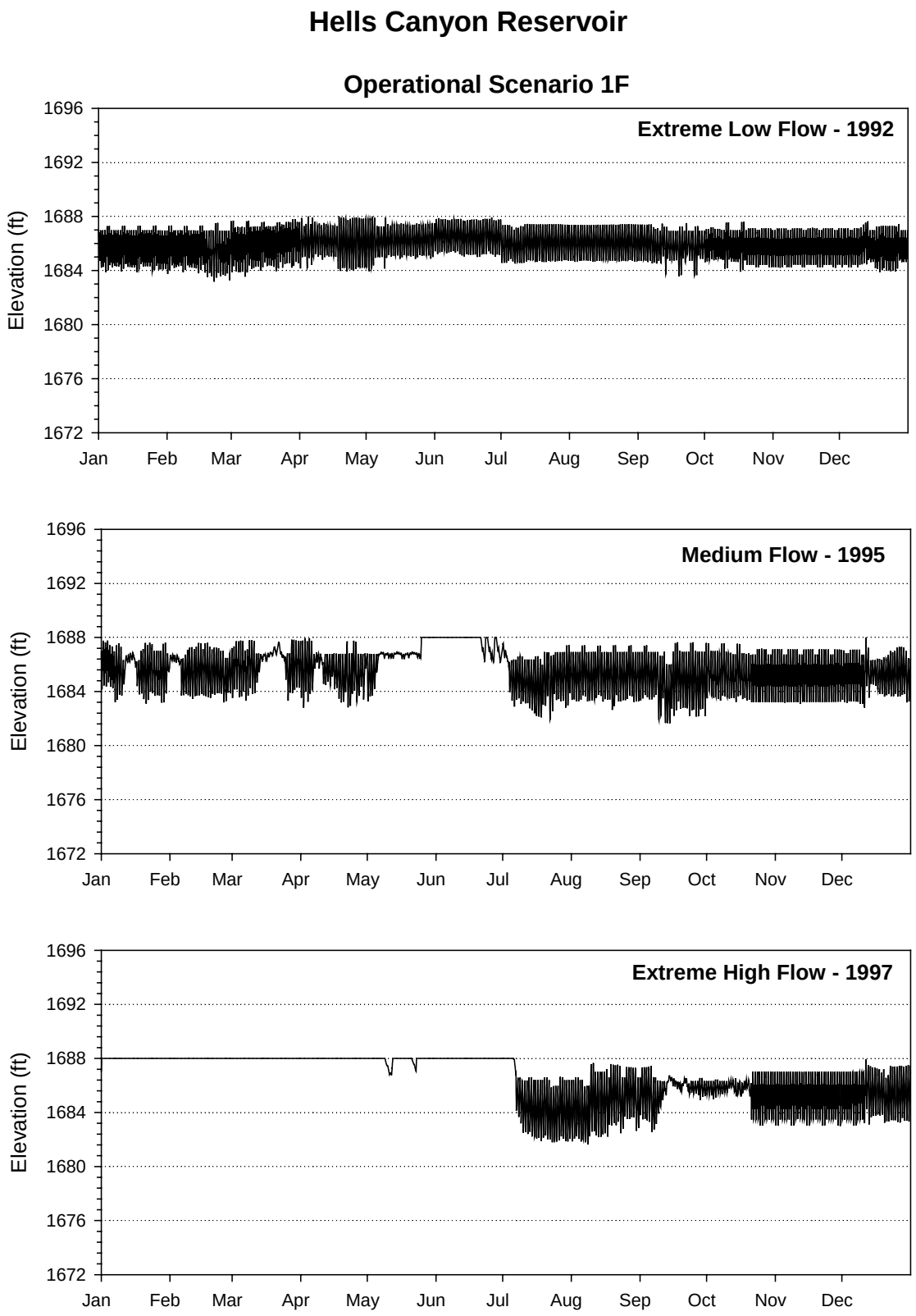


Figure 92. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 1F during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

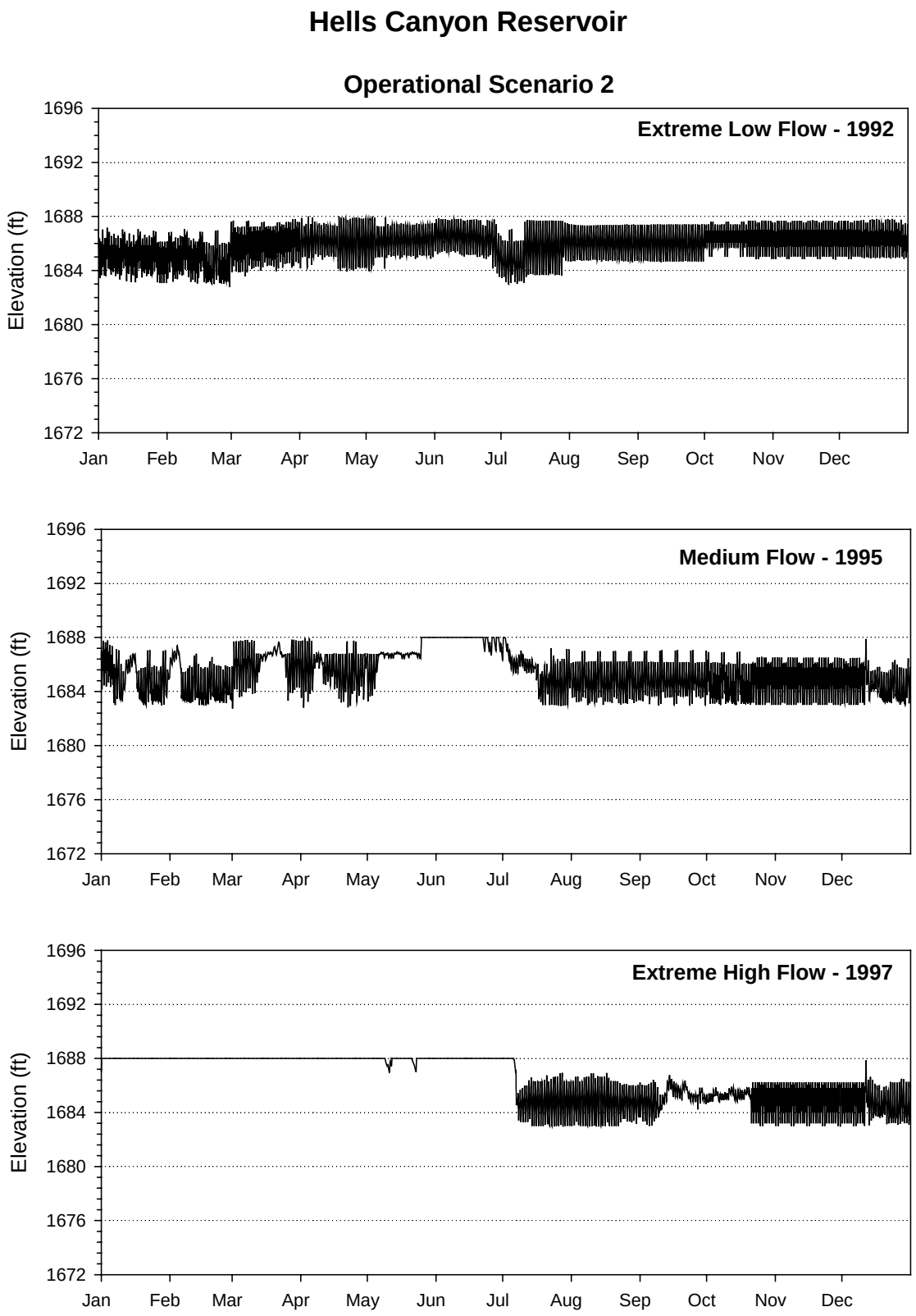


Figure 93. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 2 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

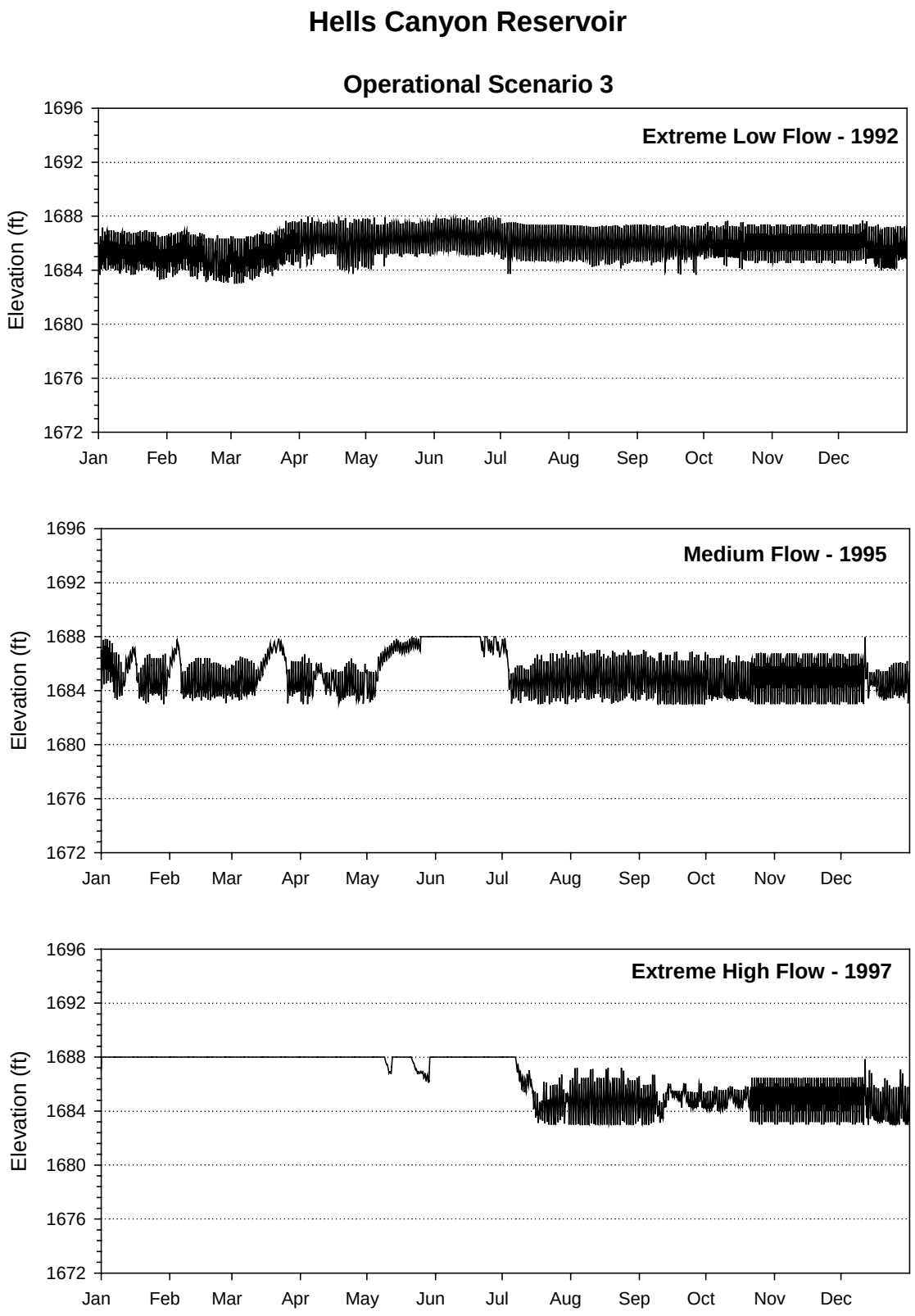


Figure 94. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 3 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

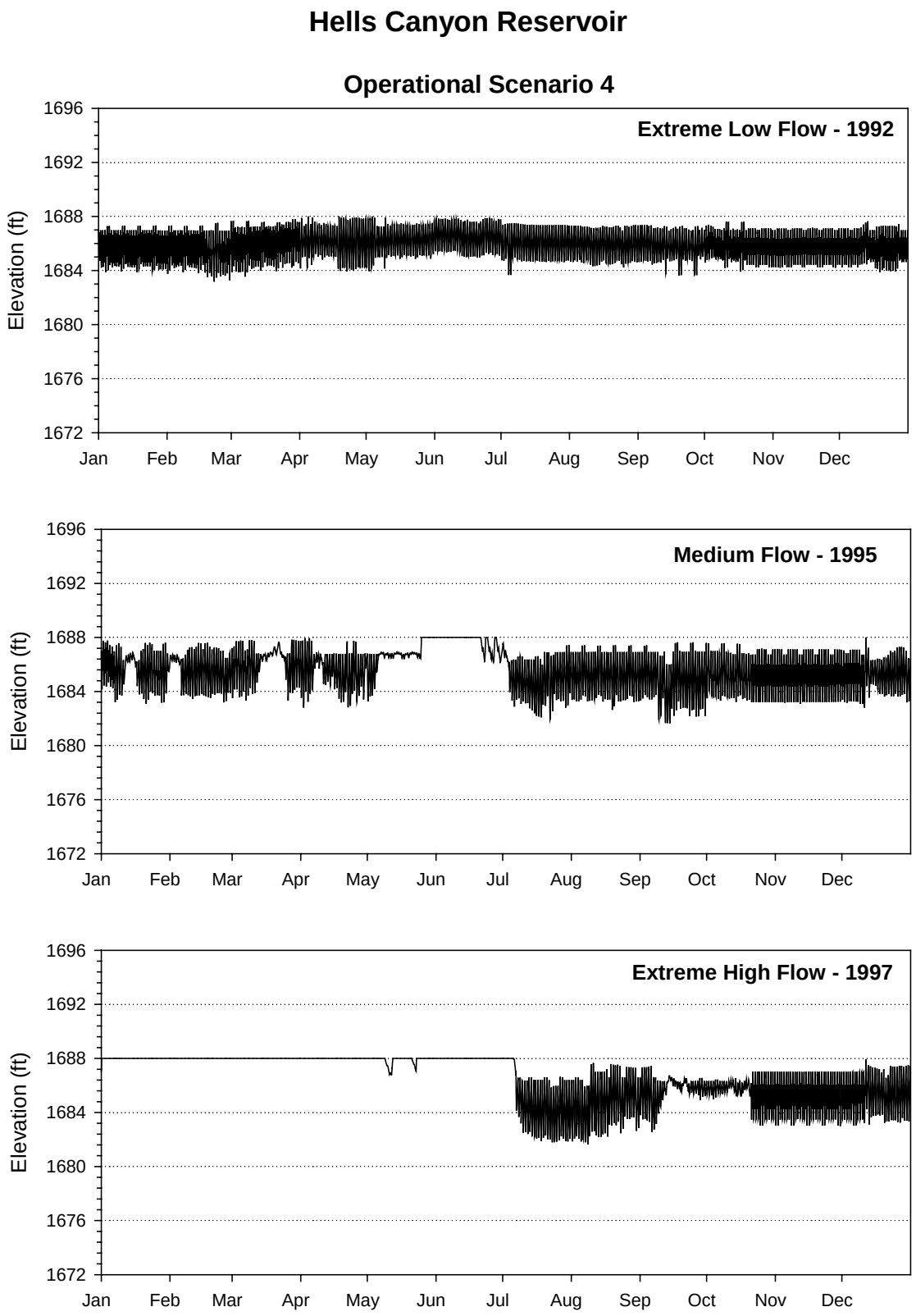


Figure 95. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 4 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

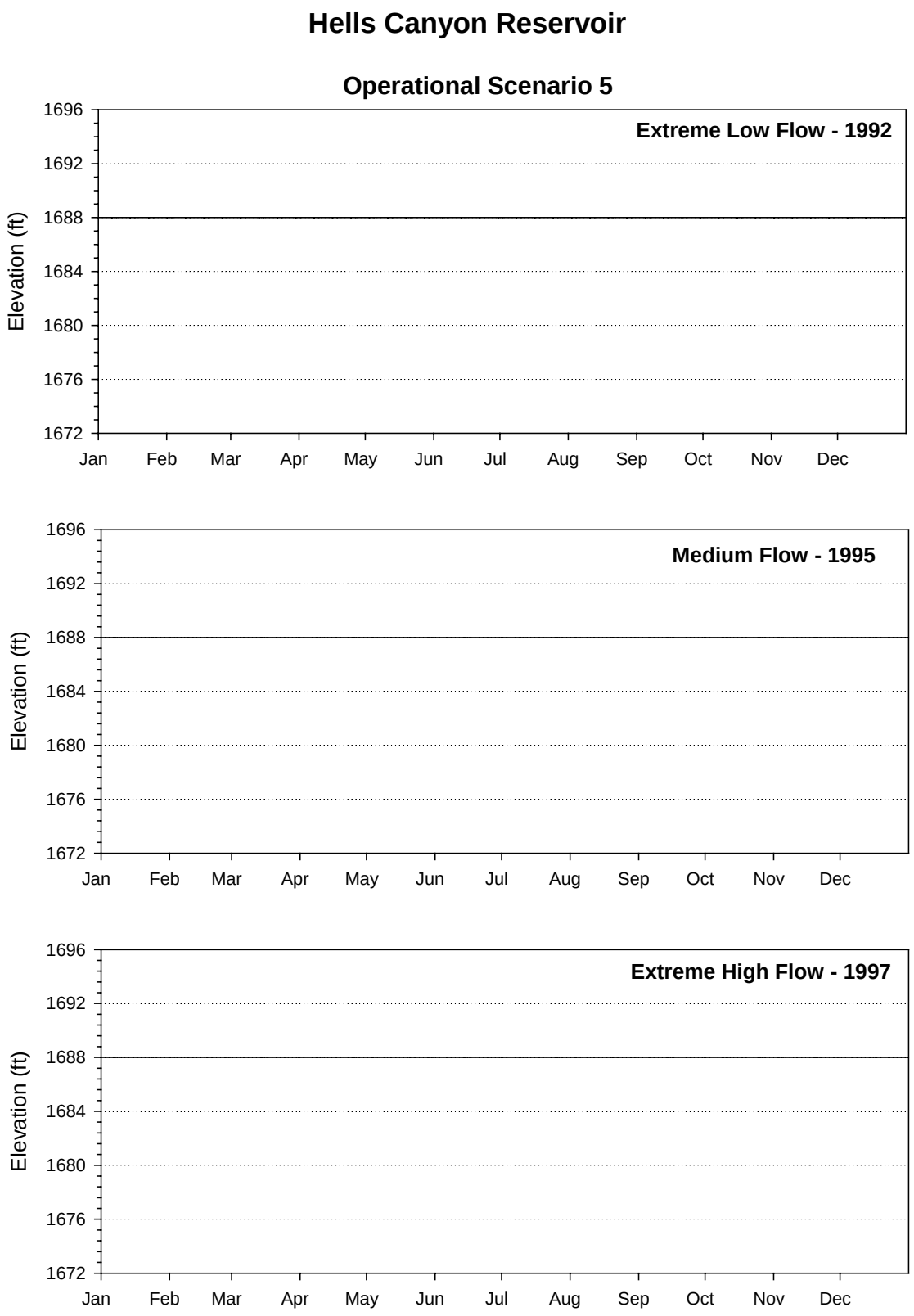


Figure 96. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 5 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

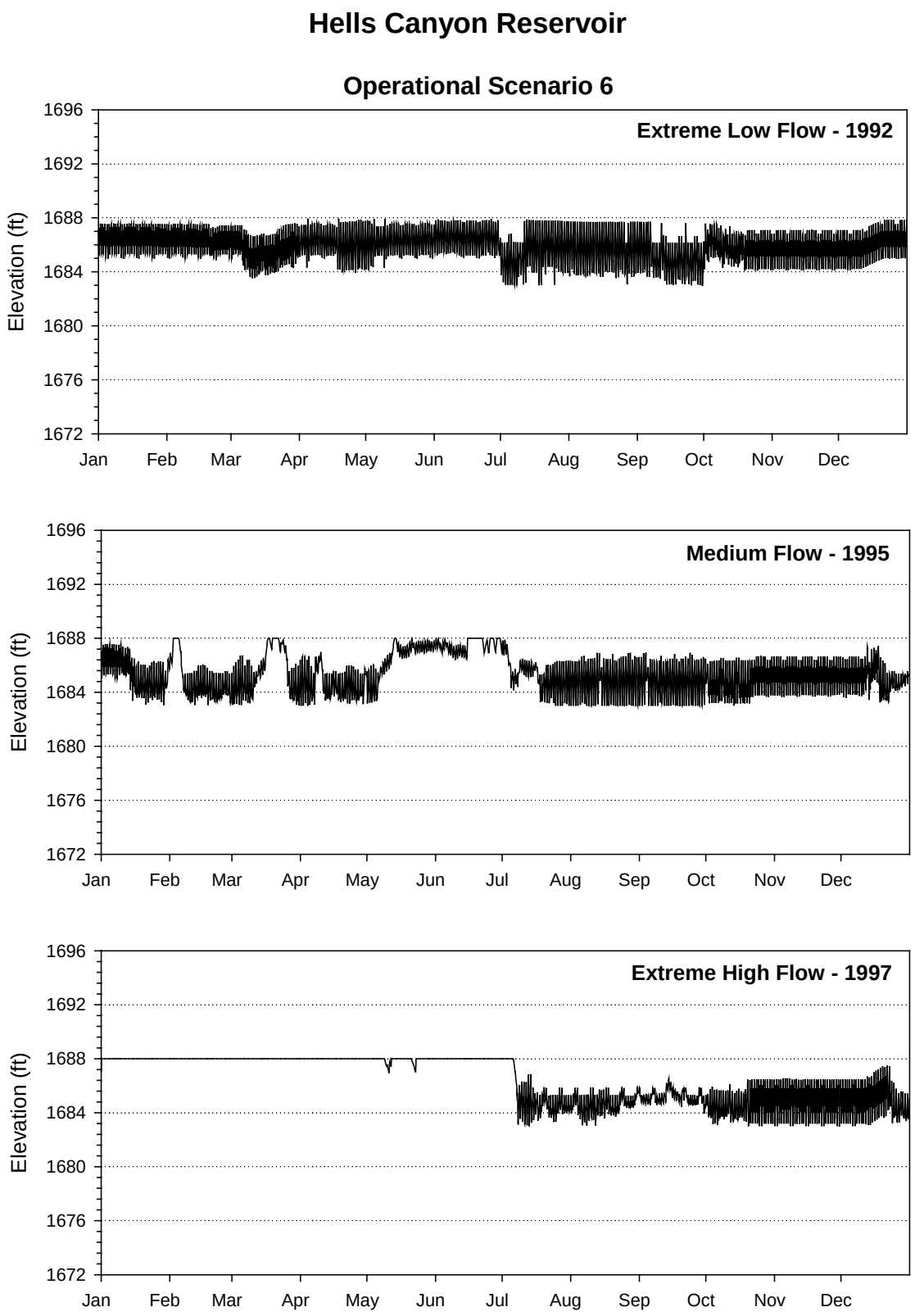


Figure 97. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Operational Scenario 6 during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

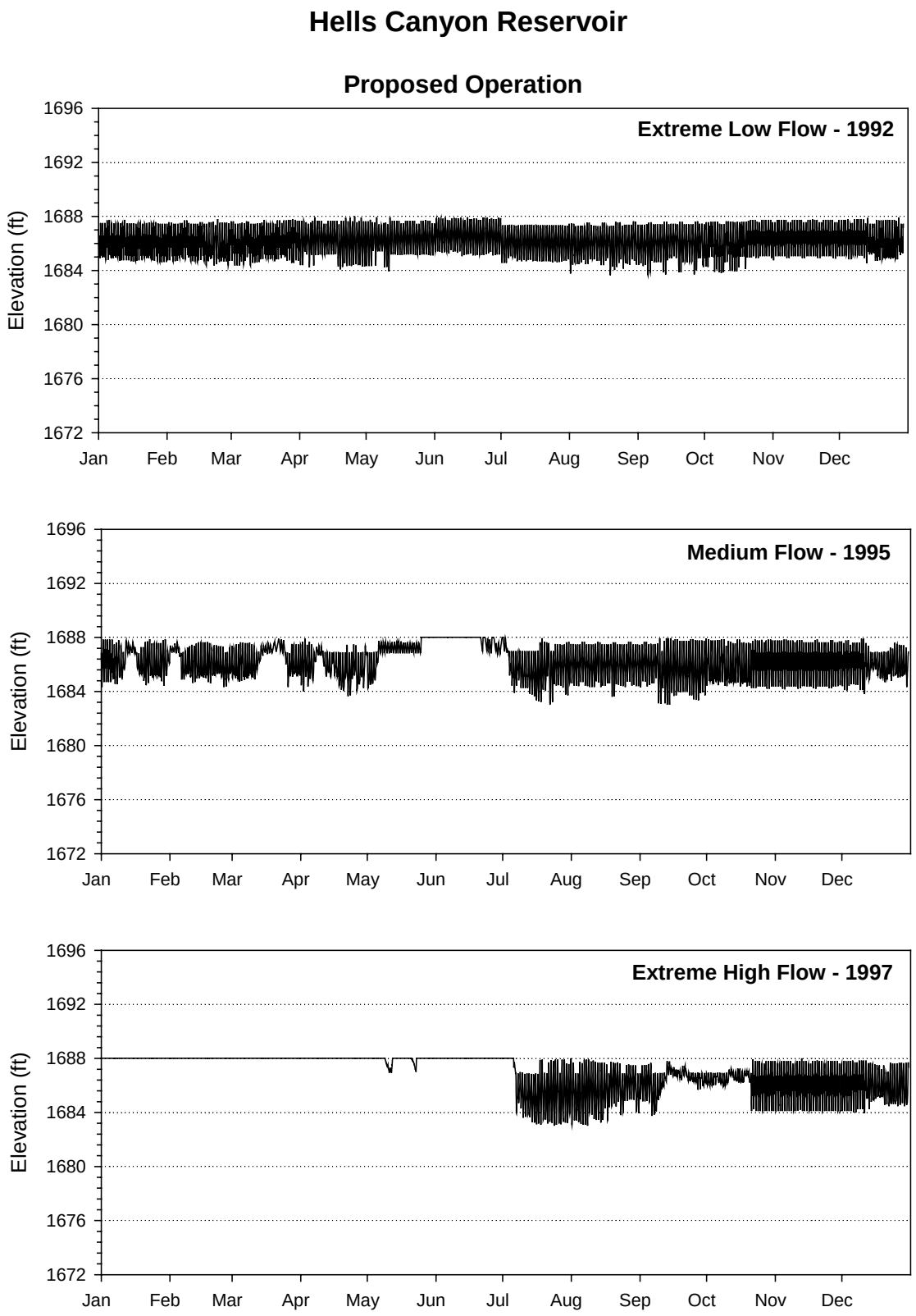


Figure 98. Hells Canyon reservoir water surface elevations modeled with CHEOPS under Proposed Operations during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

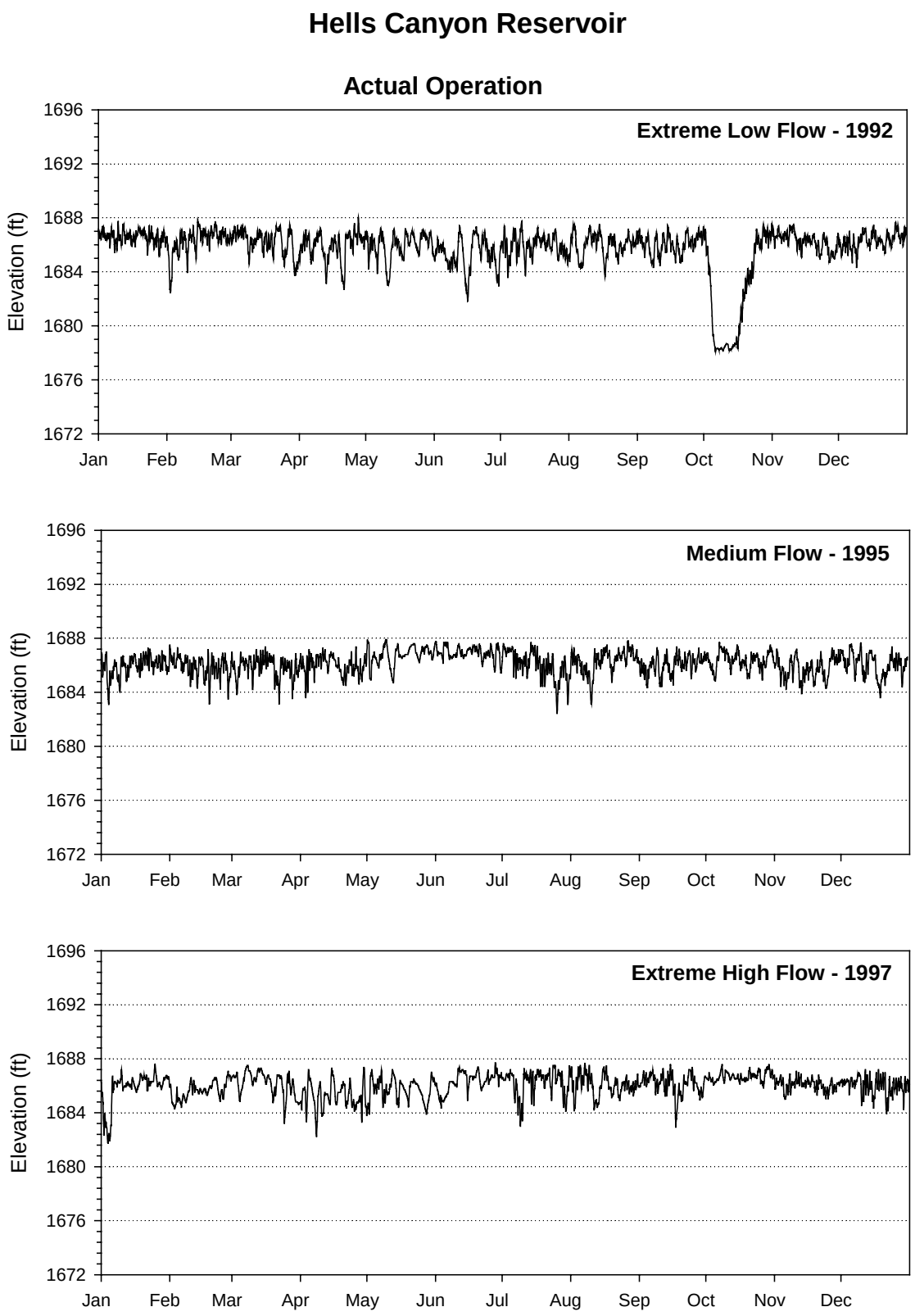


Figure 99. Actual water surface elevations in Hells Canyon reservoir measured during the extreme low flow year of 1992 (top), the medium flow year of 1995 (middle), and the extreme high flow year of 1997 (bottom).

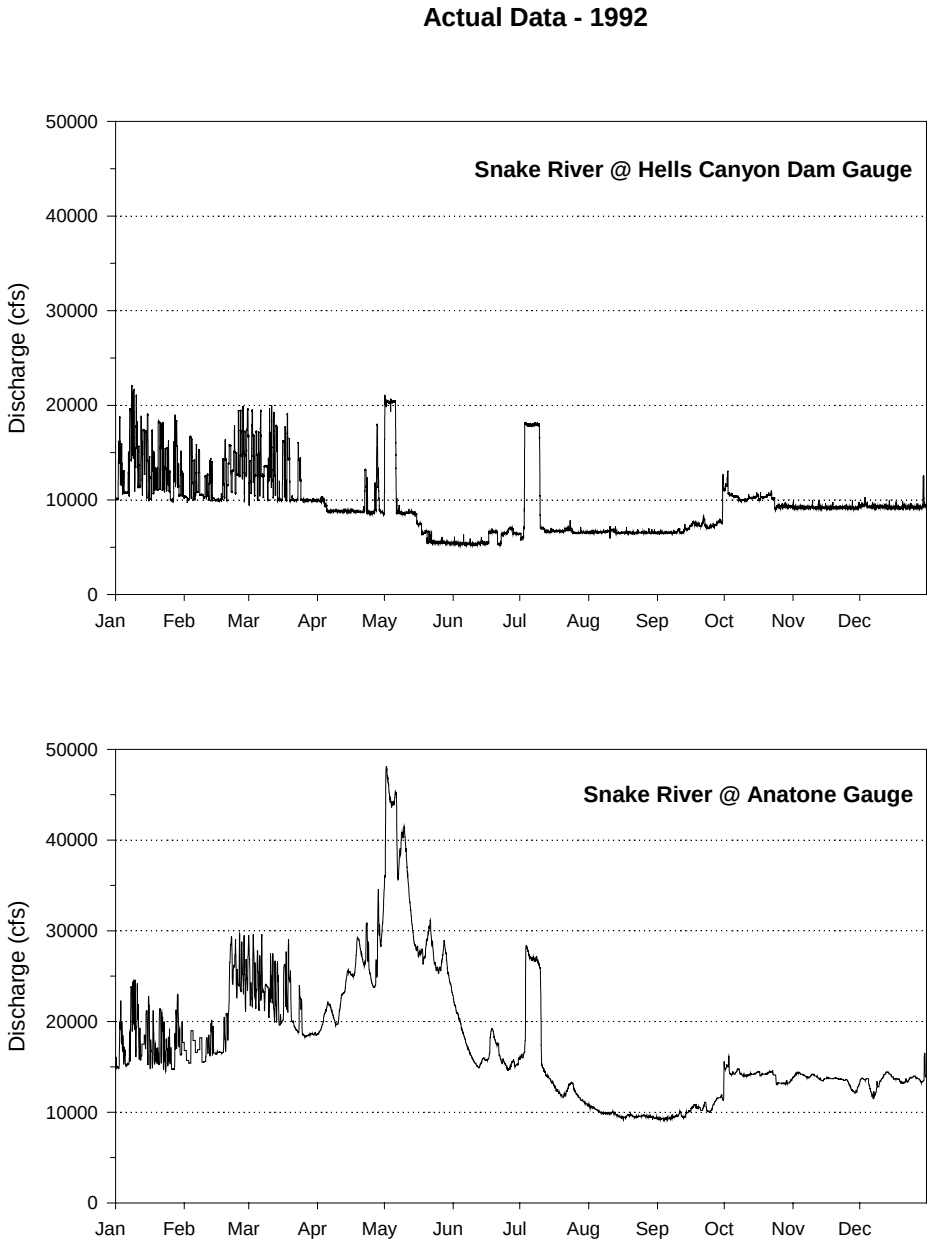


Figure 100. Actual 15-minute flows recorded in 1992 from the Snake River at Hells Canyon dam gauge (top) and the Snake River near Anatone, Washington, gauge.

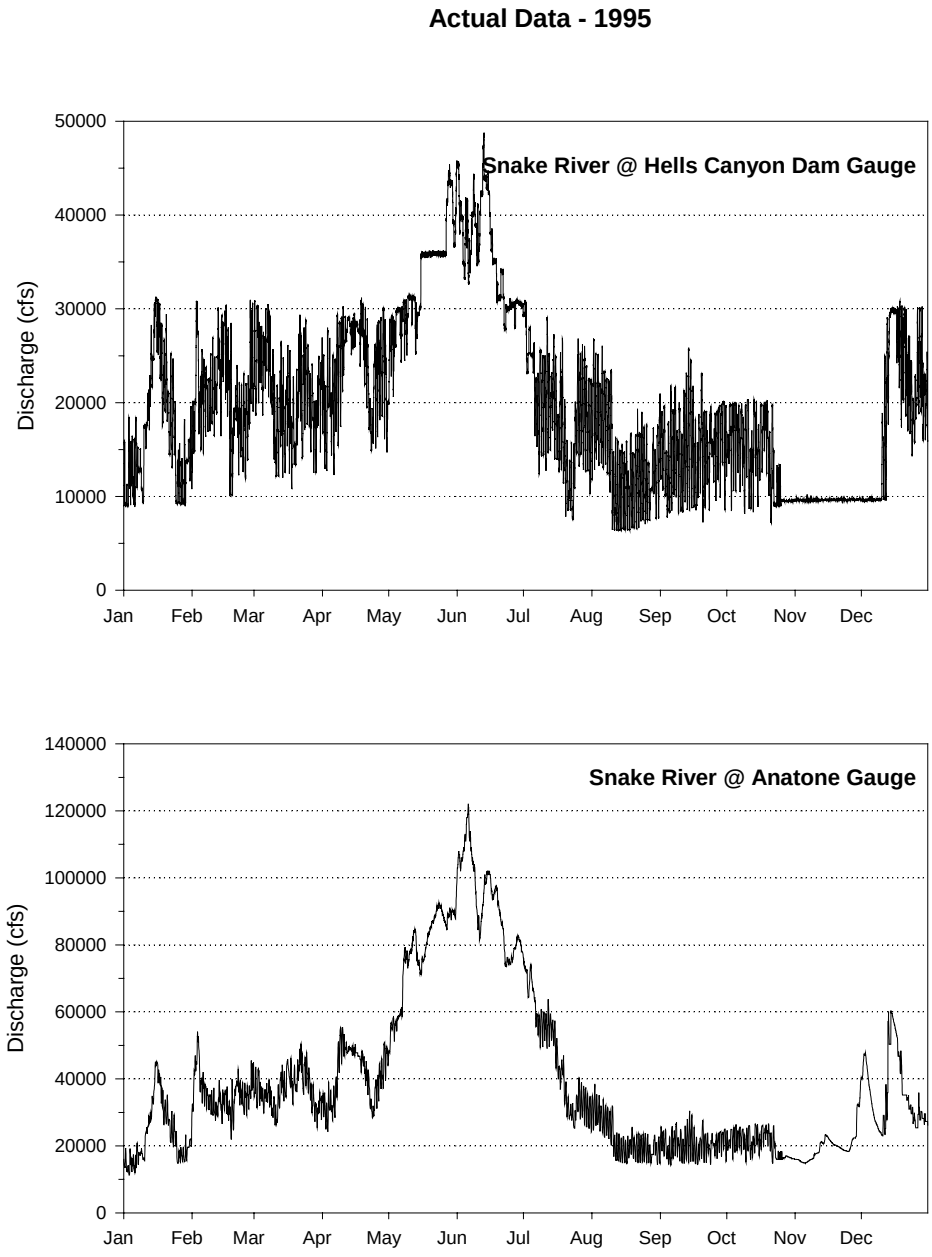


Figure 101. Actual 15-minute flows recorded in 1995 from the Snake River at Hells Canyon dam gauge (top) and the Snake River near Anatone, Washington, gauge.

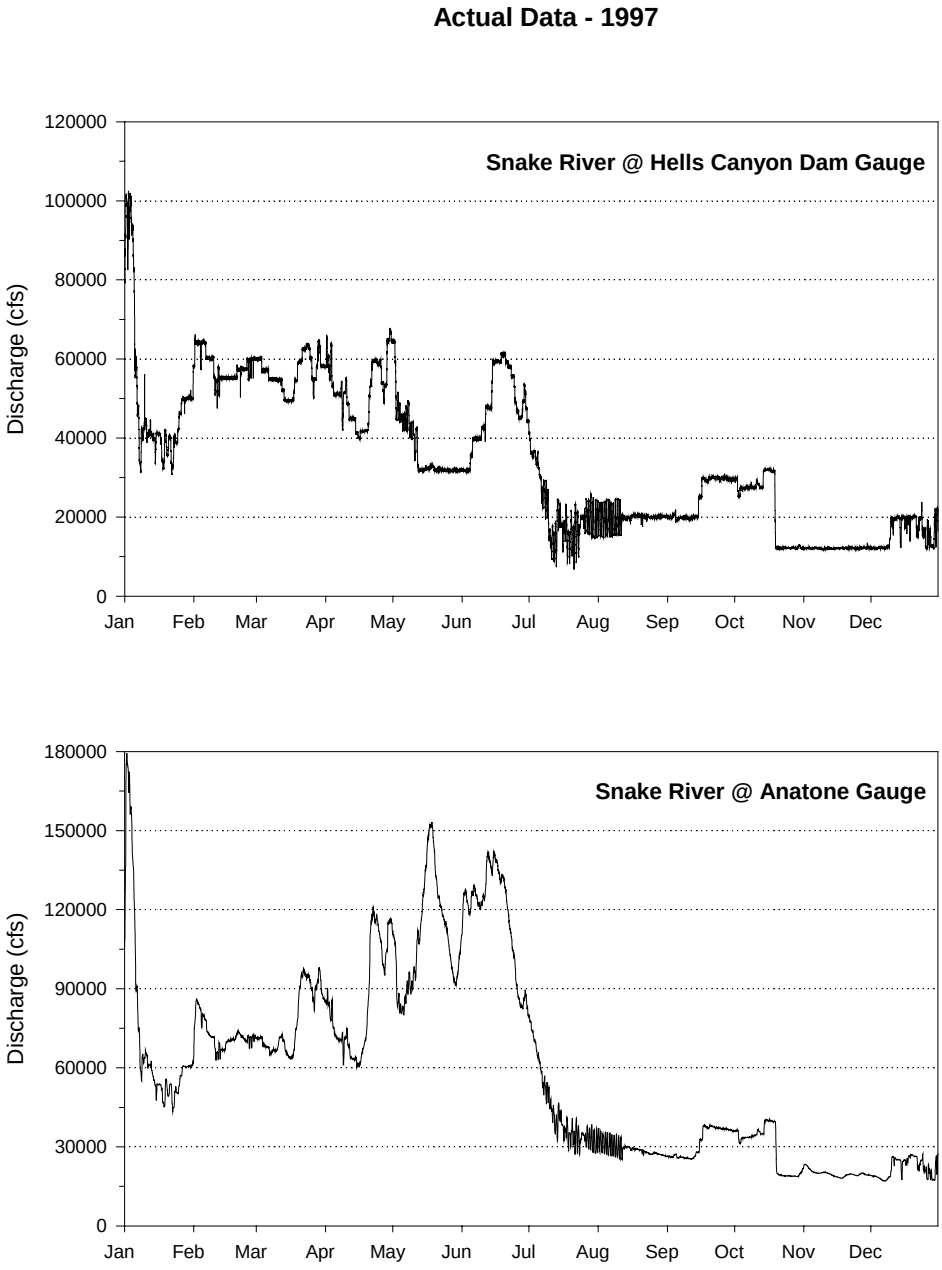


Figure 102. Actual 15-minute flows recorded in 1997 from the Snake River at Hells Canyon dam gauge (top) and the Snake River near Anatone, Washington, gauge.

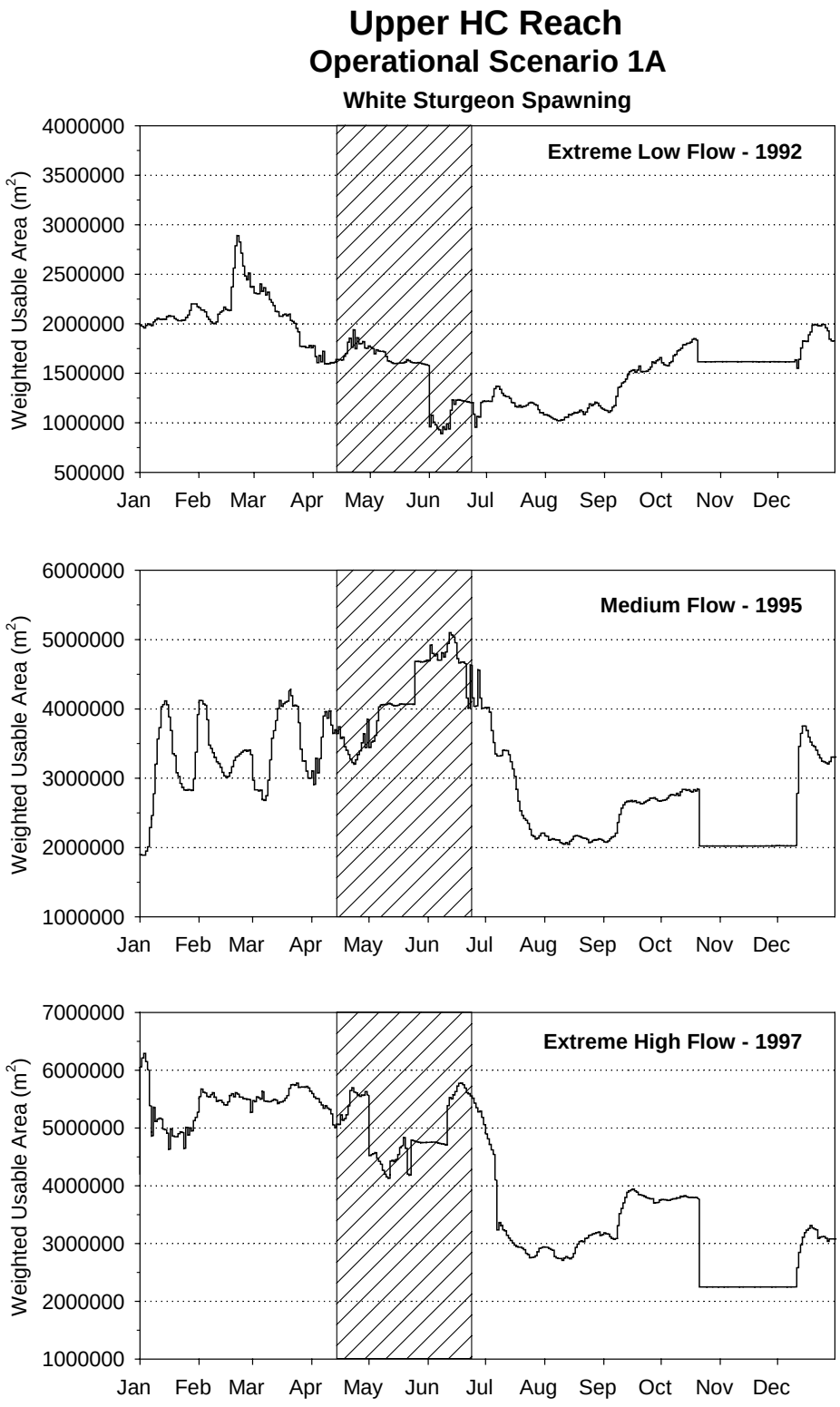


Figure 103. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

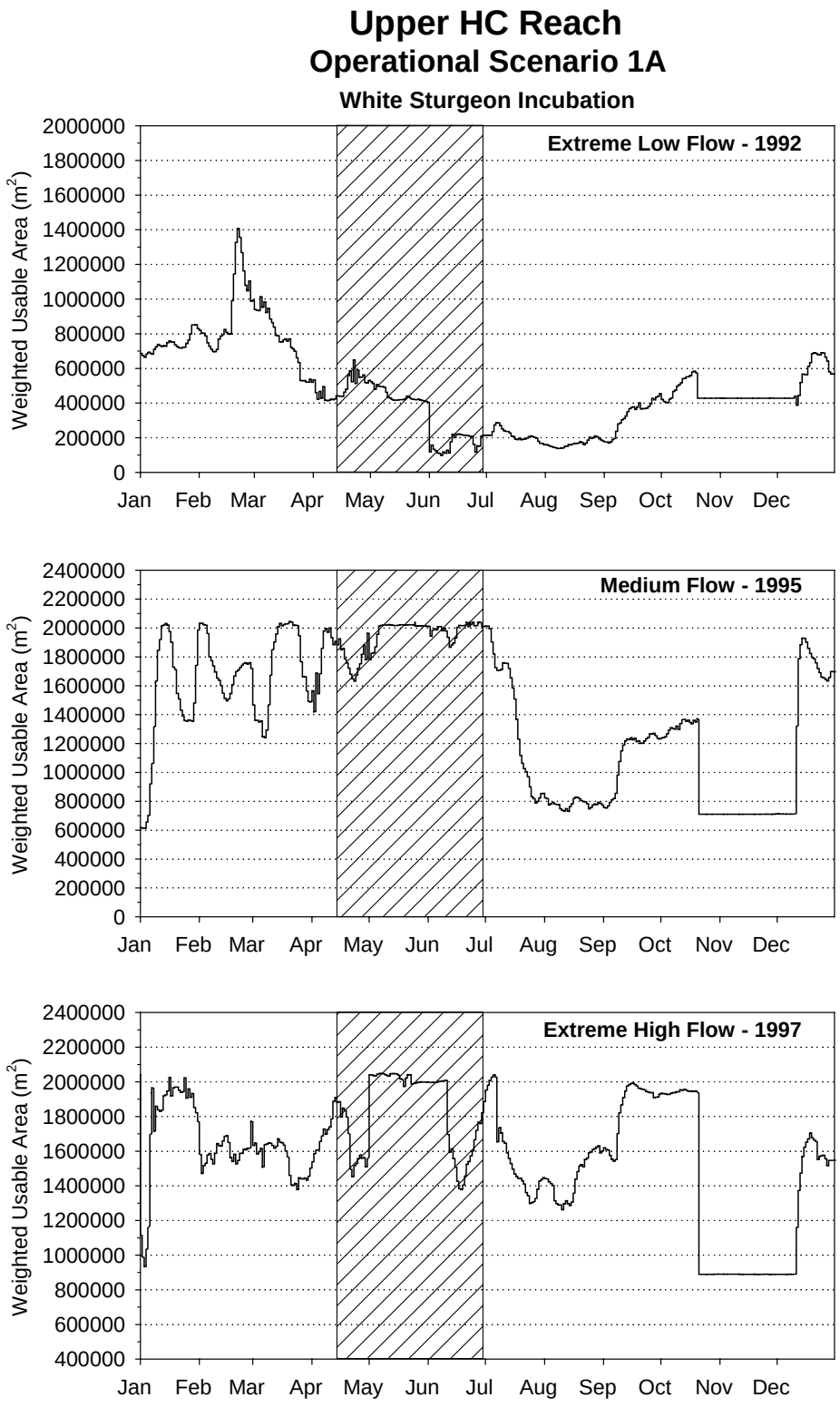


Figure 104. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

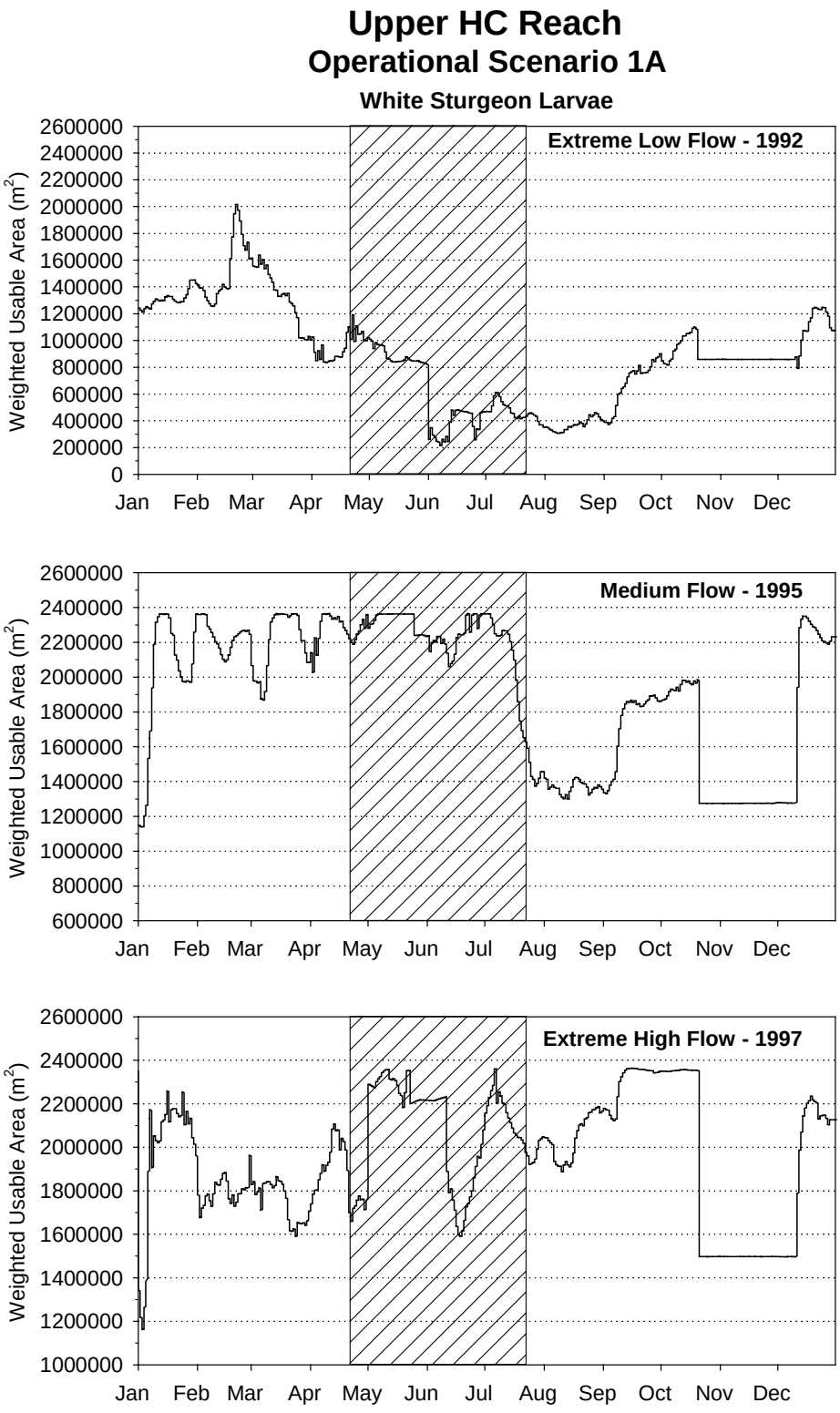


Figure 105. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

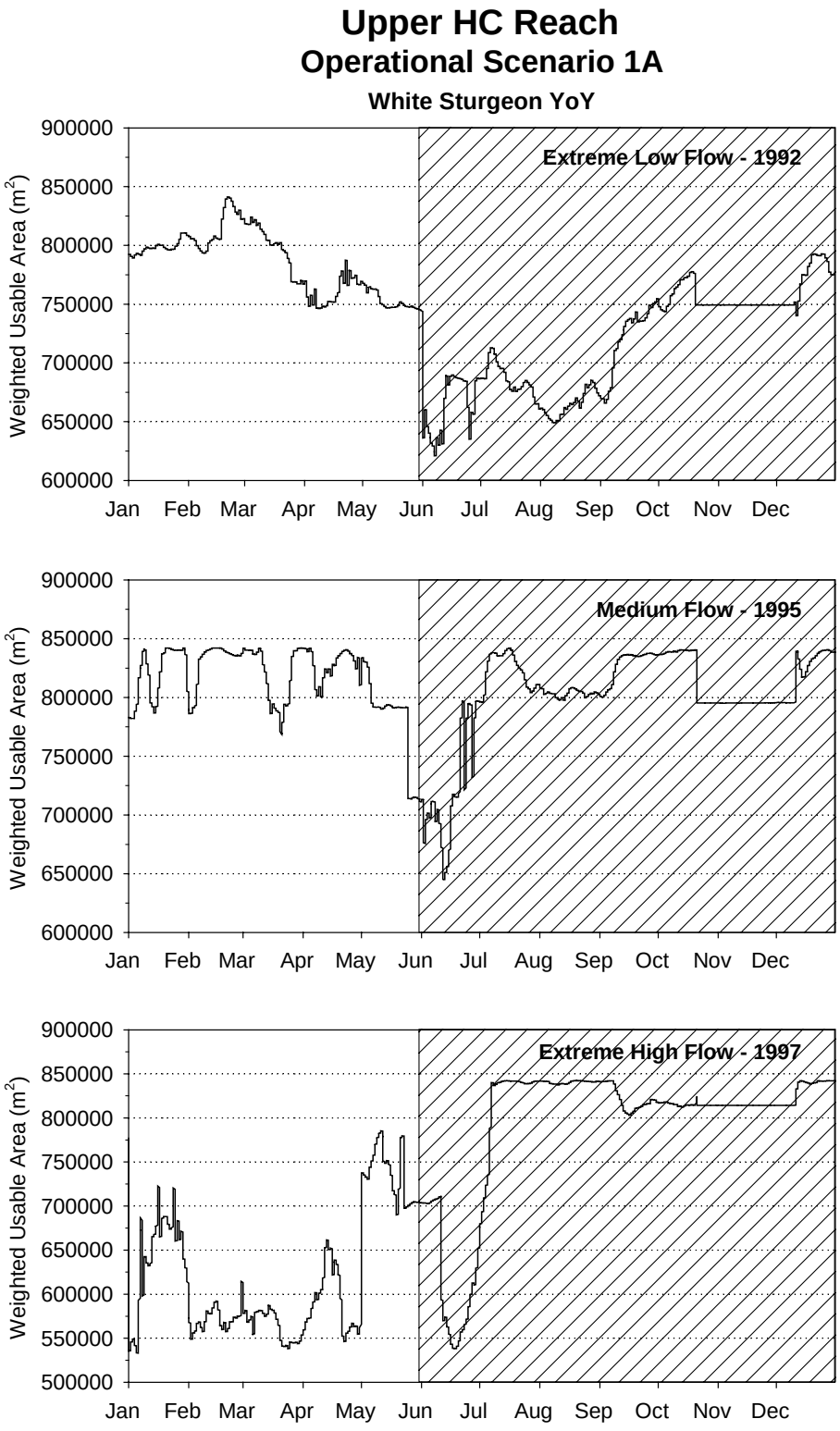


Figure 106. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon young-of-year (YoY) life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

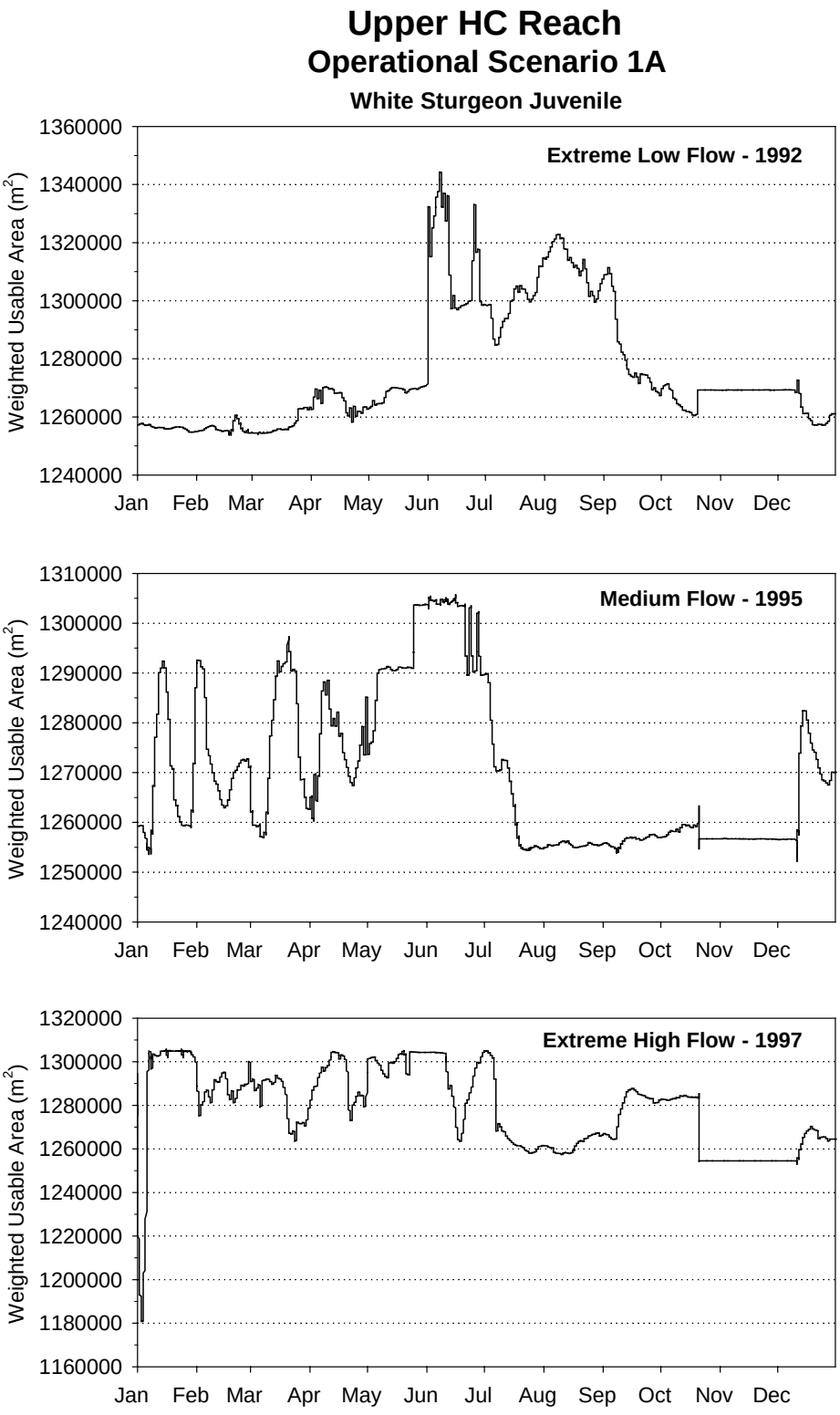


Figure 107. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

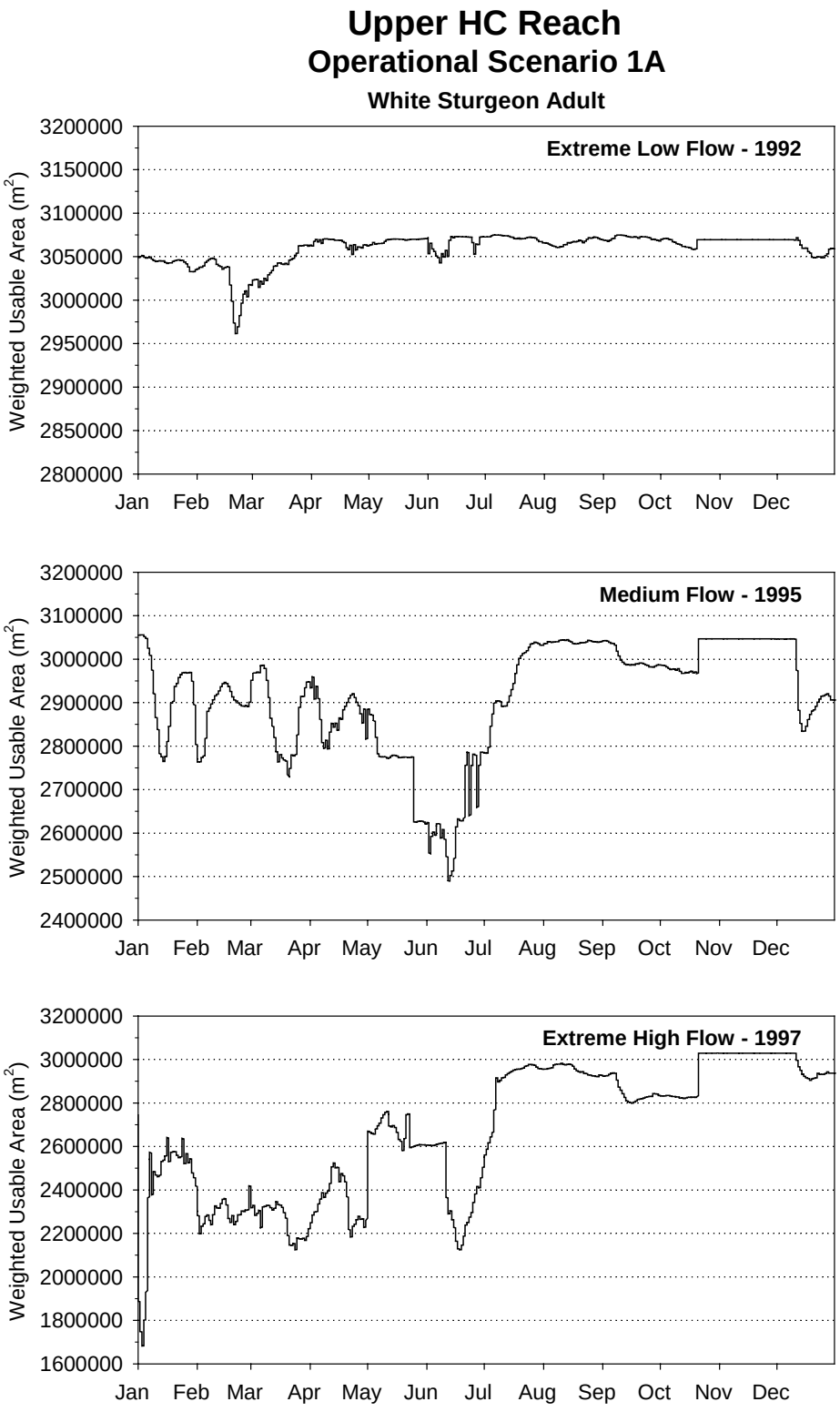


Figure 108. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

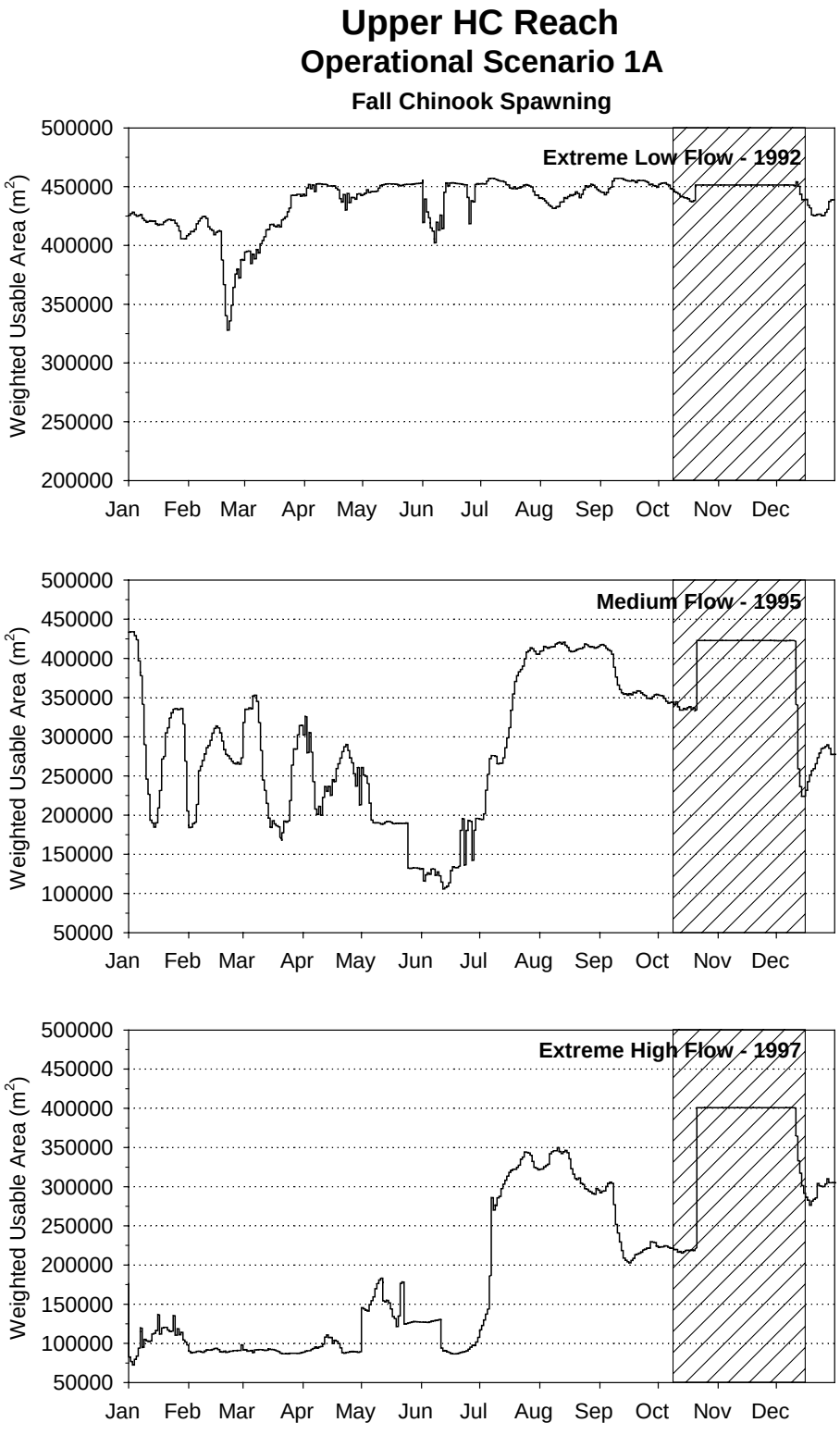


Figure 109. Total weighted usable area (WUA) under Operational Scenario 1A for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

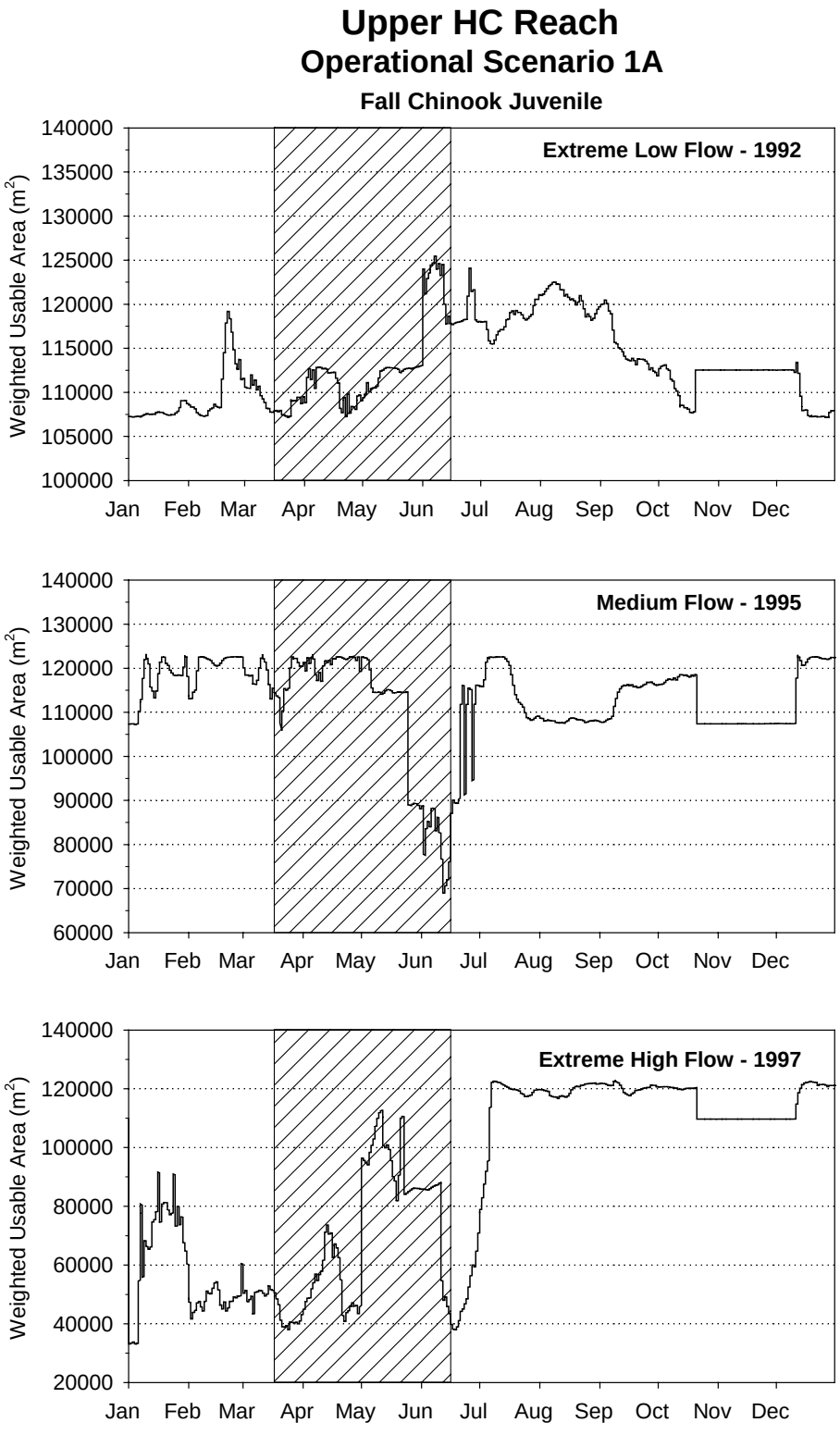


Figure 110. Total weighted usable area (WUA) under Operational Scenario 1A for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

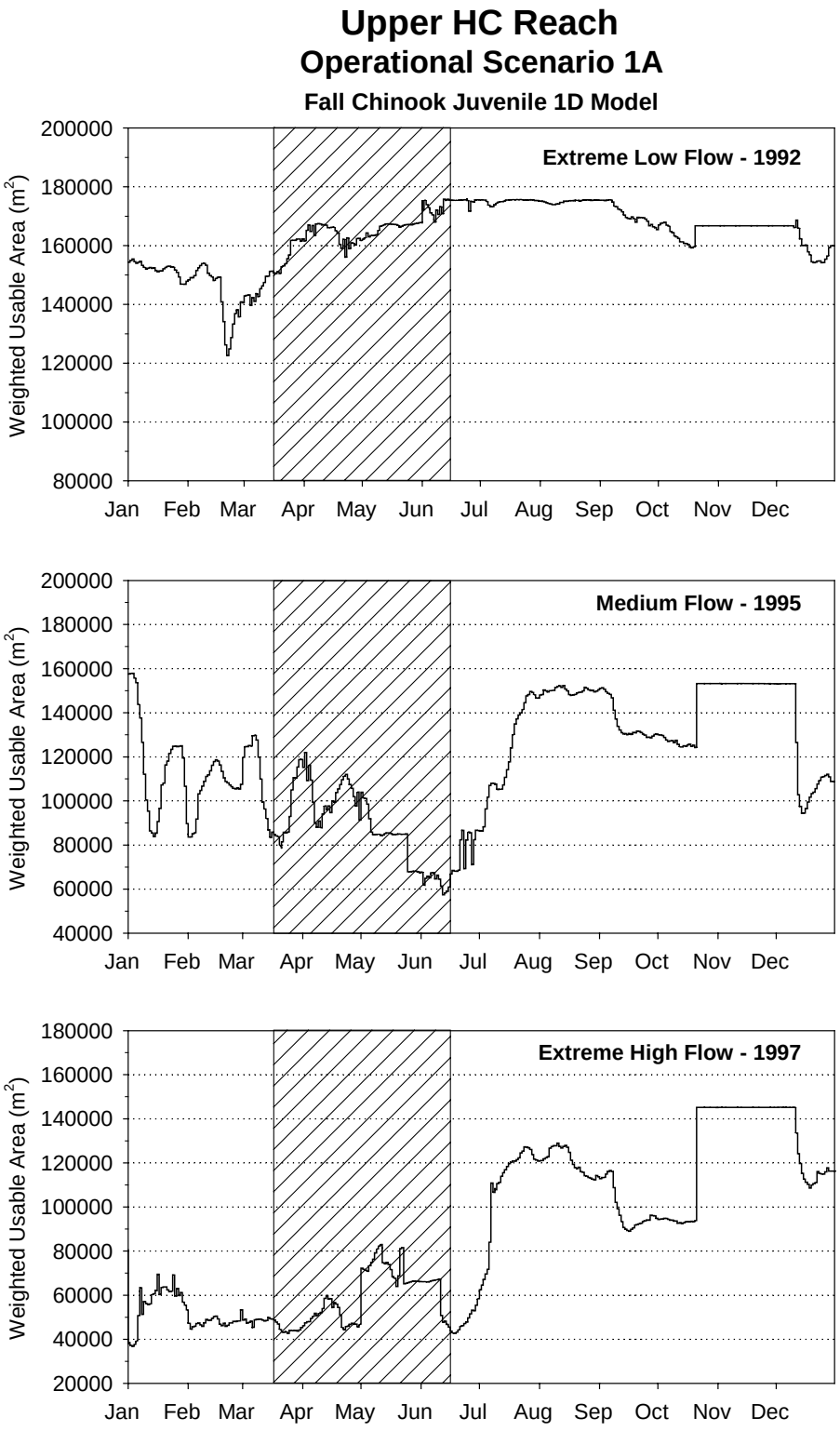


Figure 111. Total weighted usable area (WUA) under Operational Scenario 1A for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

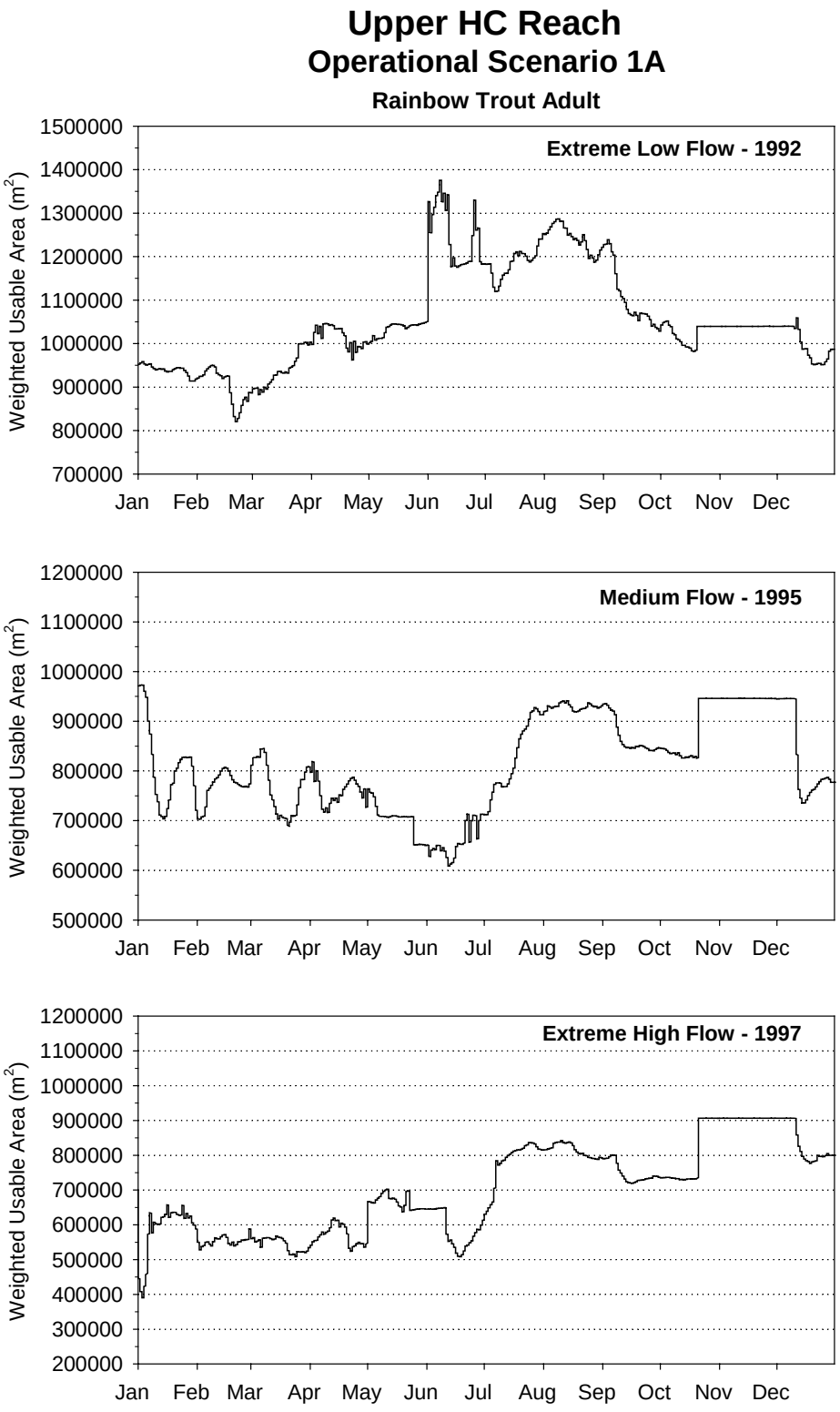


Figure 112. Total weighted usable area (WUA) under Operational Scenario 1A for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

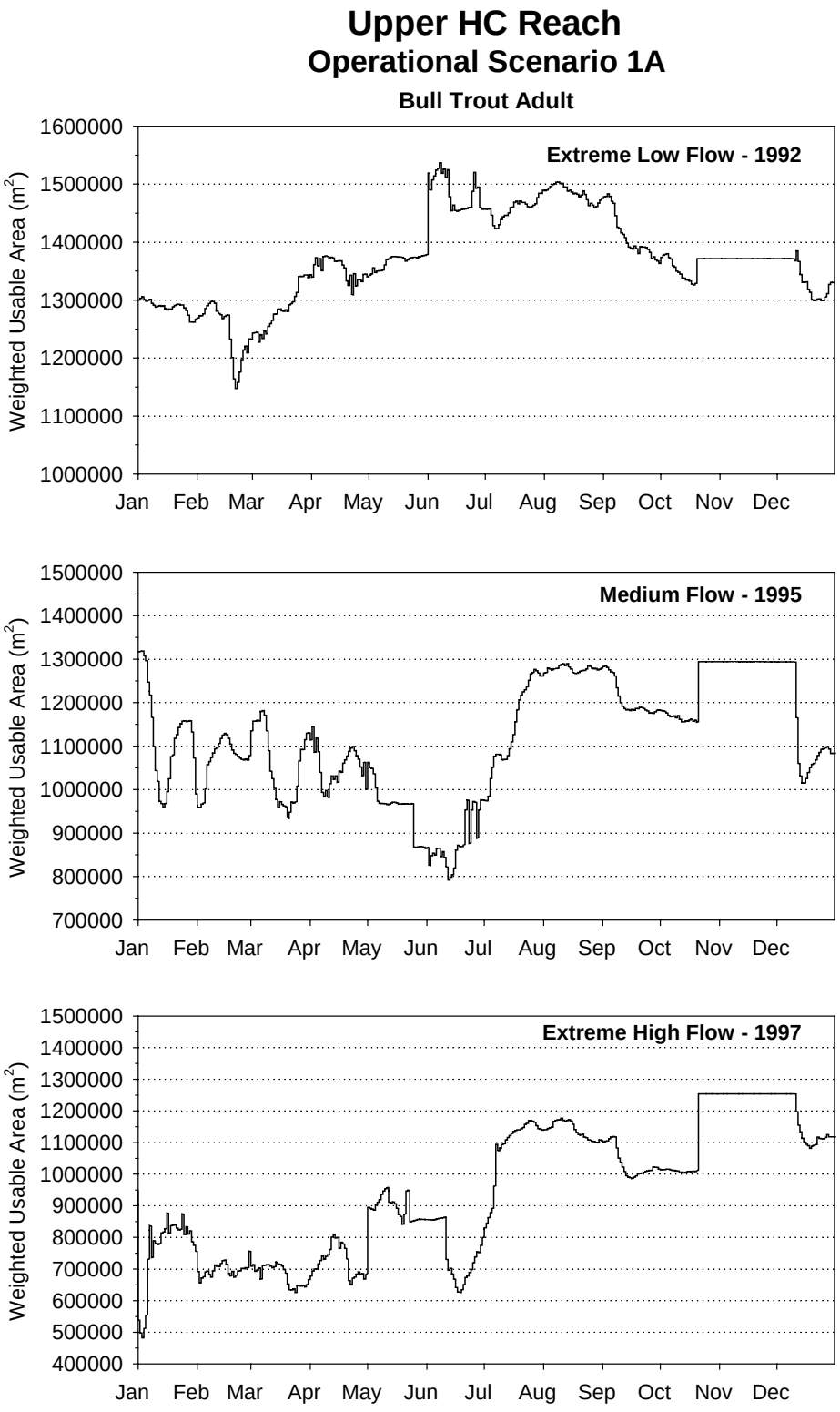


Figure 113. Total weighted usable area (WUA) under Operational Scenario 1A for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

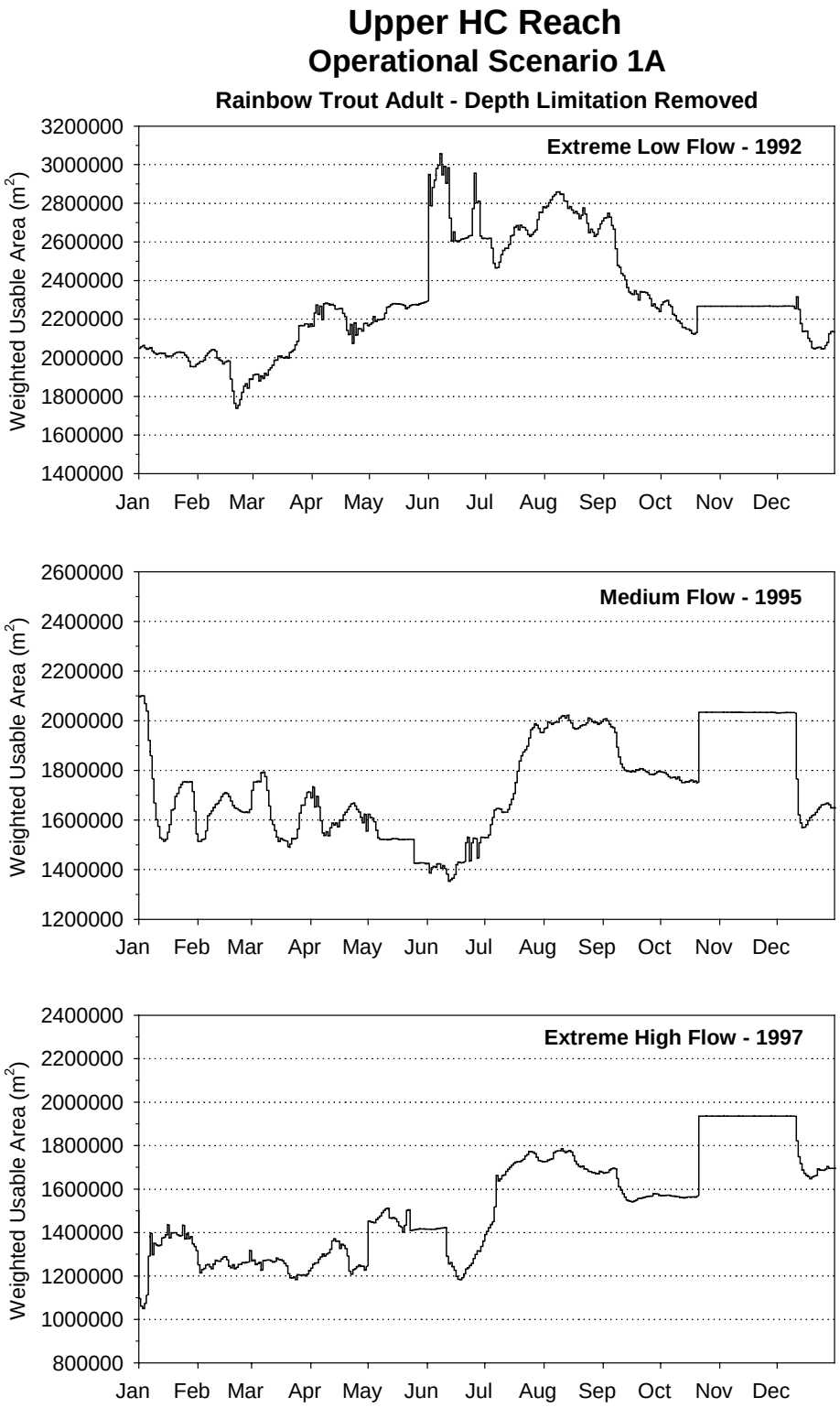


Figure 114. Total weighted usable area (WUA) under Operational Scenario 1A for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

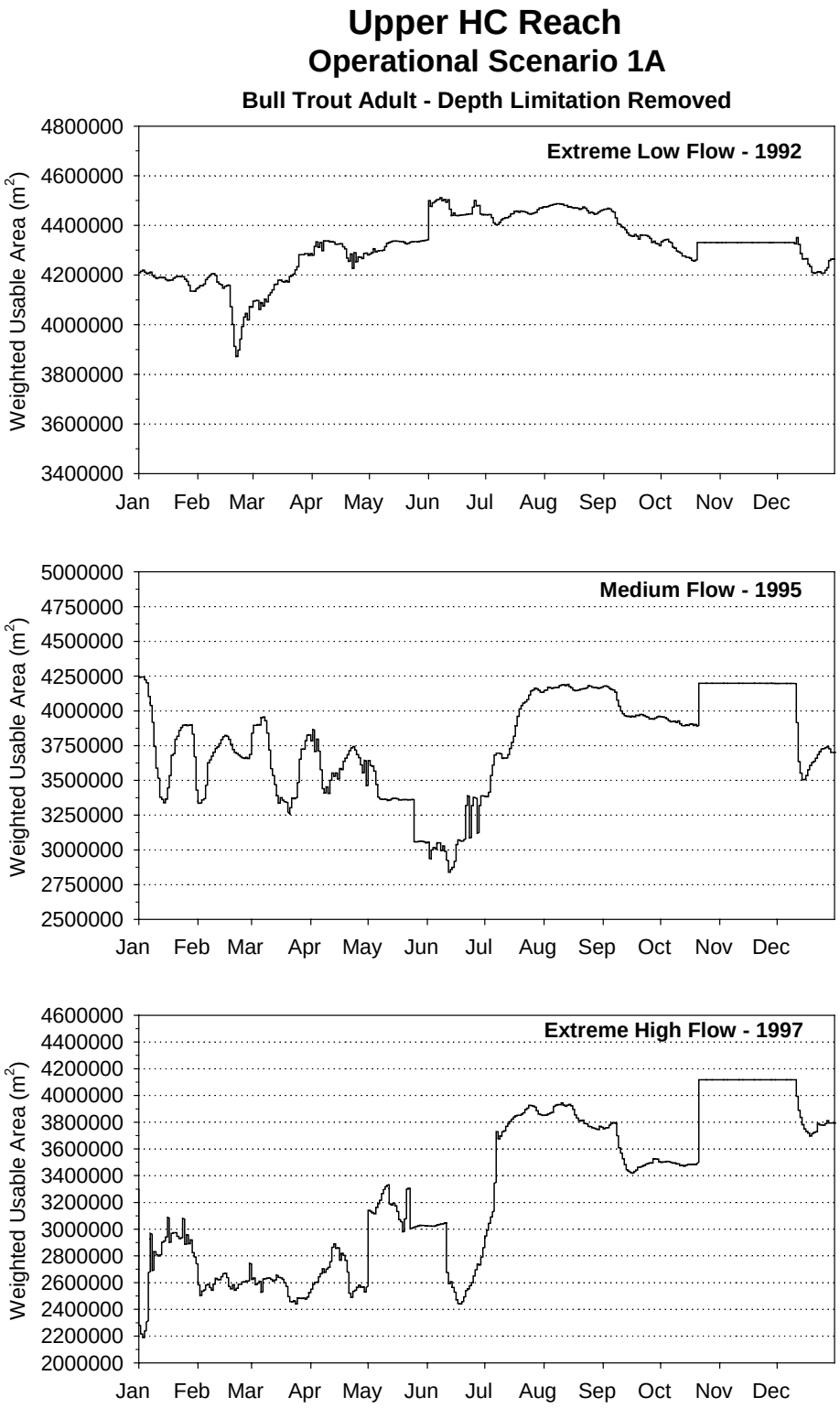


Figure 115. Total weighted usable area (WUA) under Operational Scenario 1A for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

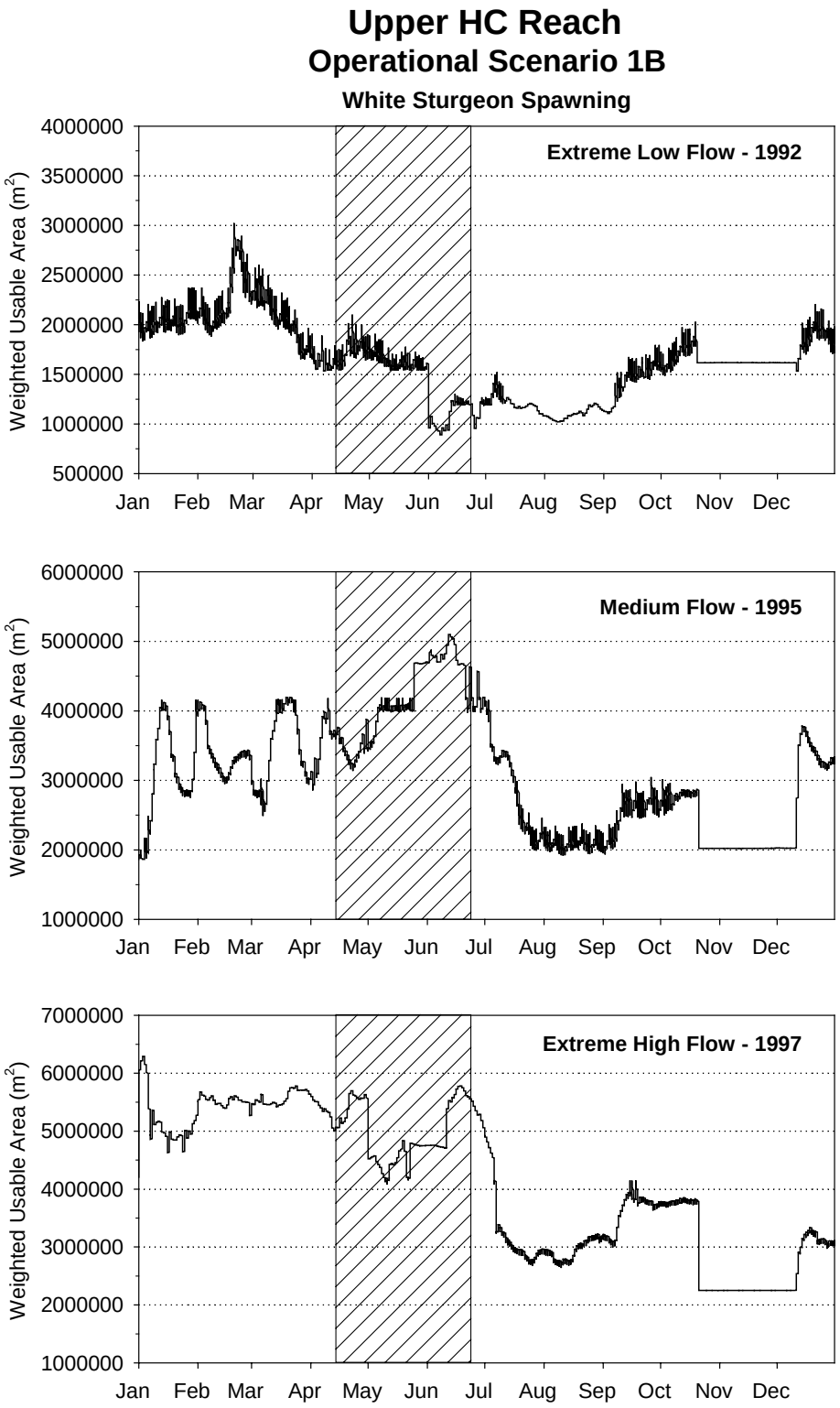


Figure 116. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

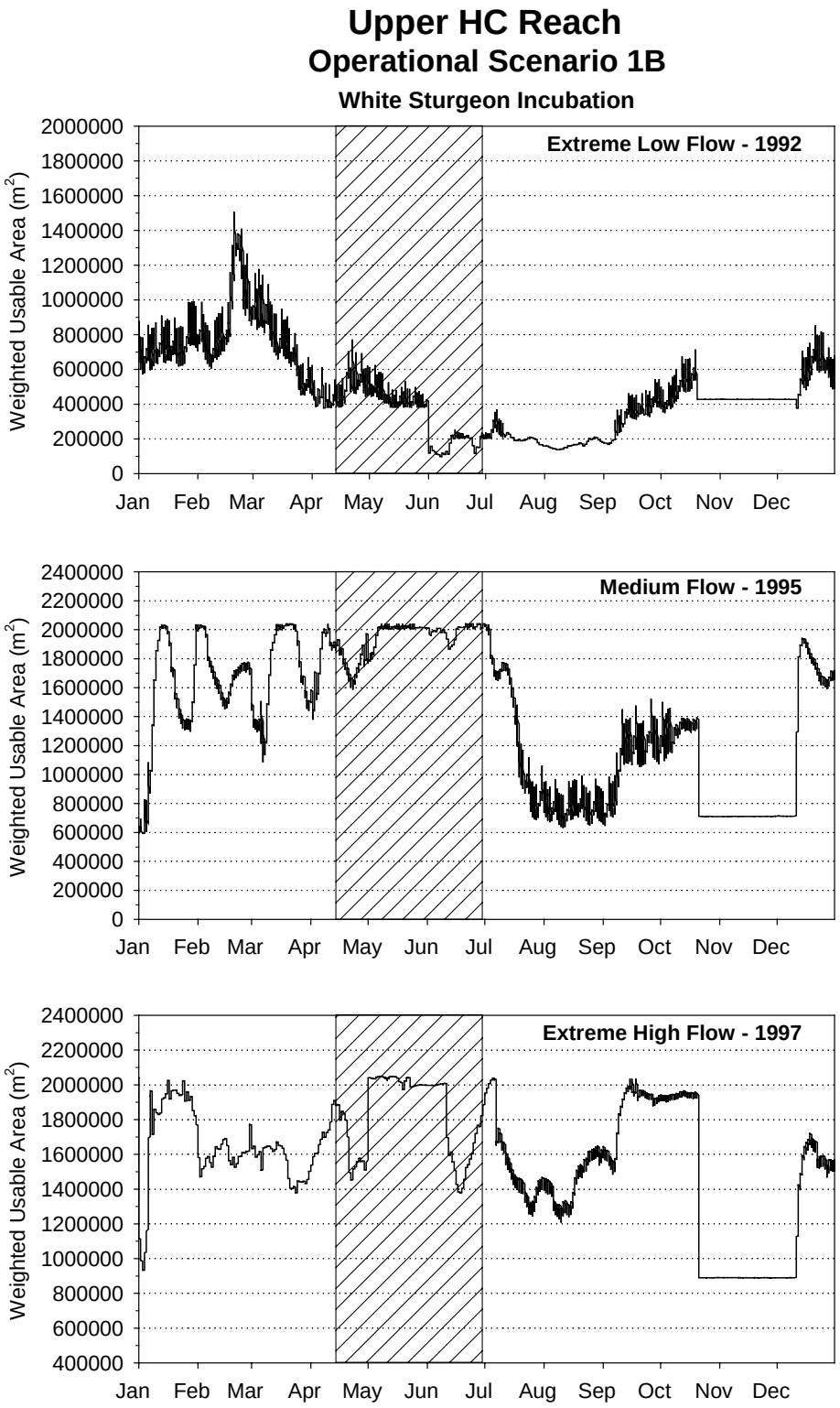


Figure 117. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

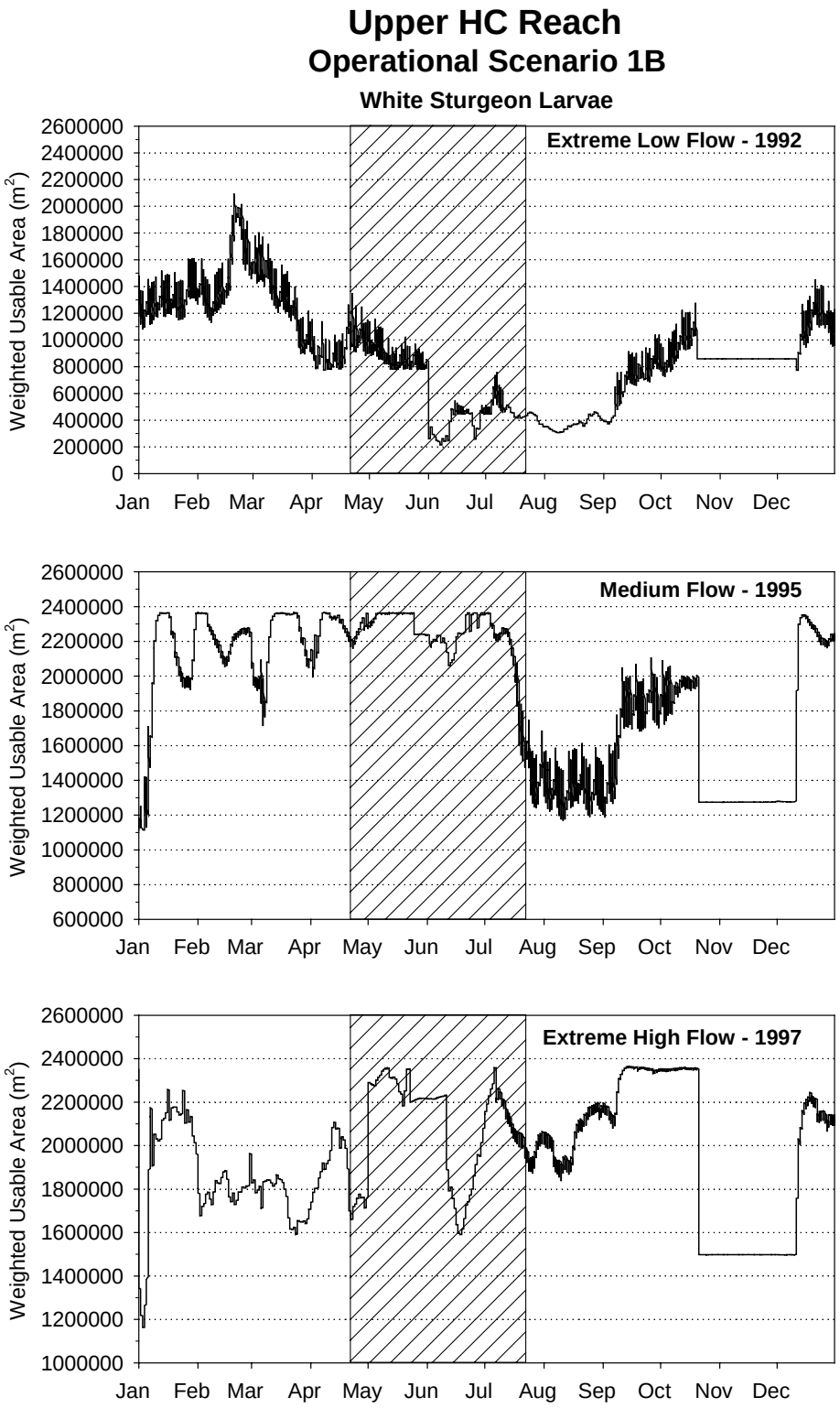


Figure 118. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

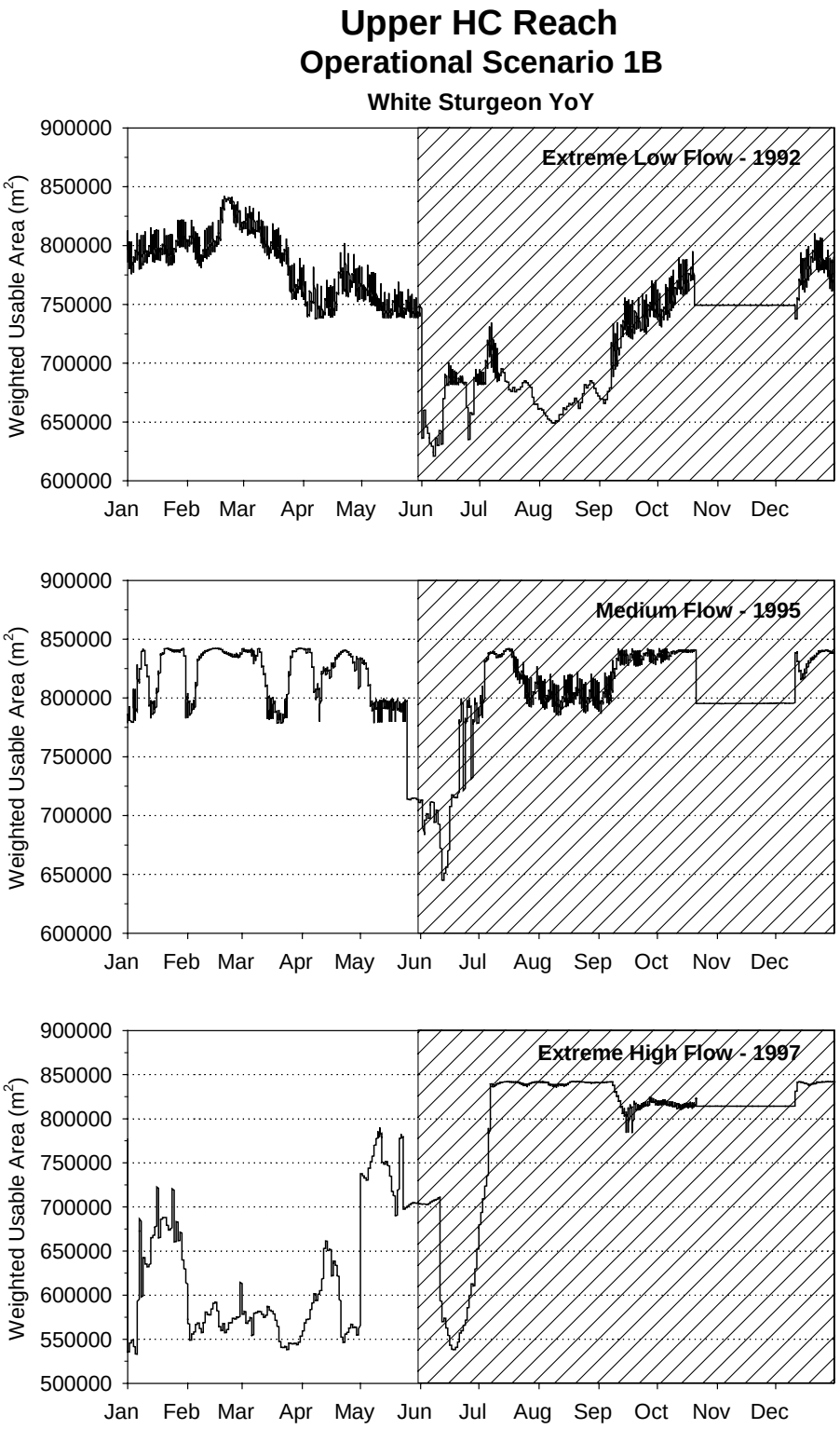


Figure 119. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

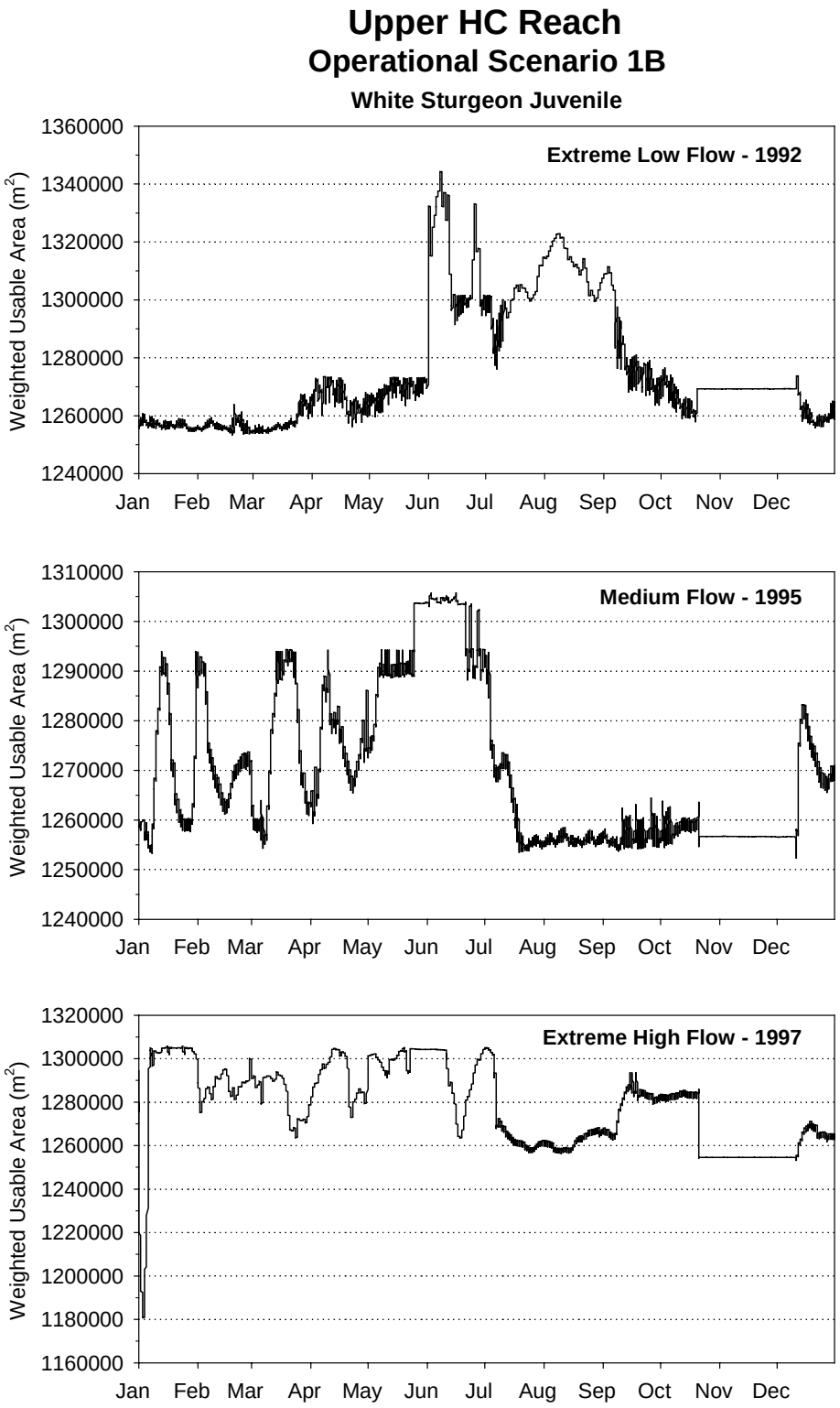


Figure 120. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

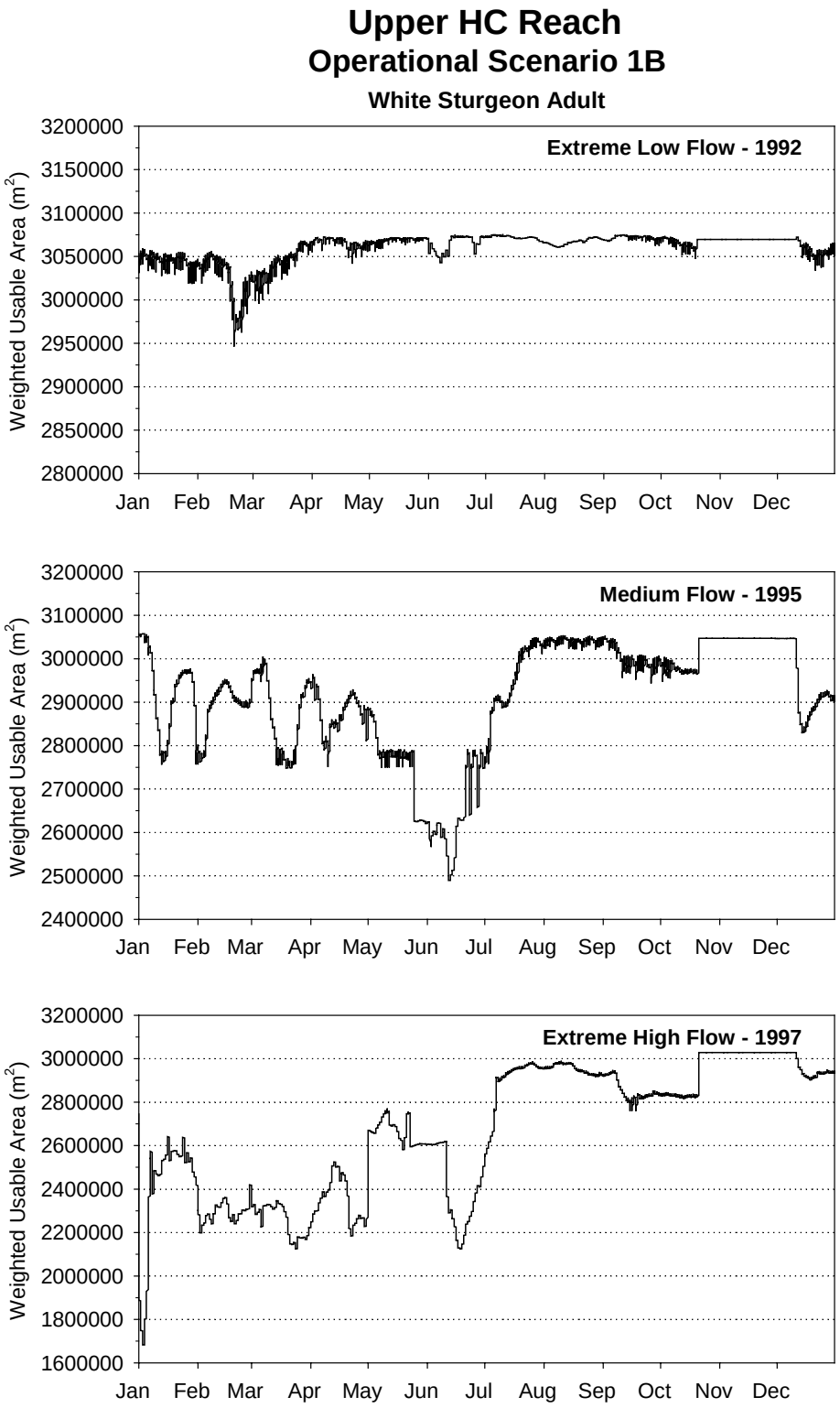


Figure 121. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

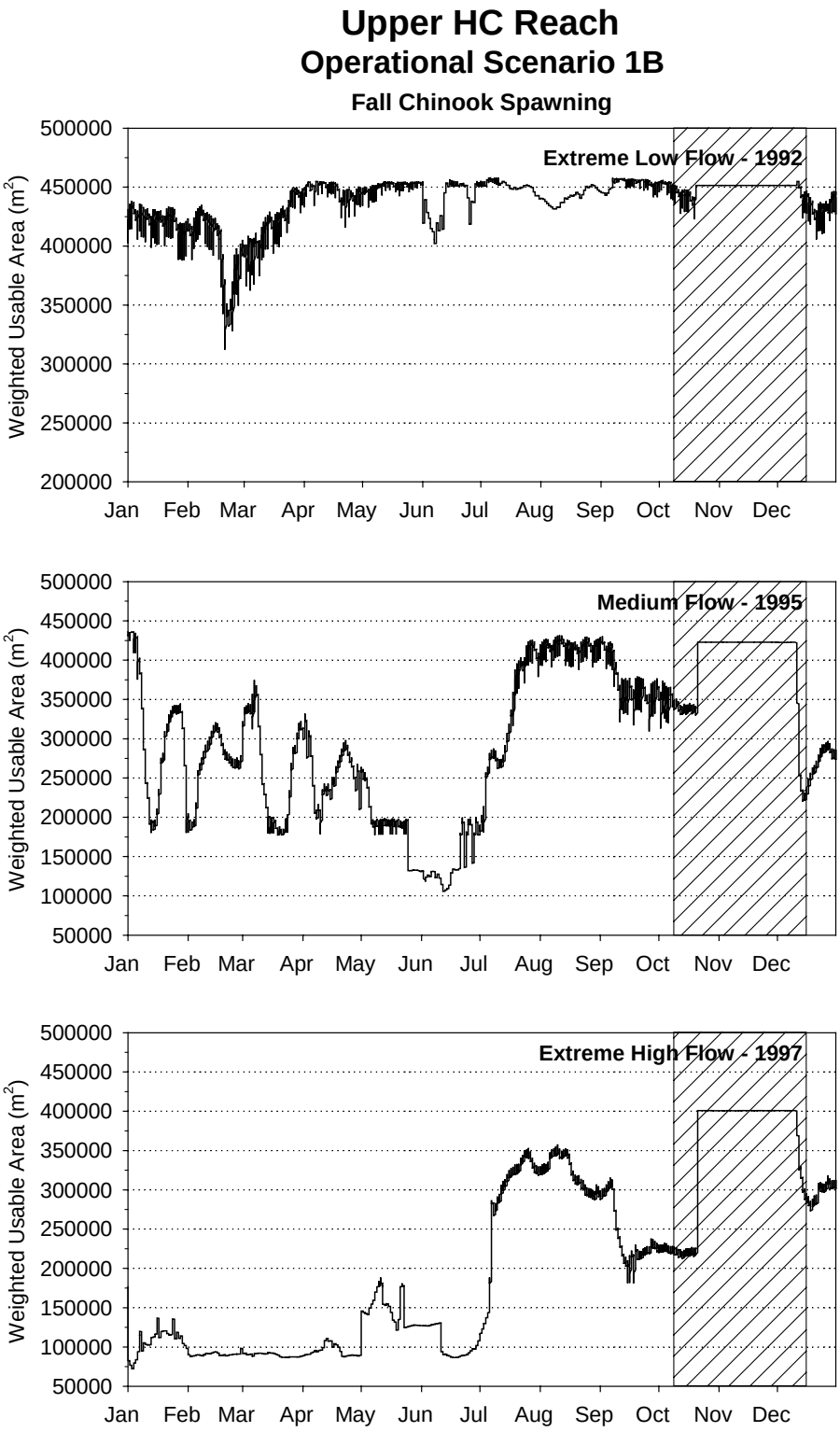


Figure 122. Total weighted usable area (WUA) under Operational Scenario 1B for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

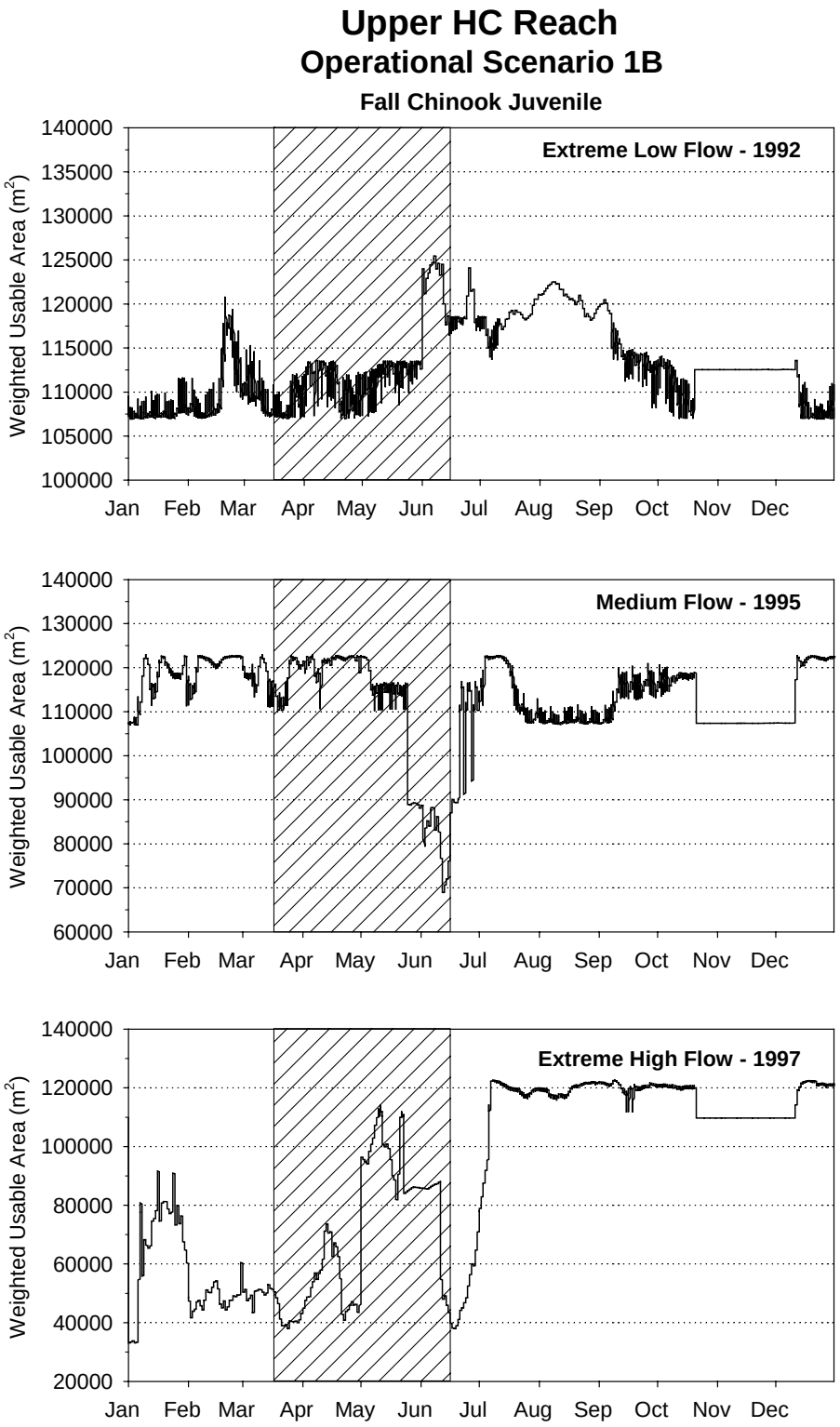


Figure 123. Total weighted usable area (WUA) under Operational Scenario 1B for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

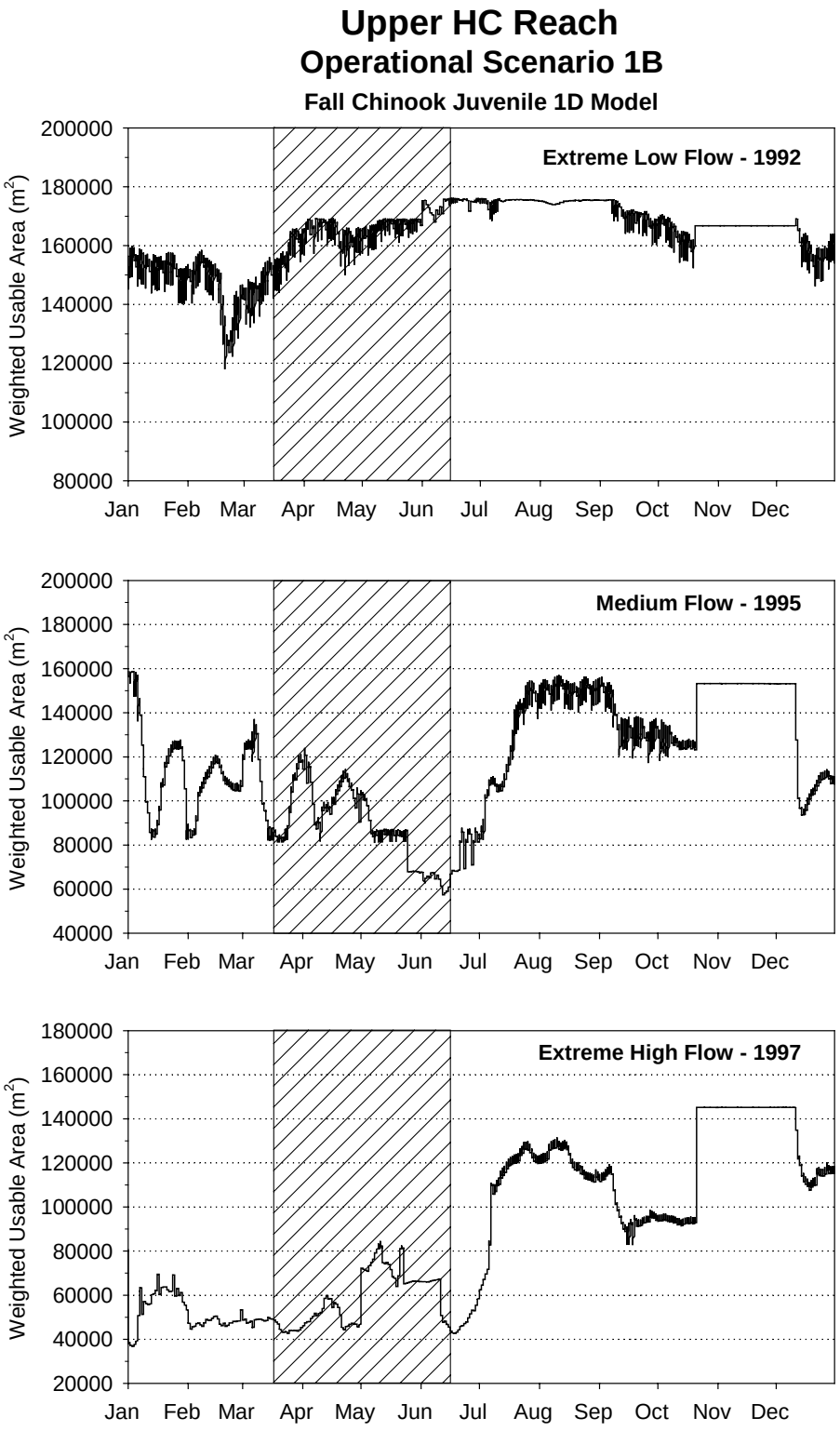


Figure 124. Total weighted usable area (WUA) under Operational Scenario 1B for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

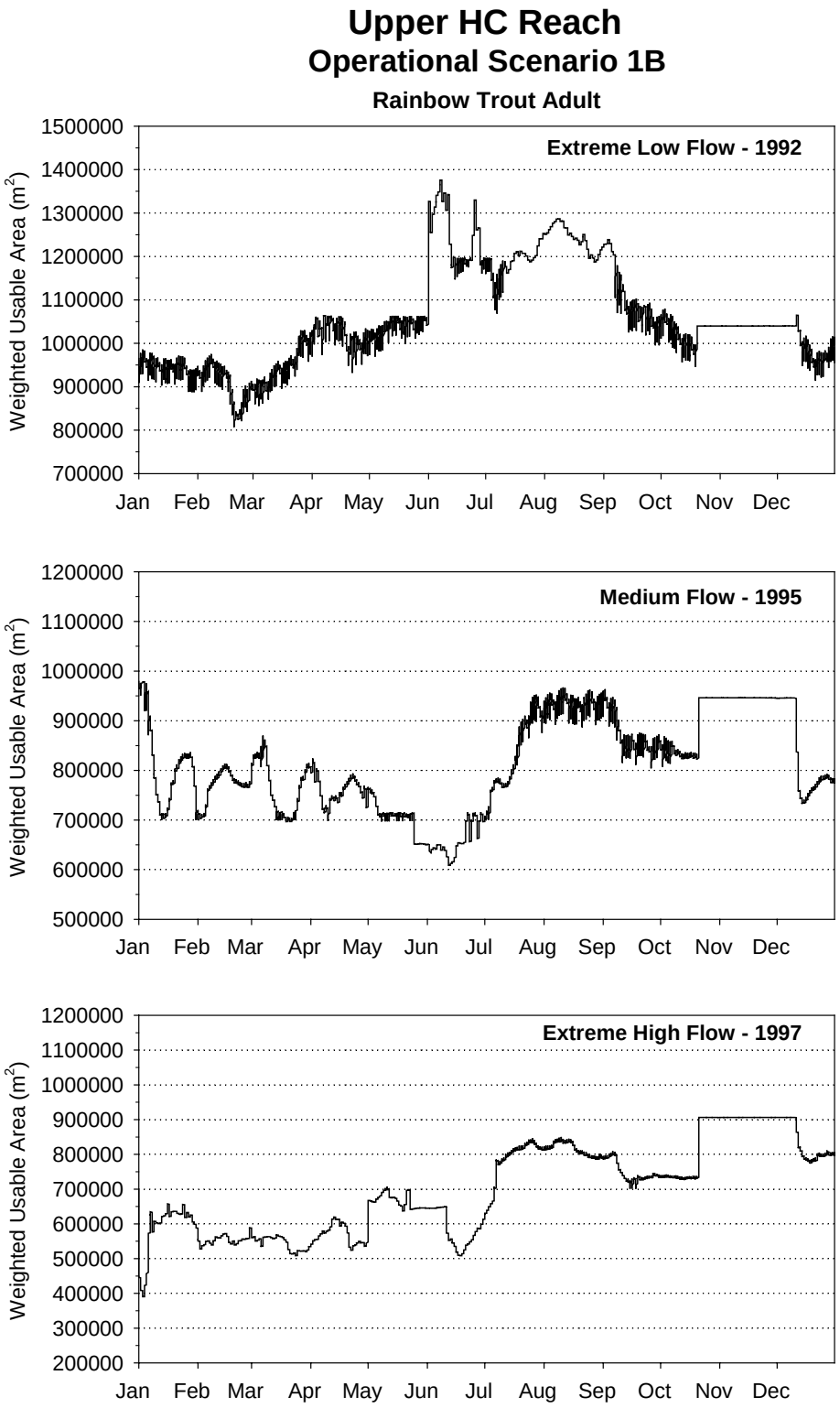


Figure 125. Total weighted usable area (WUA) under Operational Scenario 1B for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

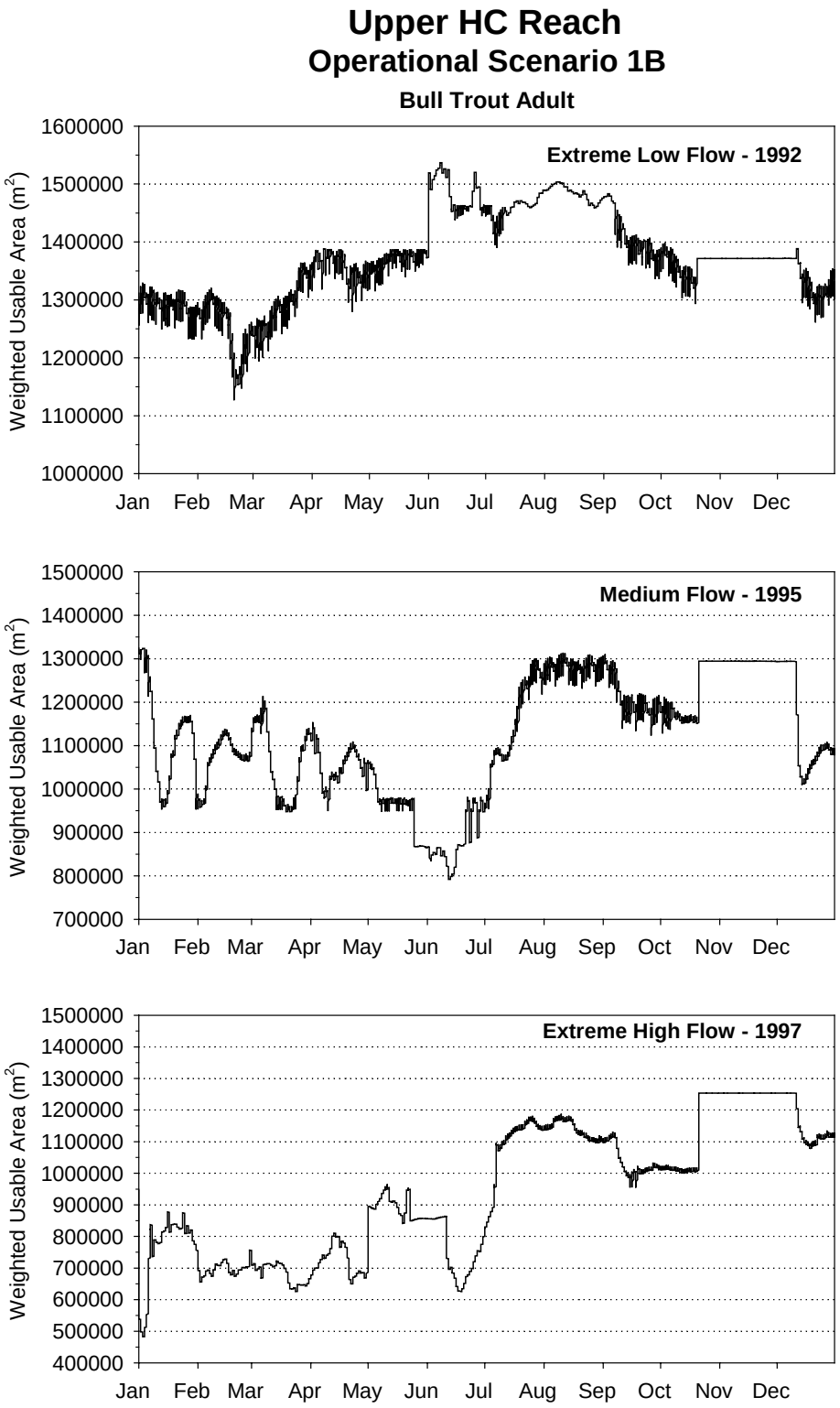


Figure 126. Total weighted usable area (WUA) under Operational Scenario 1B for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

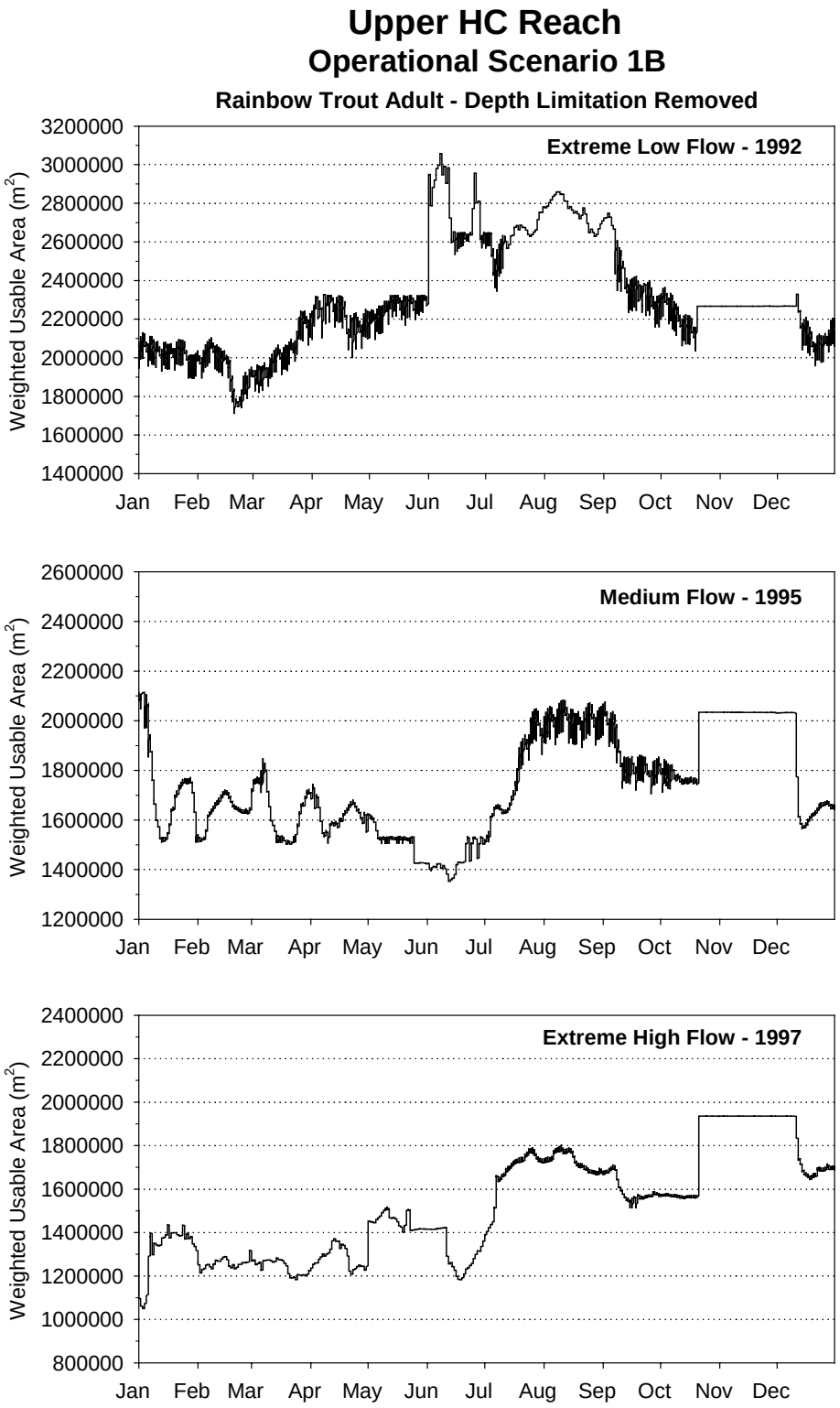


Figure 127. Total weighted usable area (WUA) under Operational Scenario 1B for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

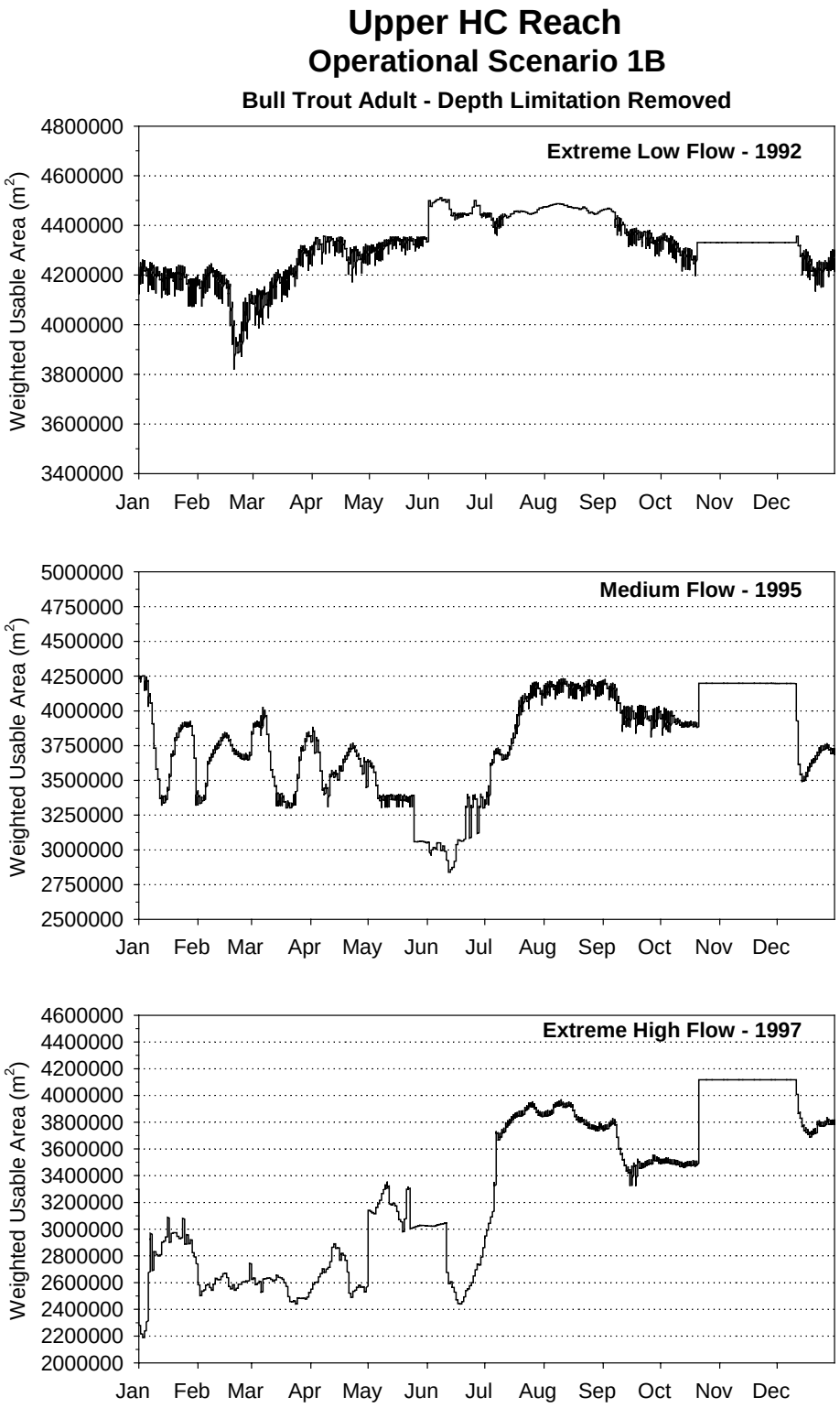


Figure 128. Total weighted usable area (WUA) under Operational Scenario 1B for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

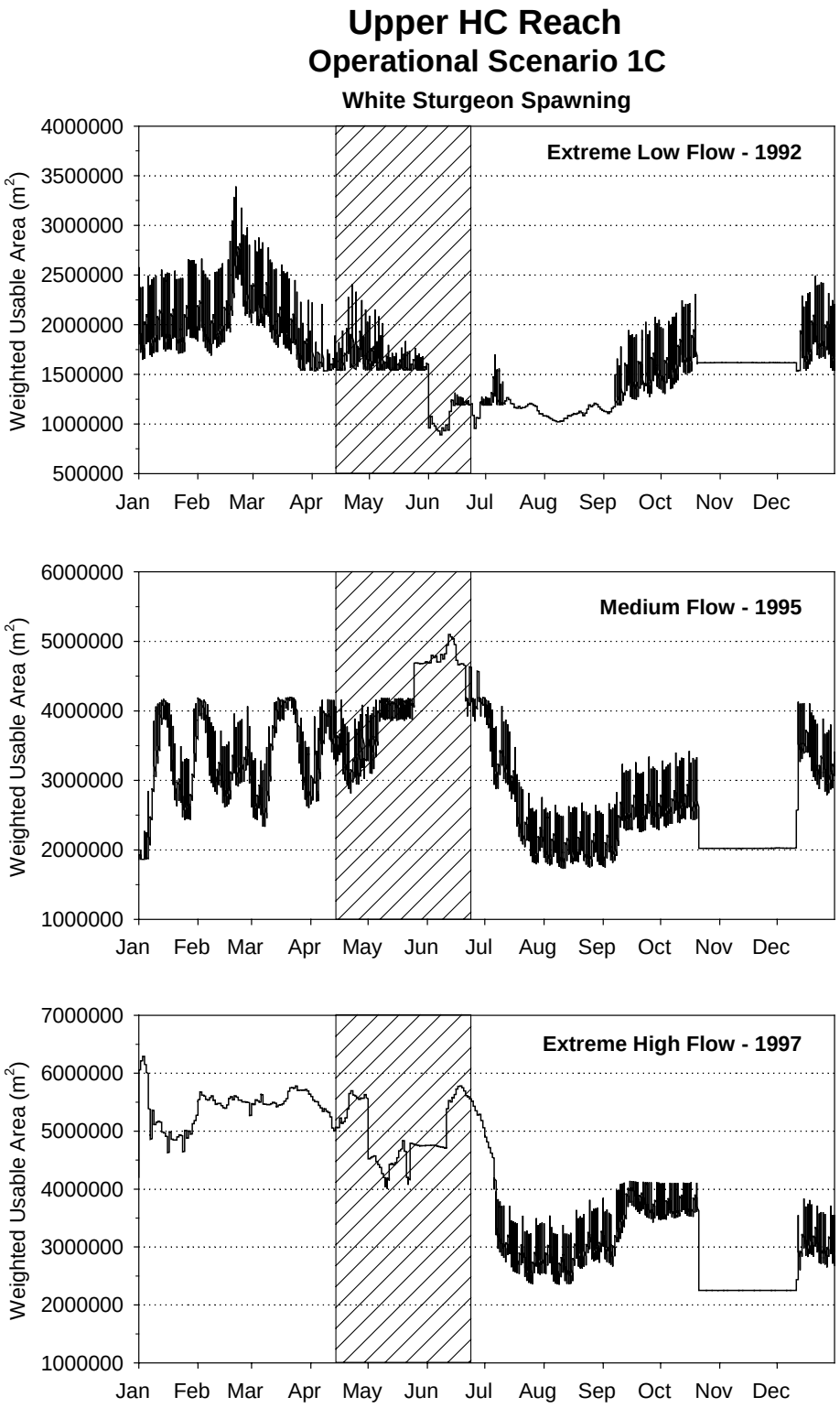


Figure 129. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

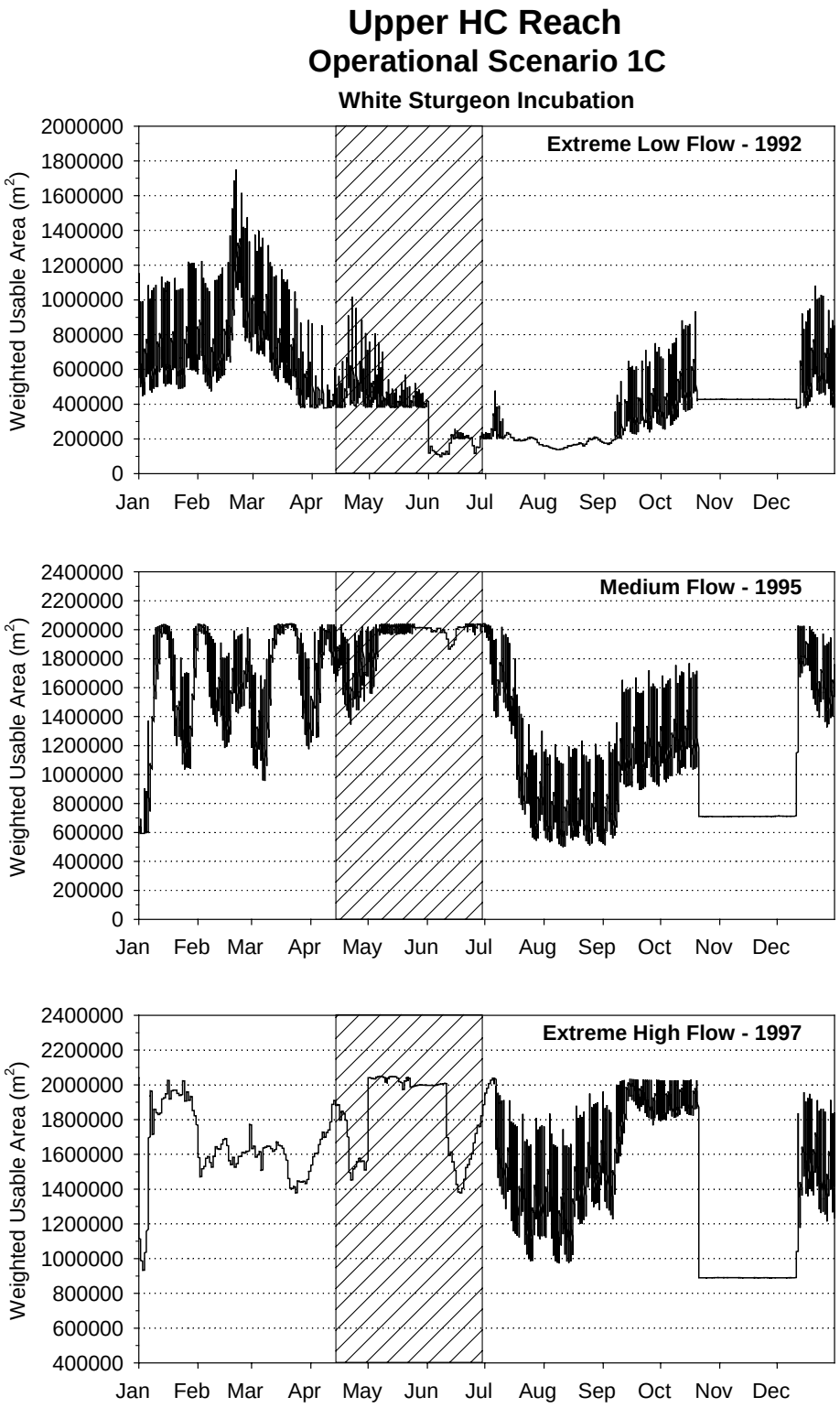


Figure 130. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

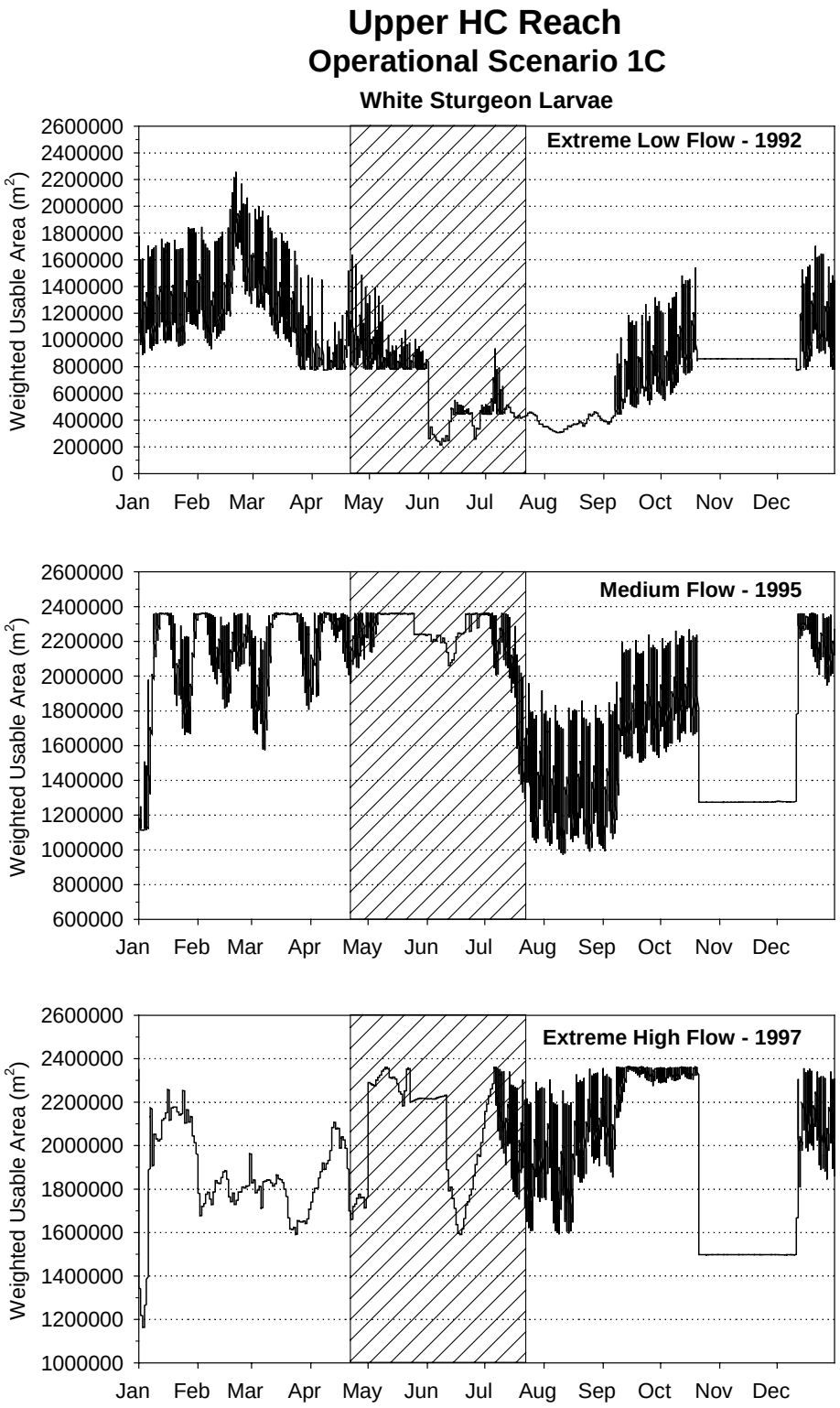


Figure 131. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

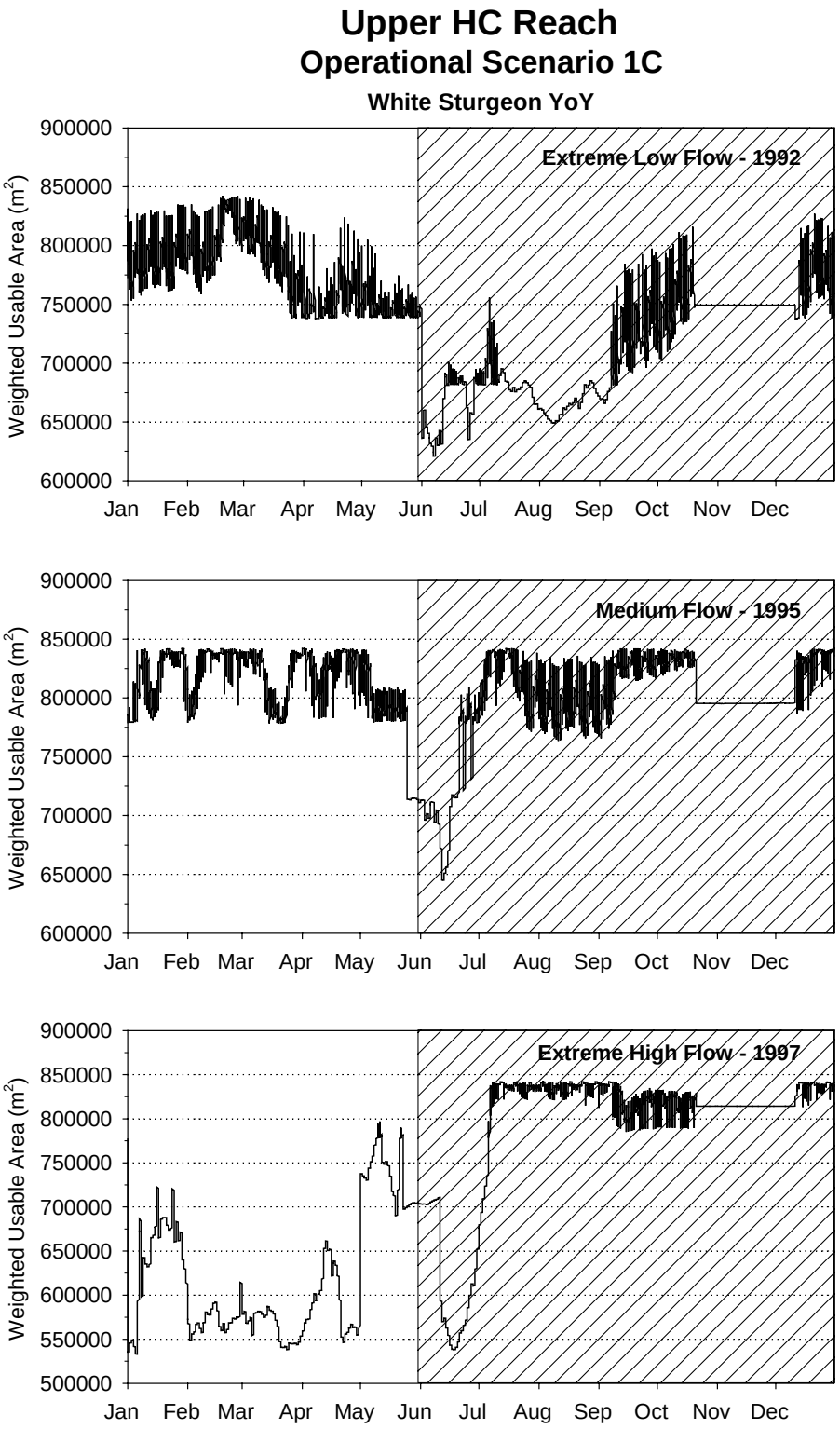


Figure 132. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

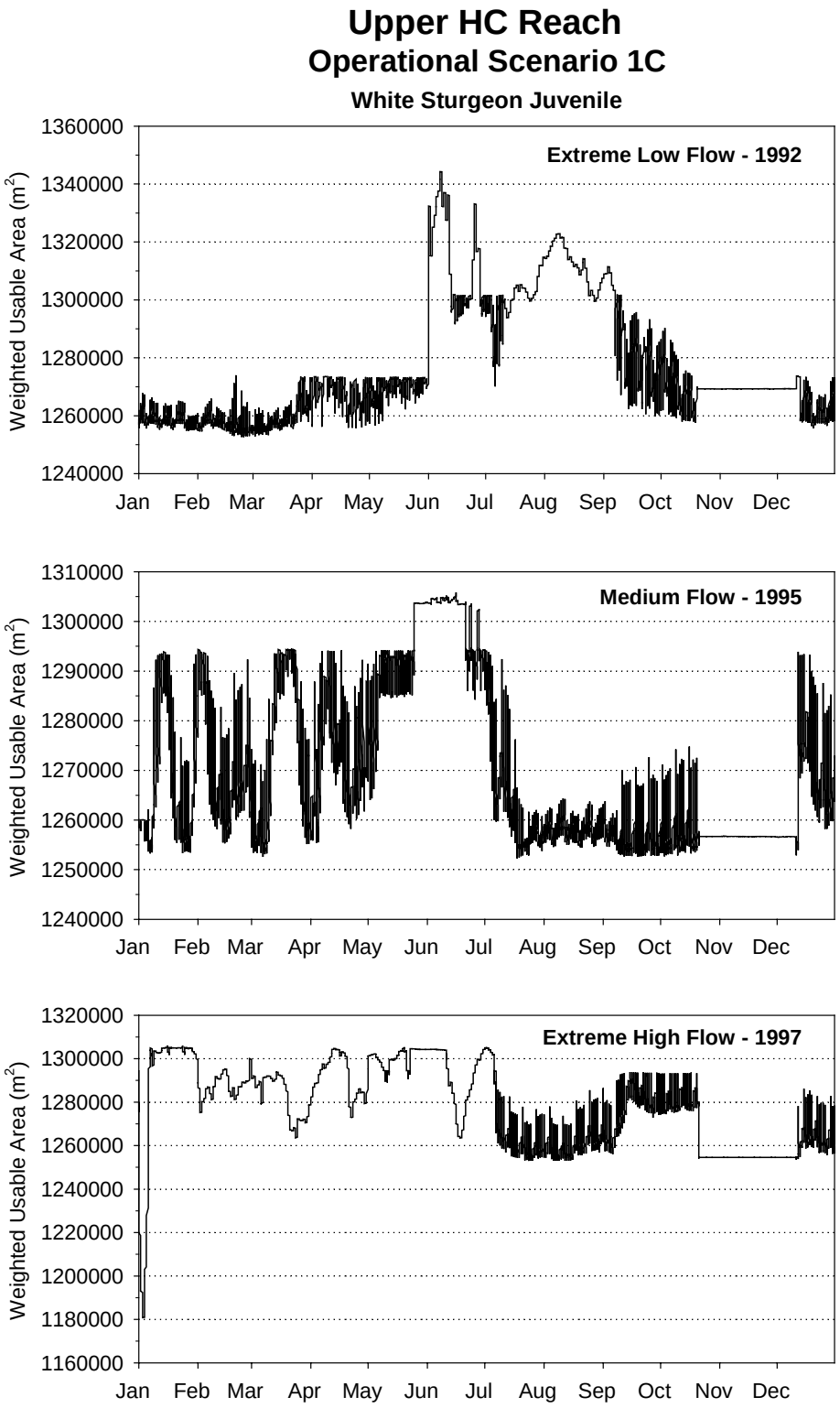


Figure 133. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

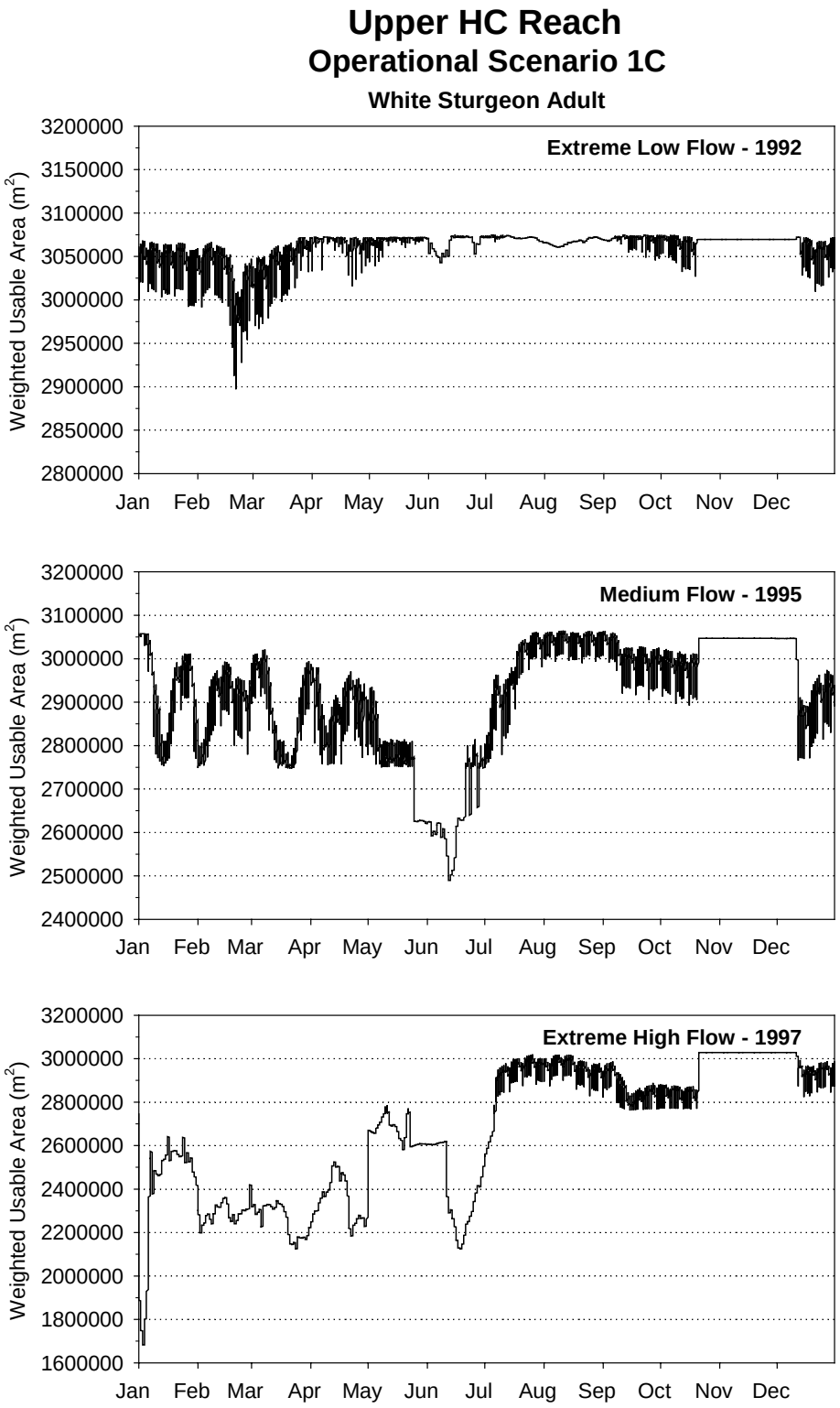


Figure 134. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

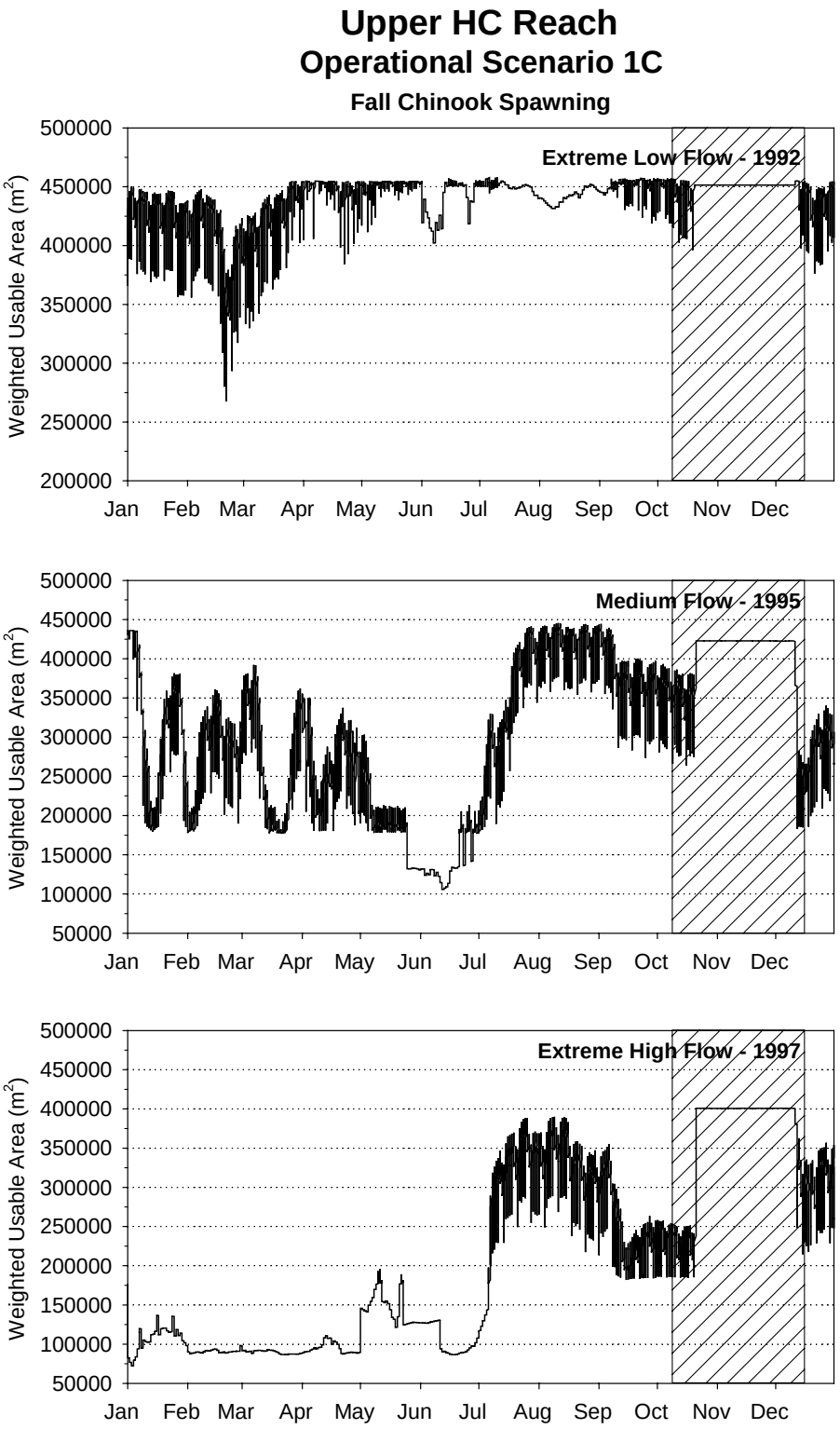


Figure 135. Total weighted usable area (WUA) under Operational Scenario 1C for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

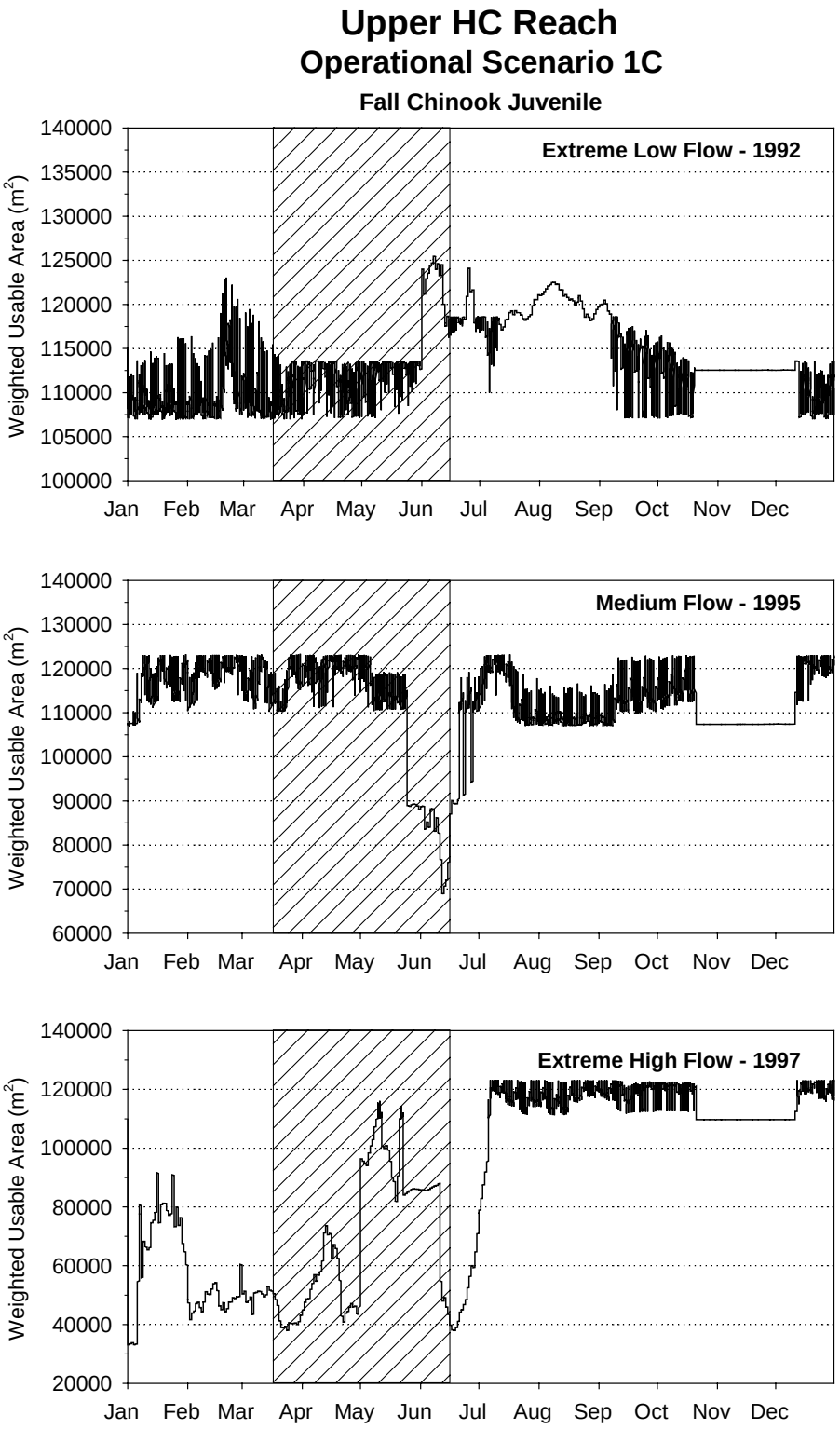


Figure 136. Total weighted usable area (WUA) under Operational Scenario 1C for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

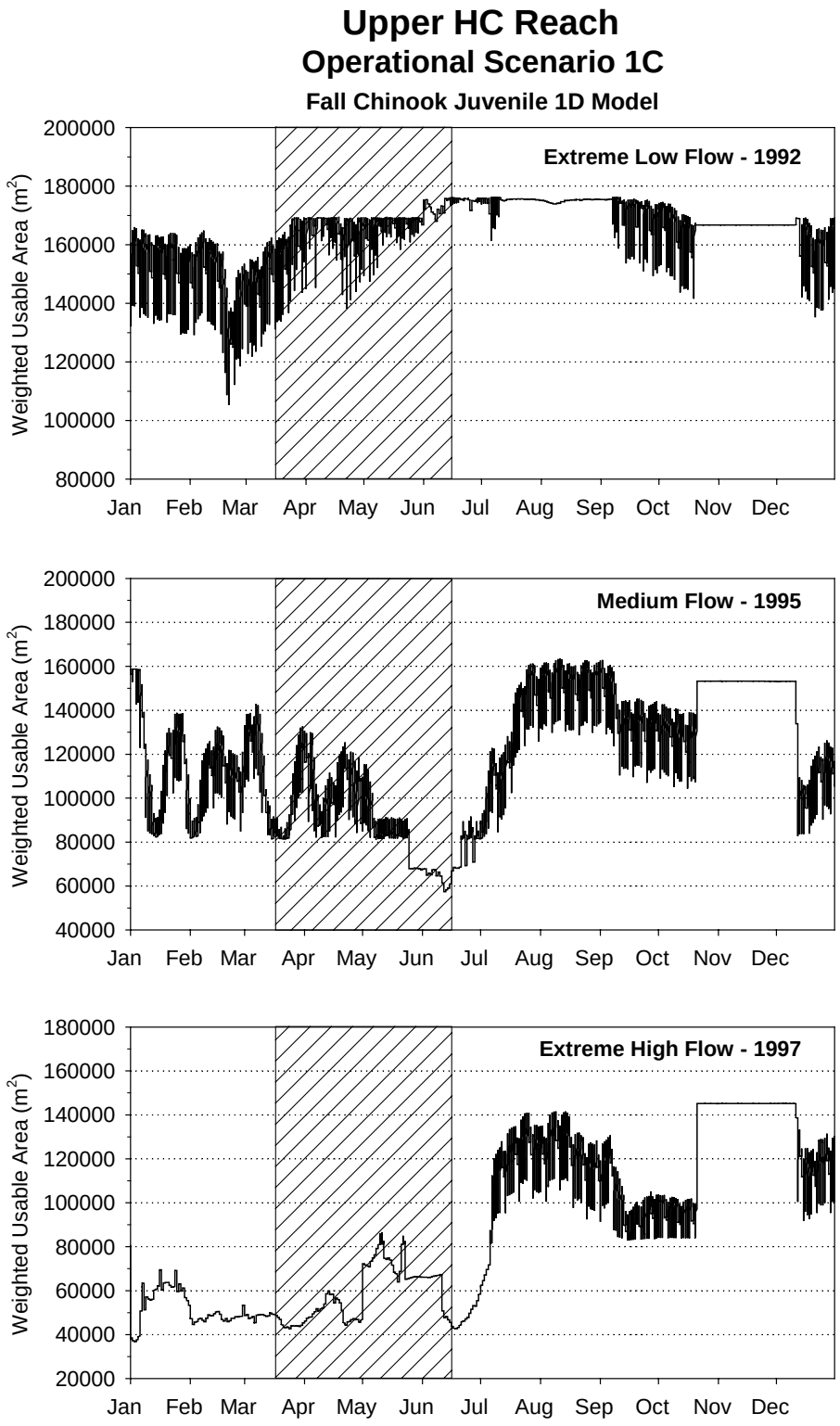


Figure 137. Total weighted usable area (WUA) under Operational Scenario 1C for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

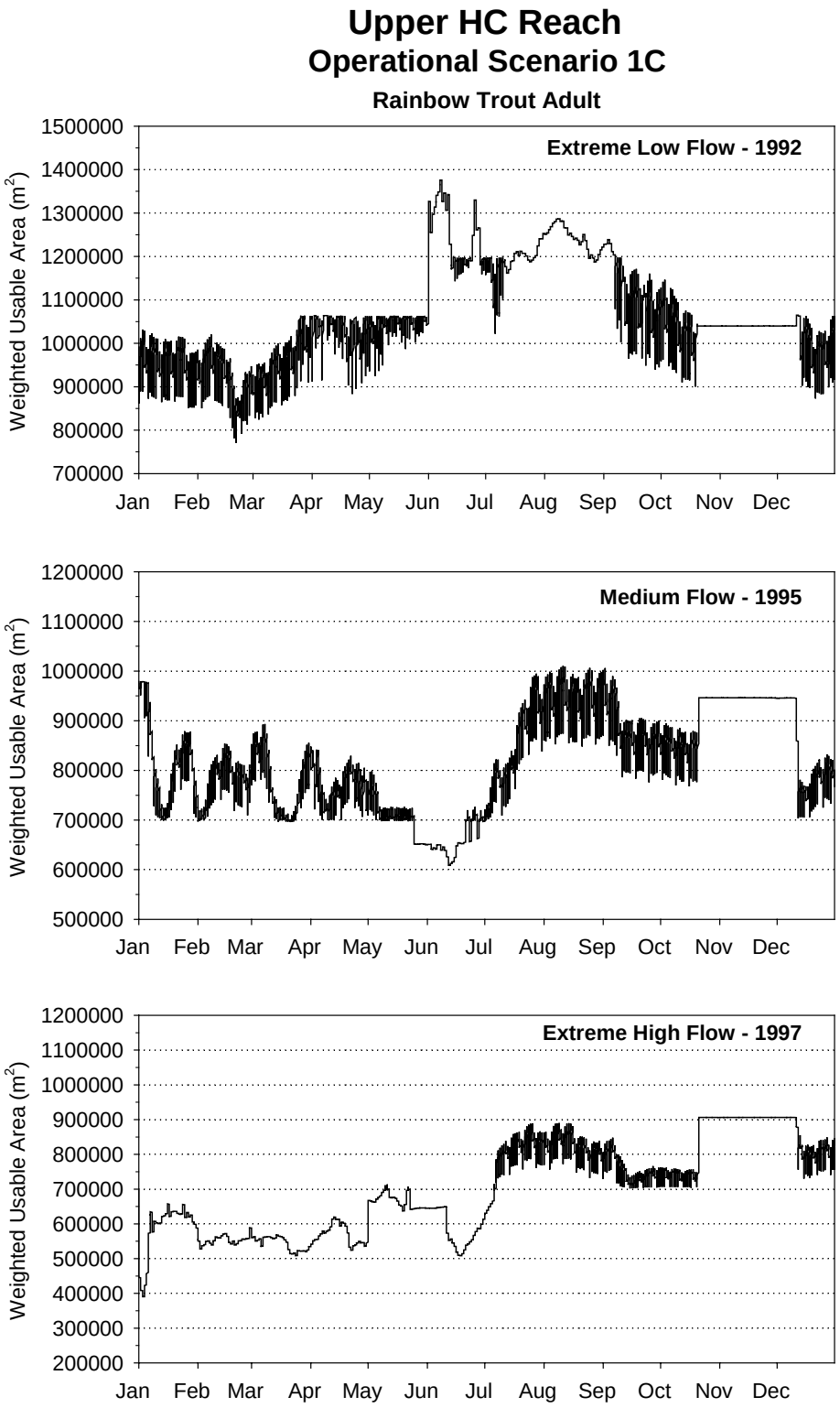


Figure 138. Total weighted usable area (WUA) under Operational Scenario 1C for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

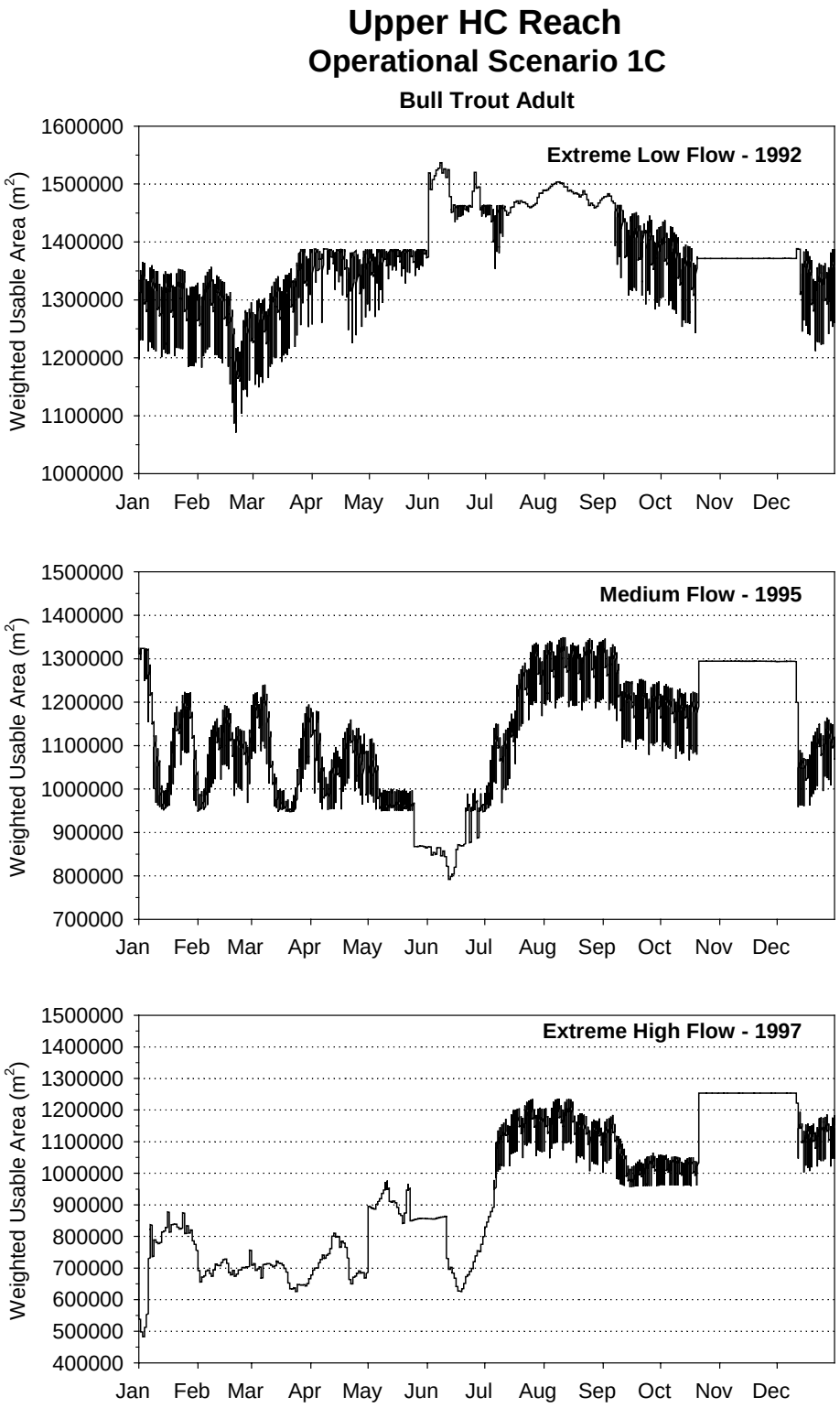


Figure 139. Total weighted usable area (WUA) under Operational Scenario 1C for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

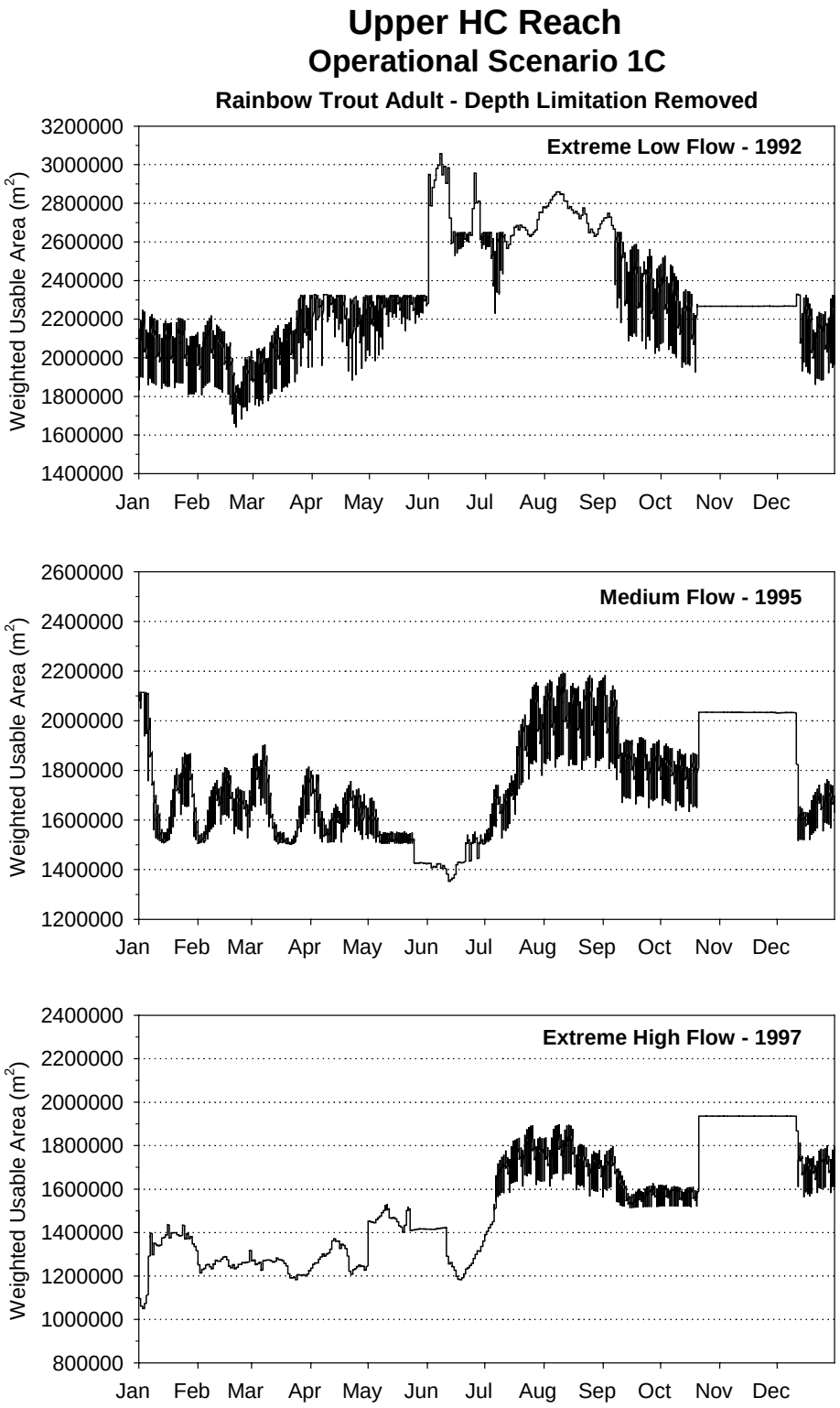


Figure 140. Total weighted usable area (WUA) under Operational Scenario 1C for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

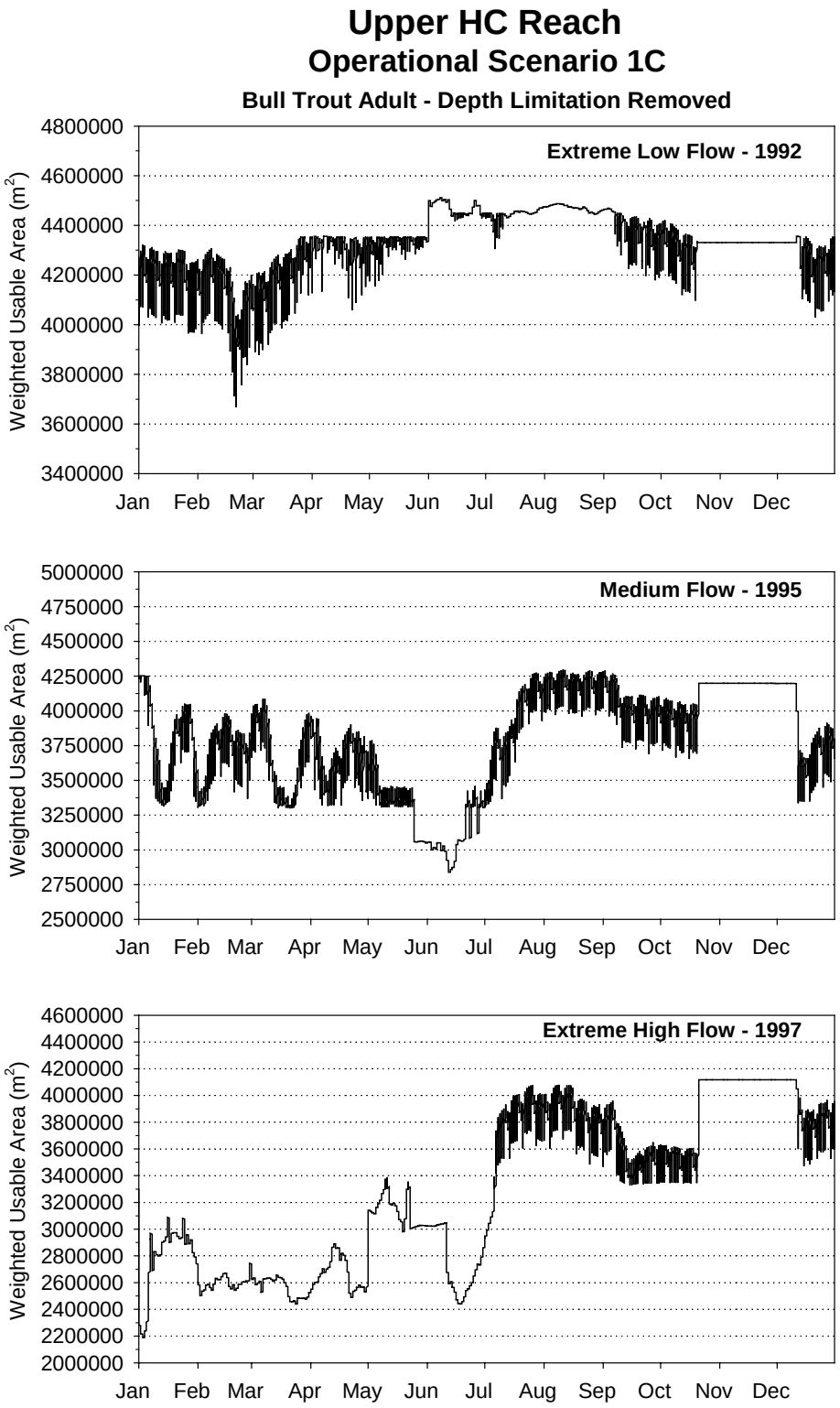


Figure 141. Total weighted usable area (WUA) under Operational Scenario 1C for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

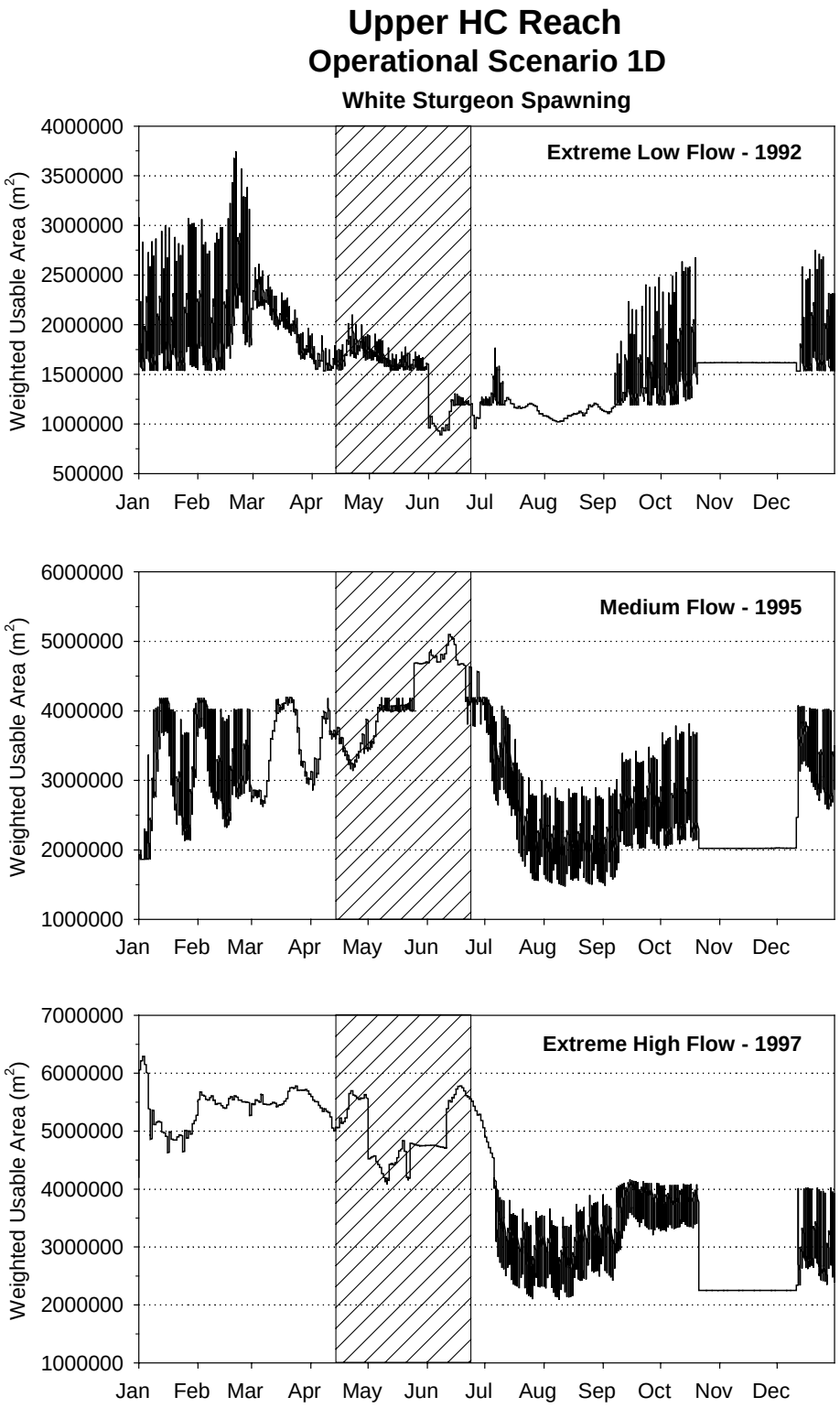


Figure 142. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

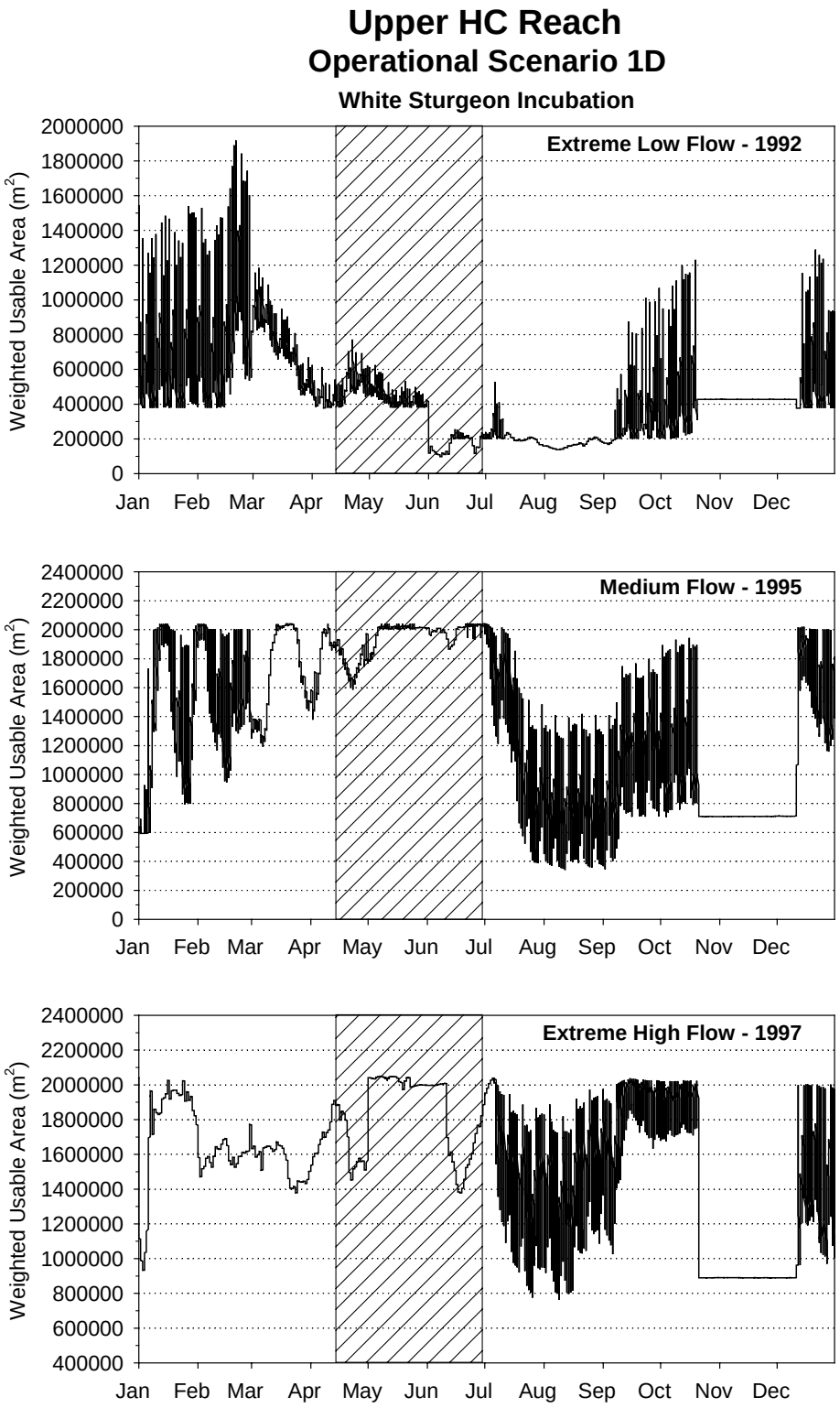


Figure 143. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

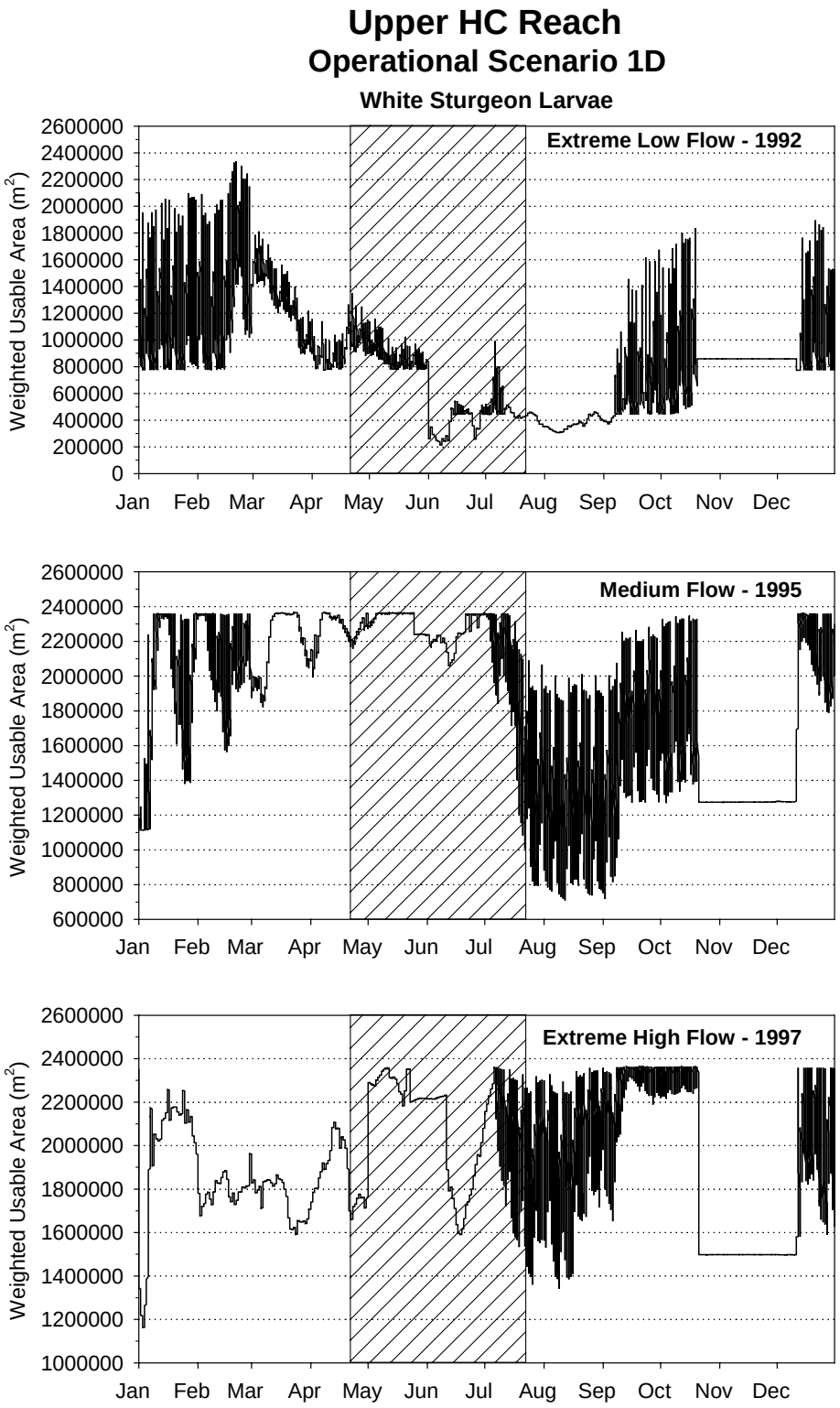


Figure 144. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

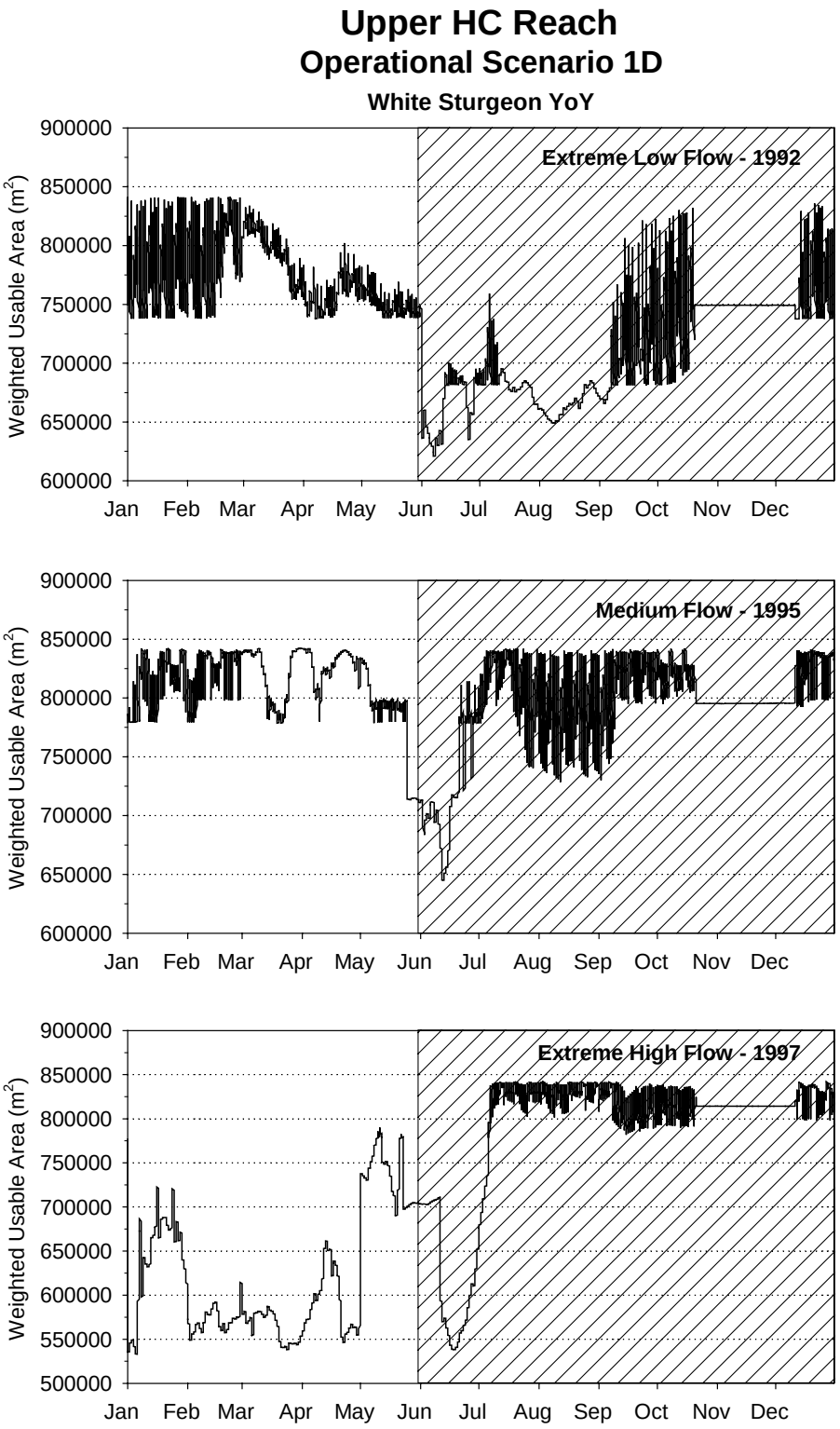


Figure 145. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

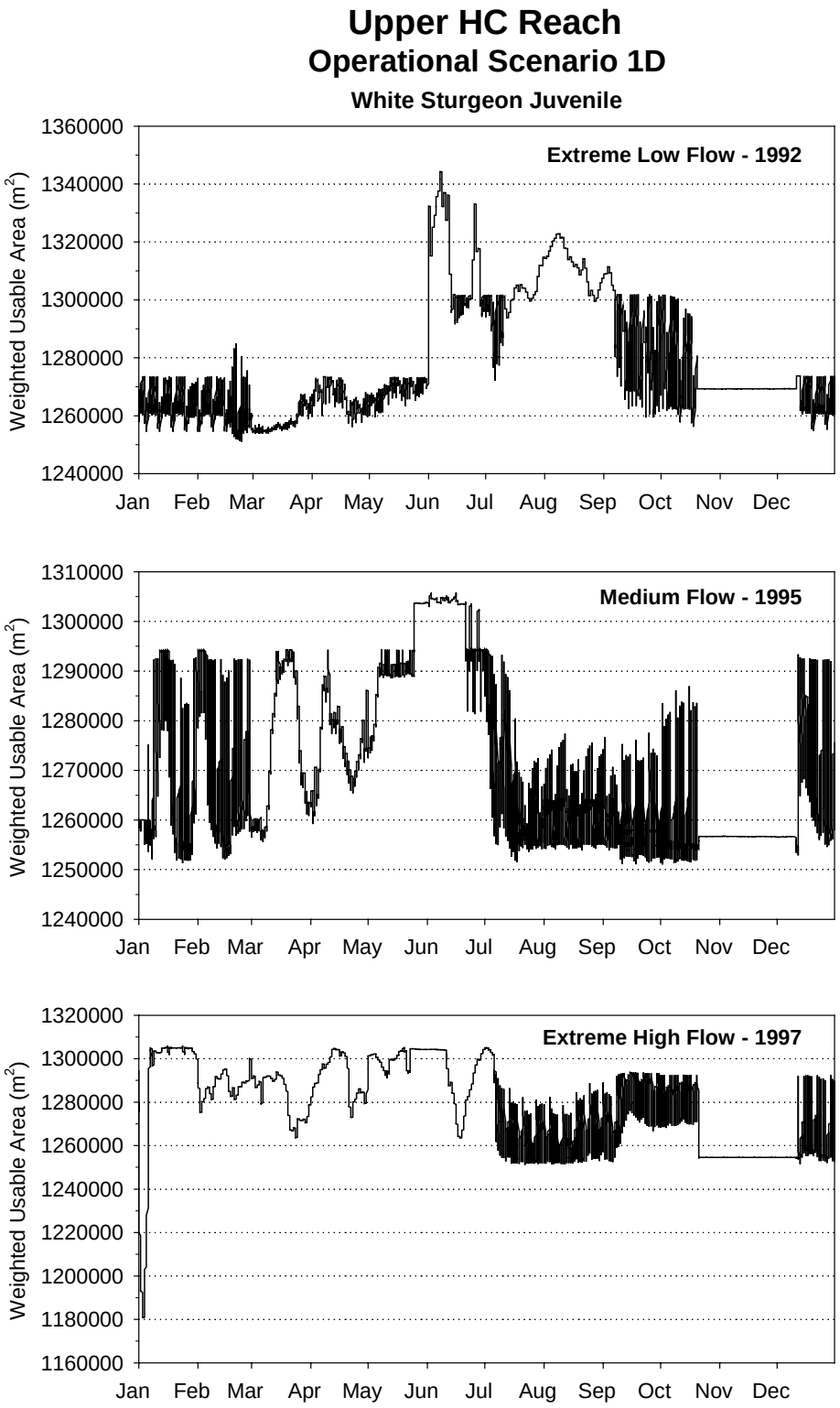


Figure 146. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

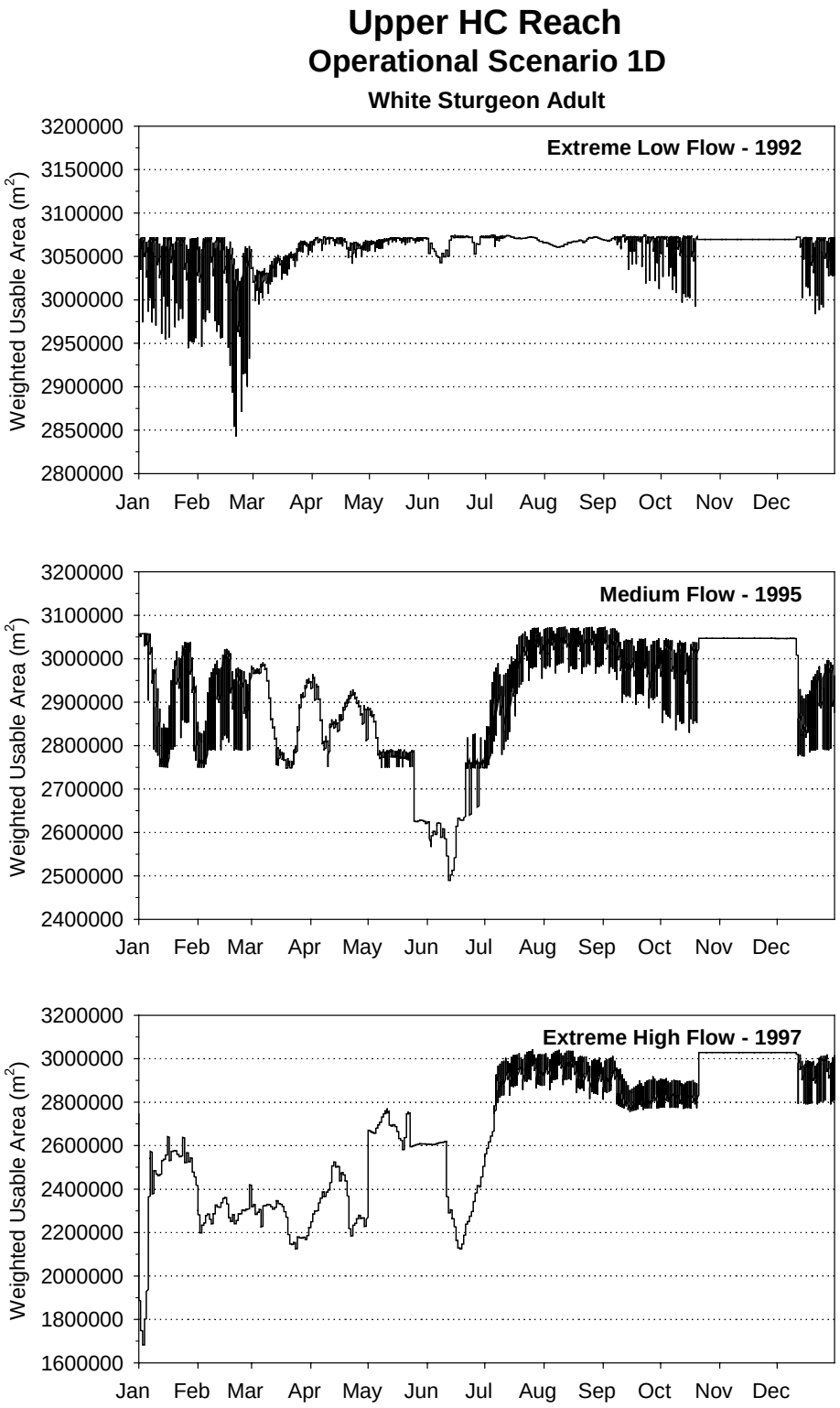


Figure 147. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

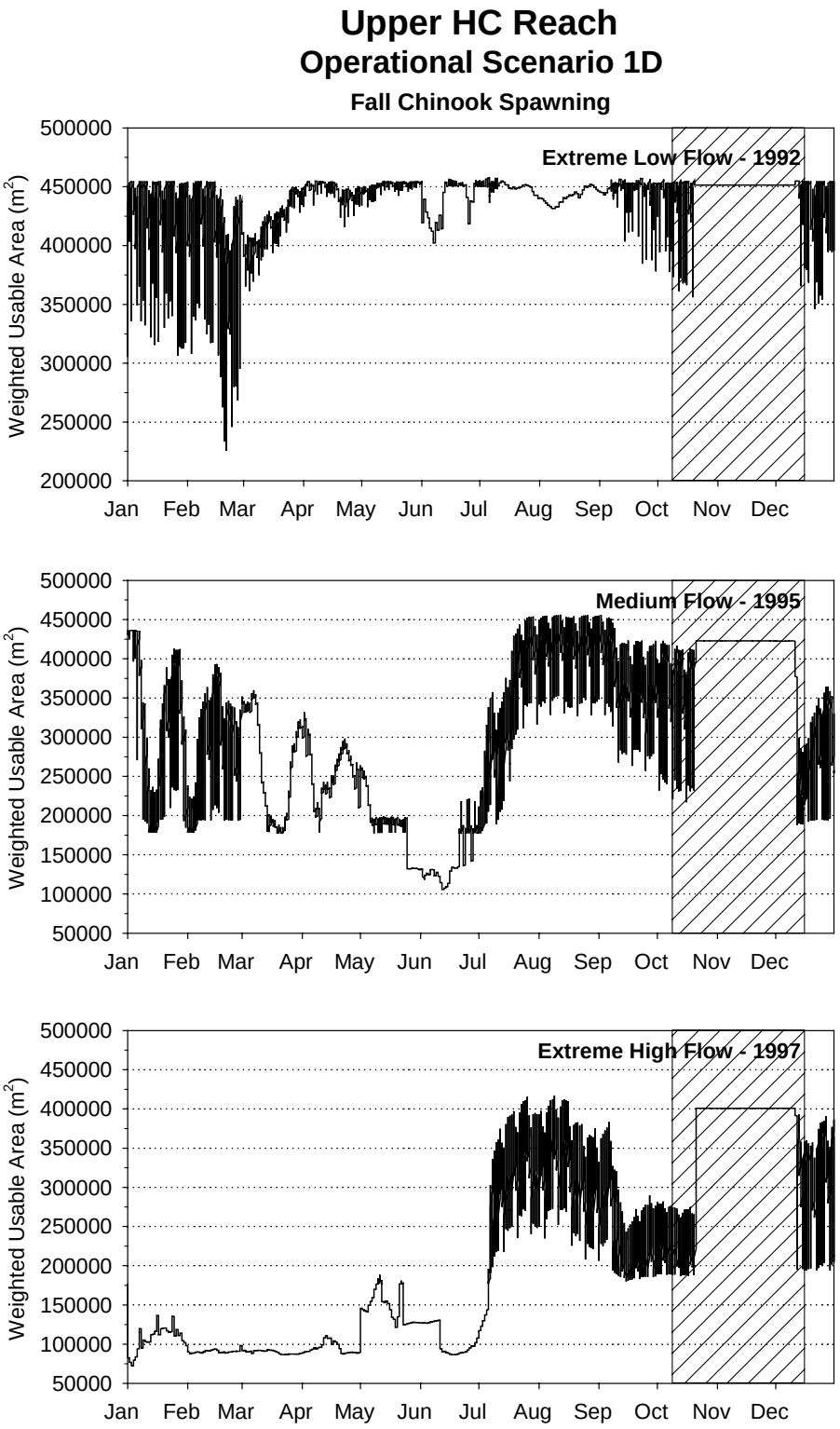


Figure 148. Total weighted usable area (WUA) under Operational Scenario 1D for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

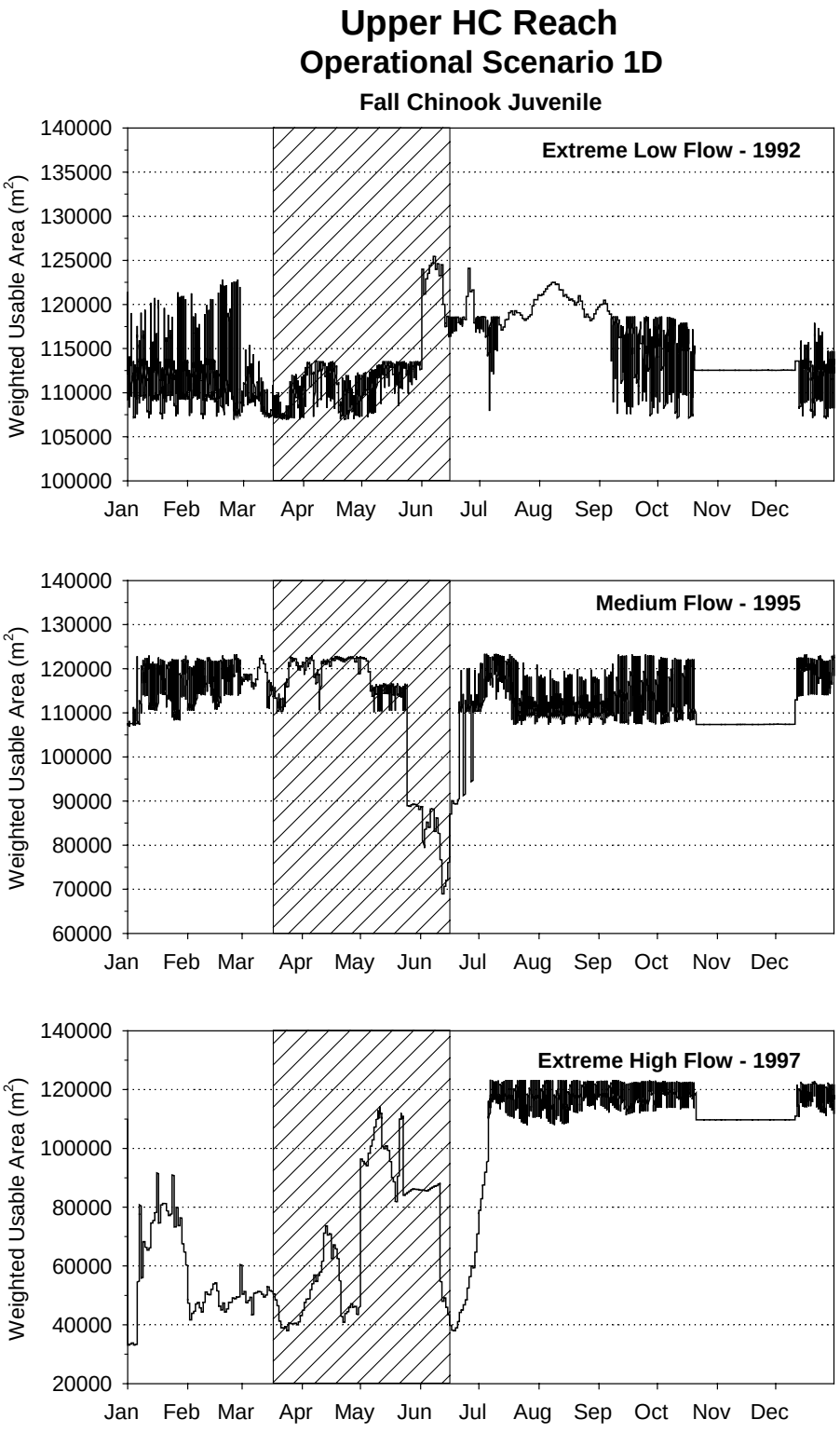


Figure 149. Total weighted usable area (WUA) under Operational Scenario 1D for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

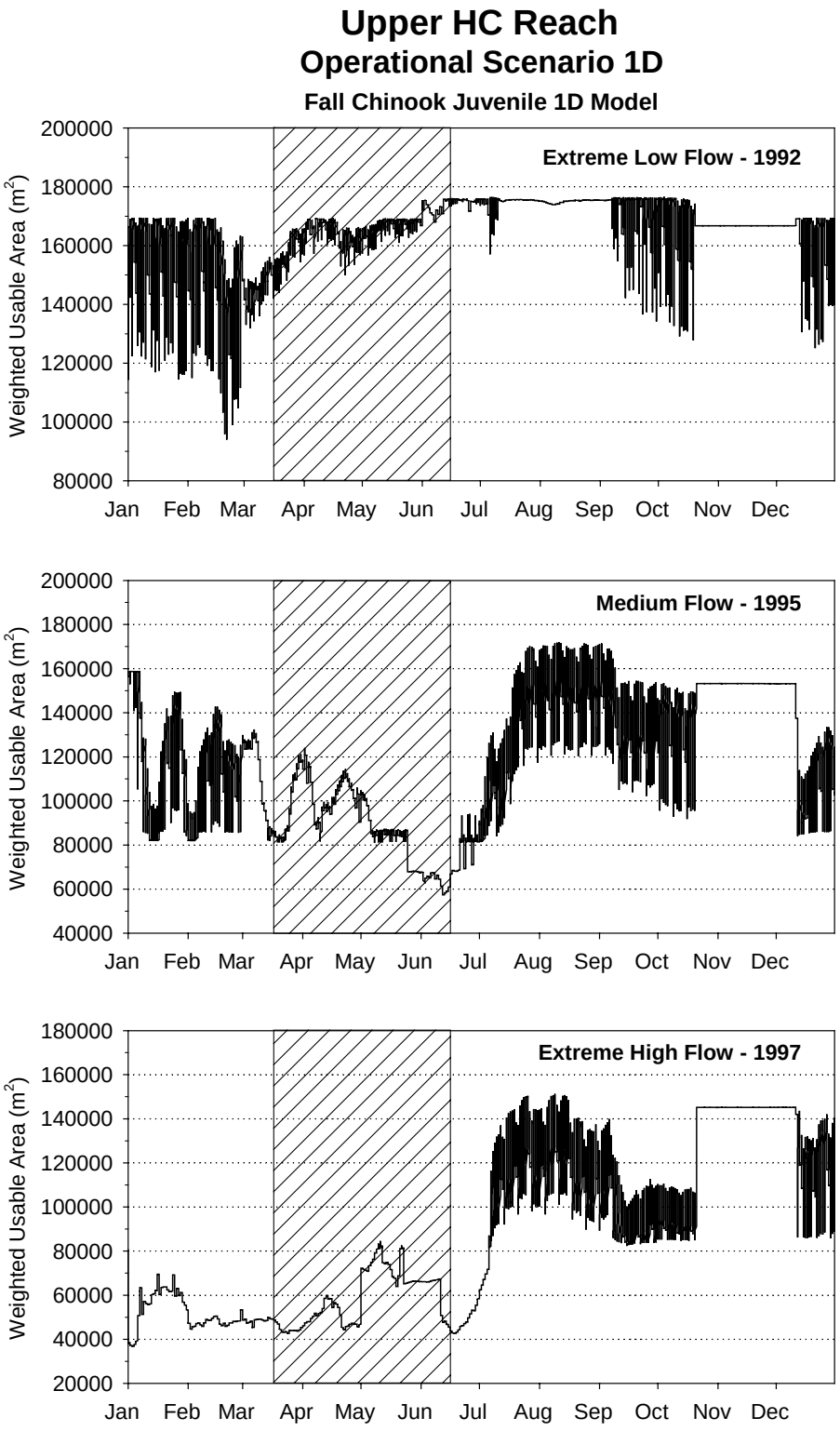


Figure 150. Total weighted usable area (WUA) under Operational Scenario 1D for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

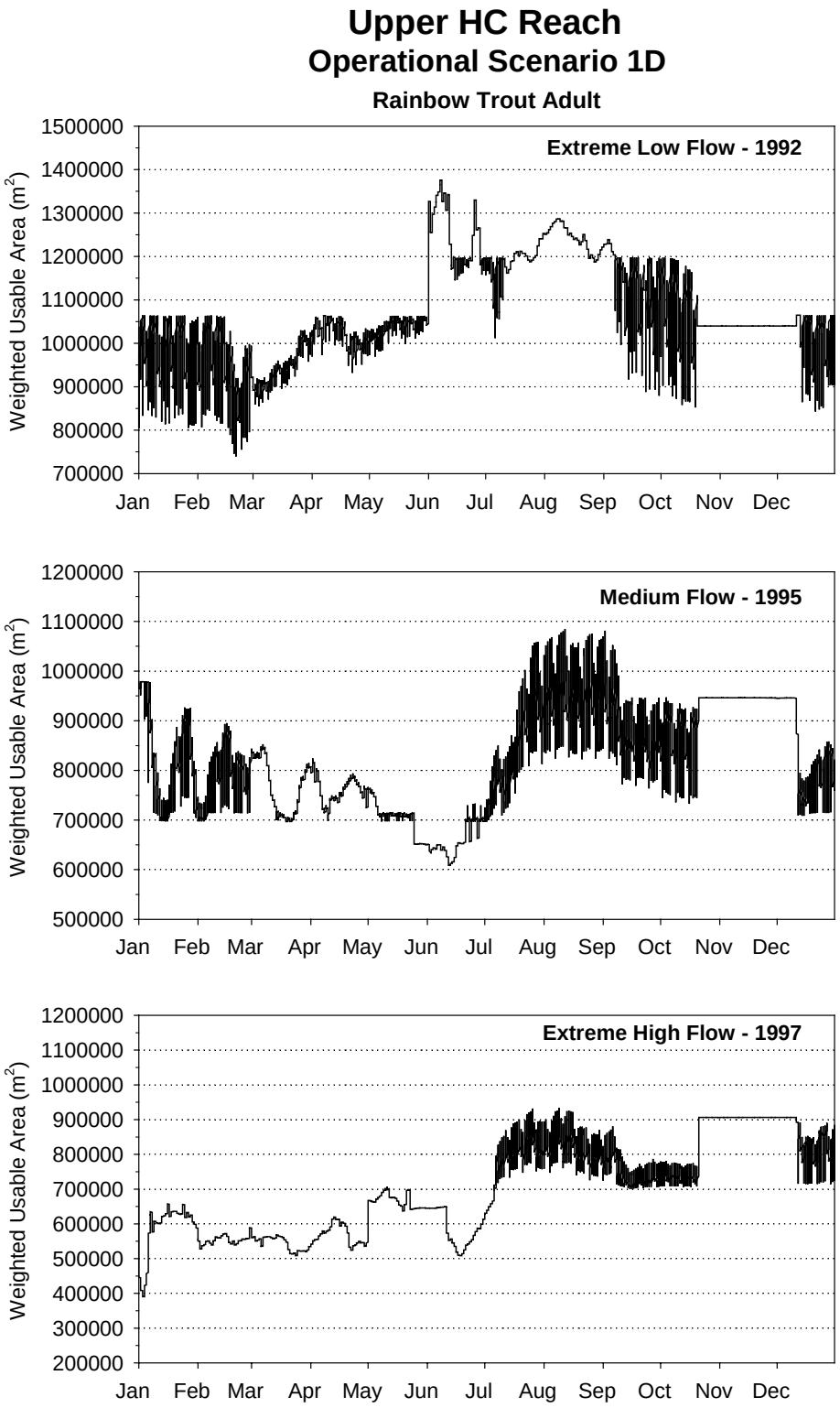


Figure 151. Total weighted usable area (WUA) under Operational Scenario 1D for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

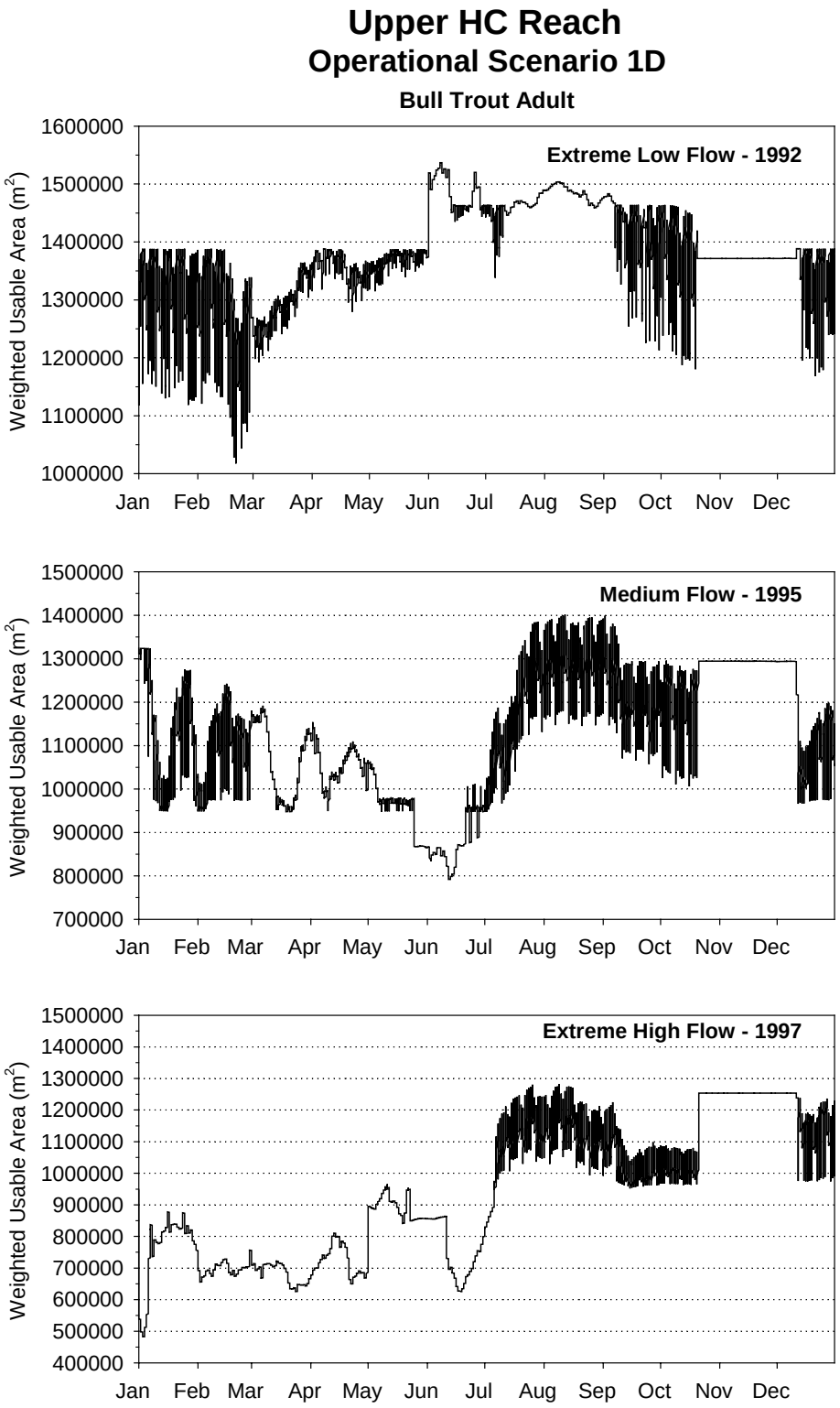


Figure 152. Total weighted usable area (WUA) under Operational Scenario 1D for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

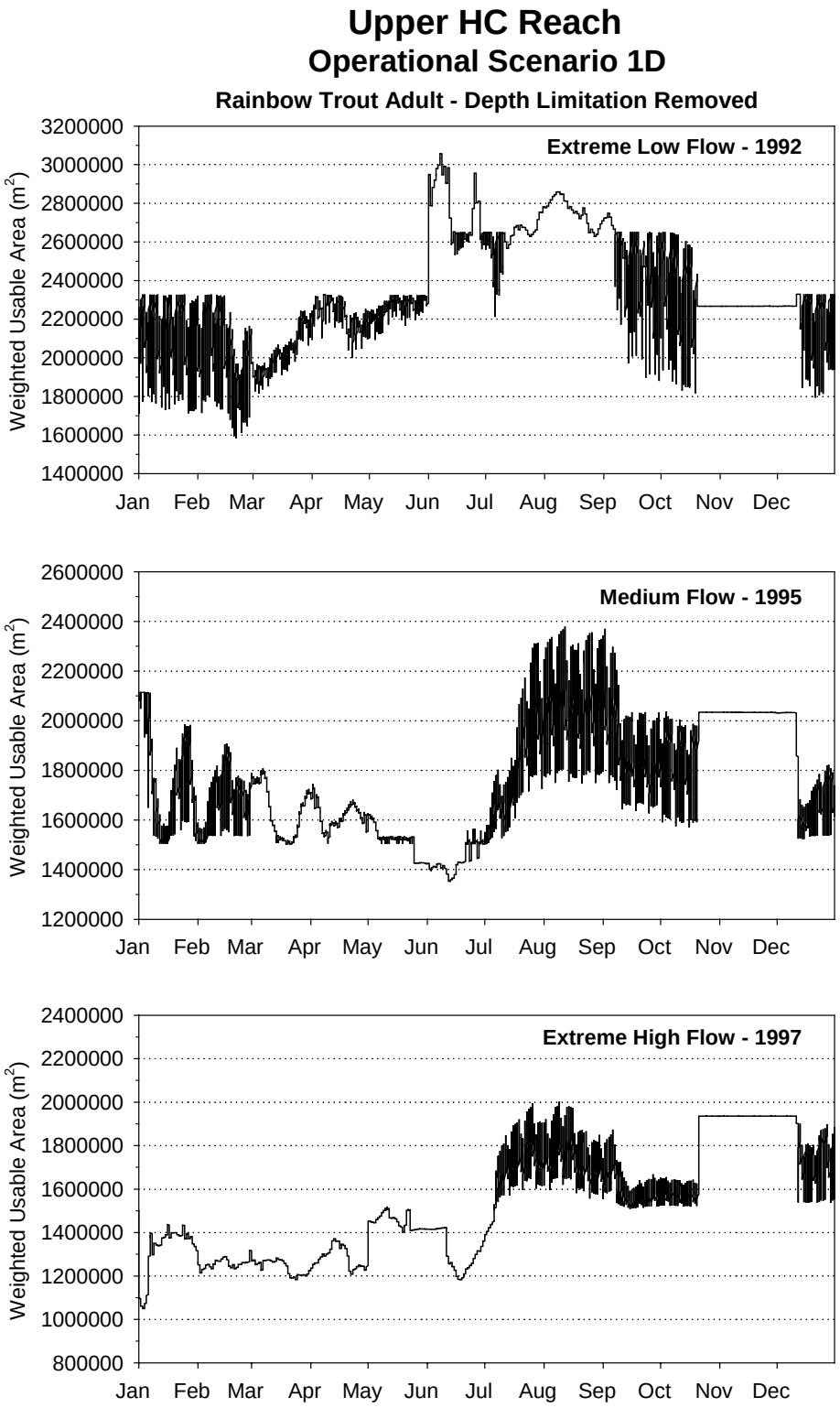


Figure 153. Total weighted usable area (WUA) under Operational Scenario 1D for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

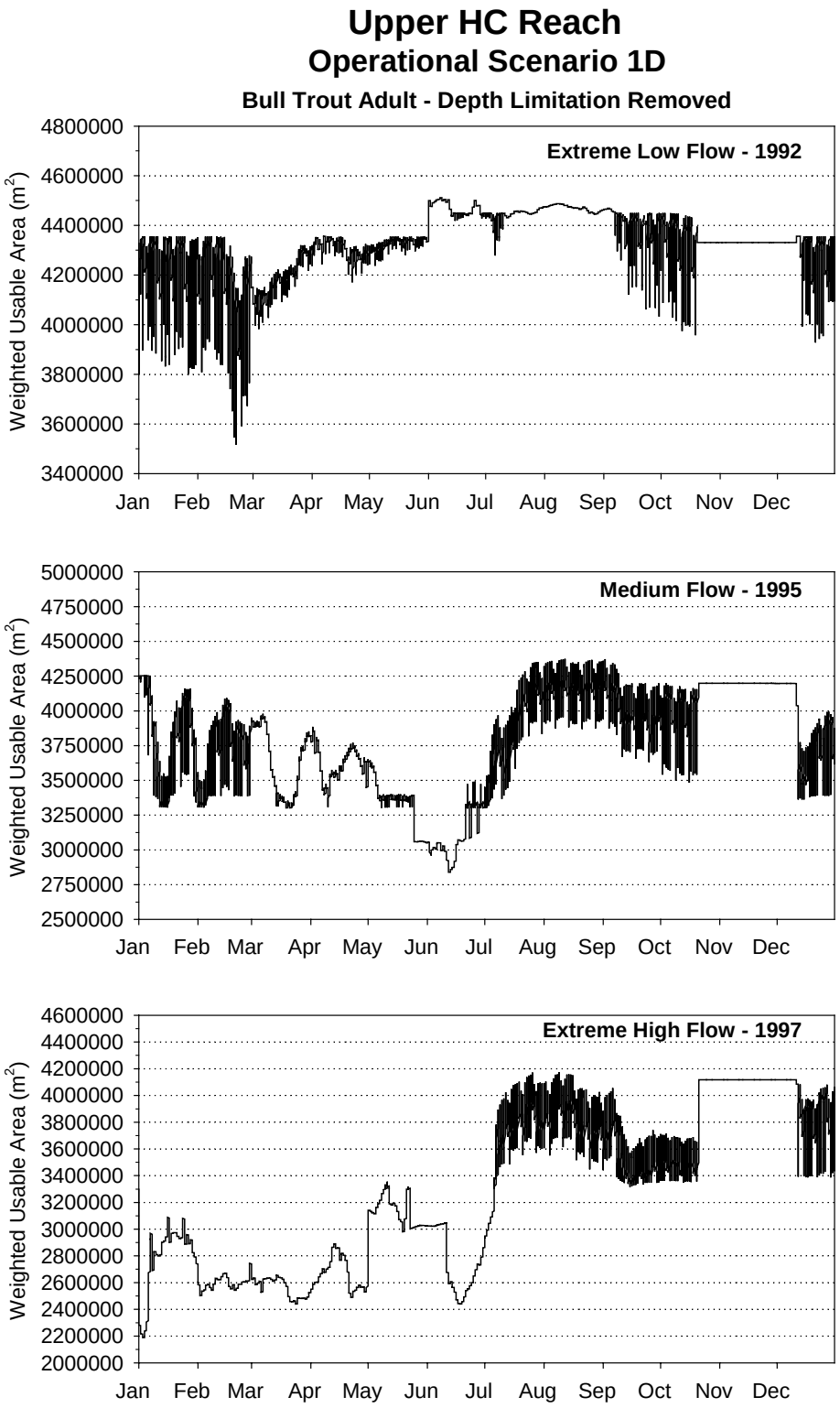


Figure 154. Total weighted usable area (WUA) under Operational Scenario 1D for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

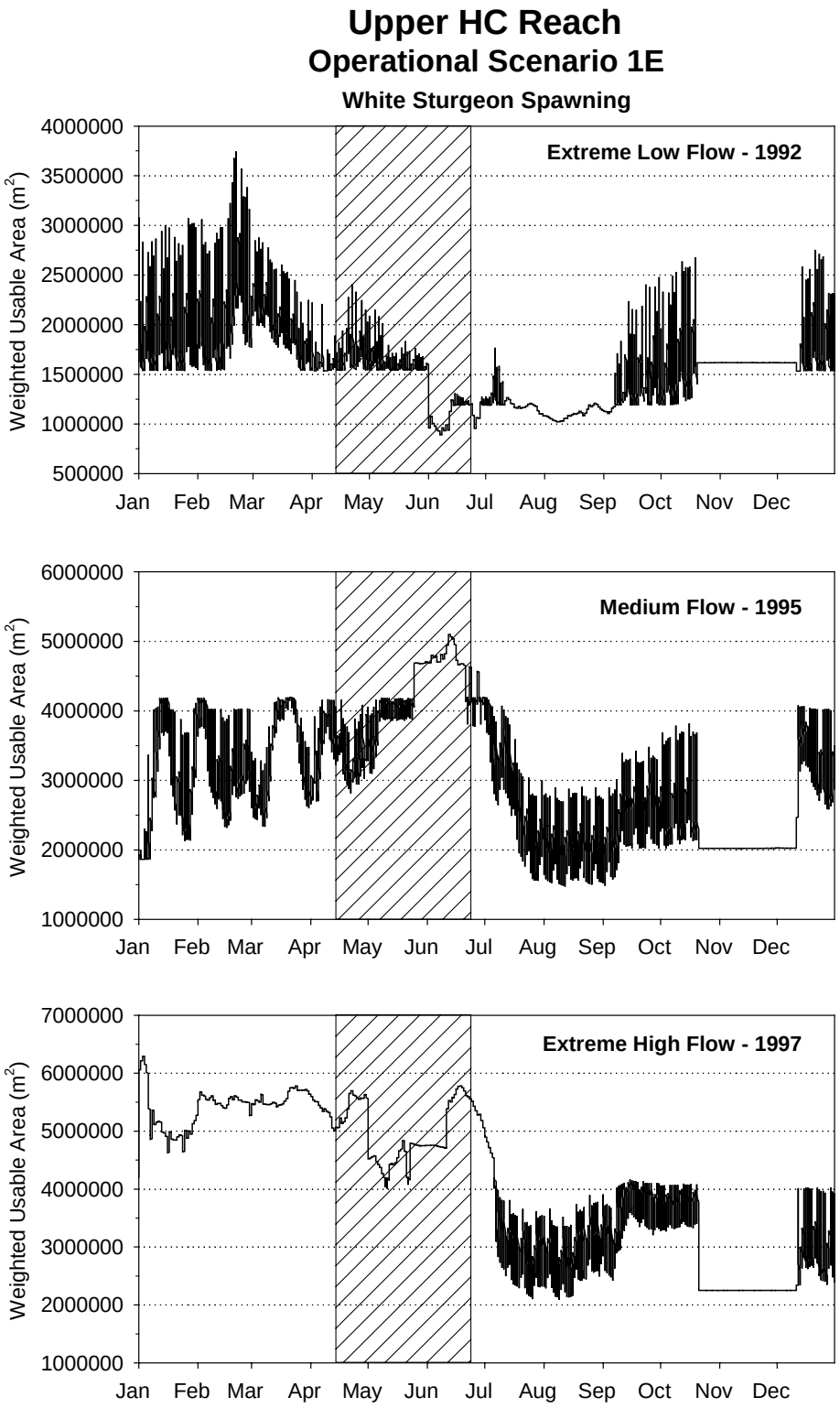


Figure 155. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

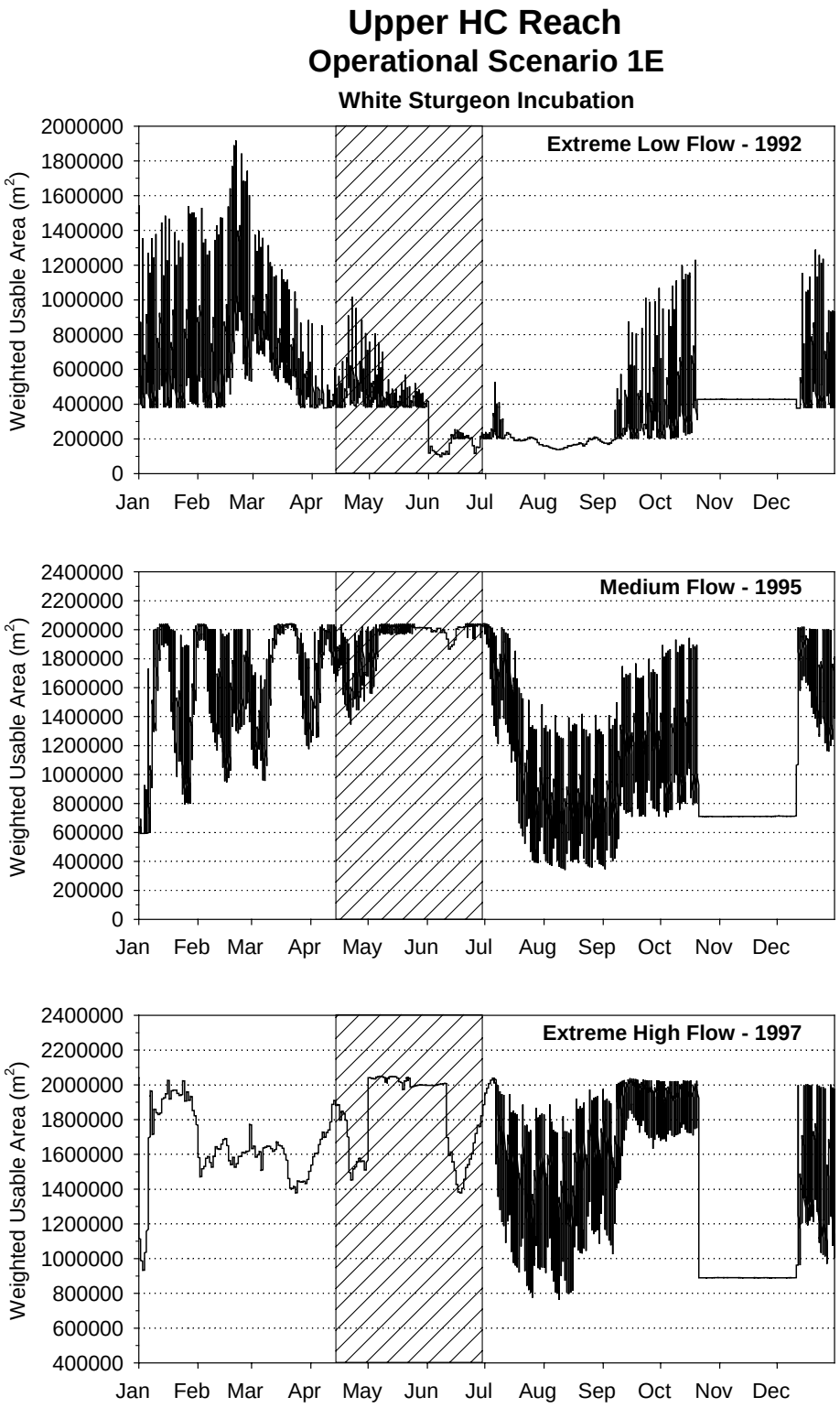


Figure 156. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

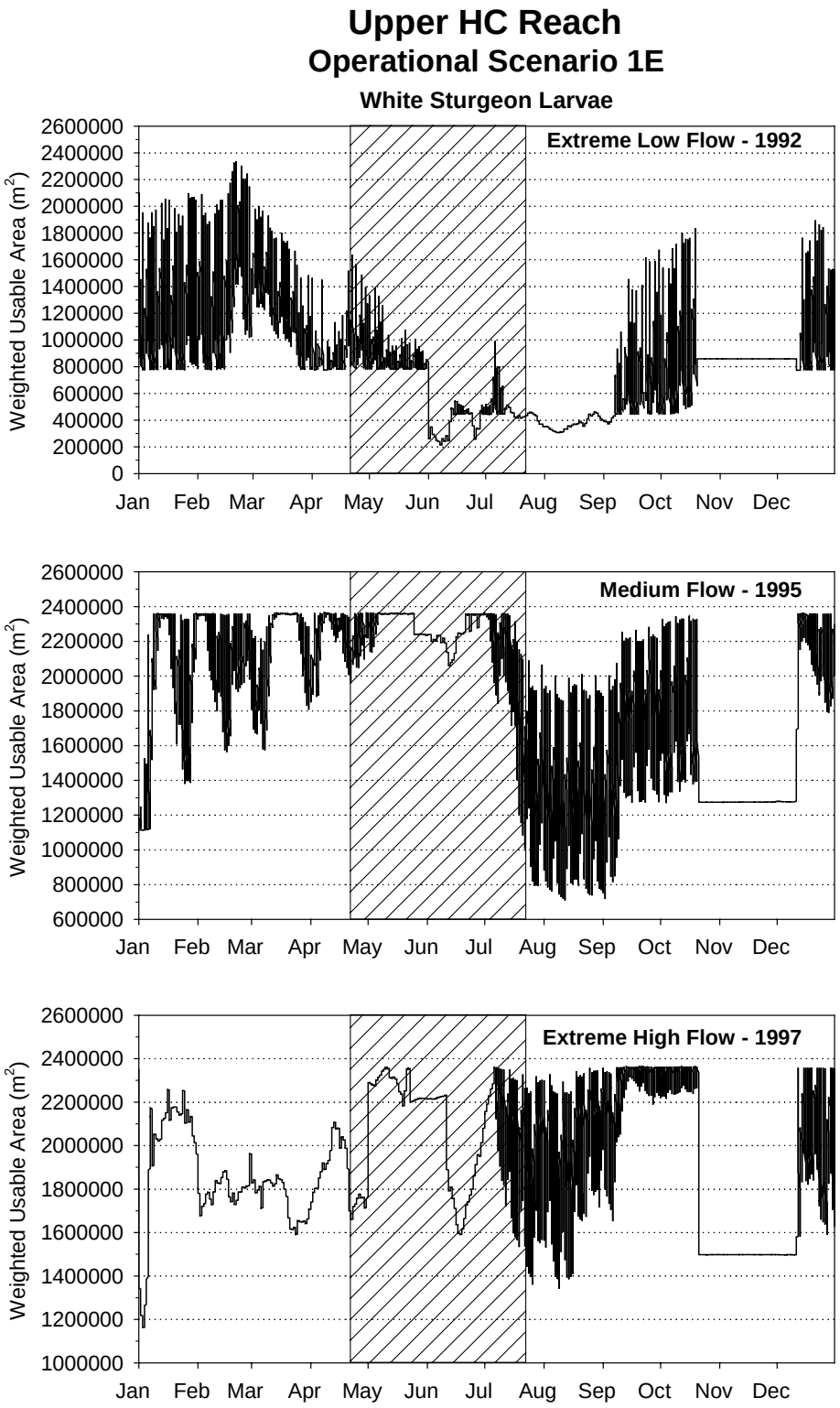


Figure 157. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

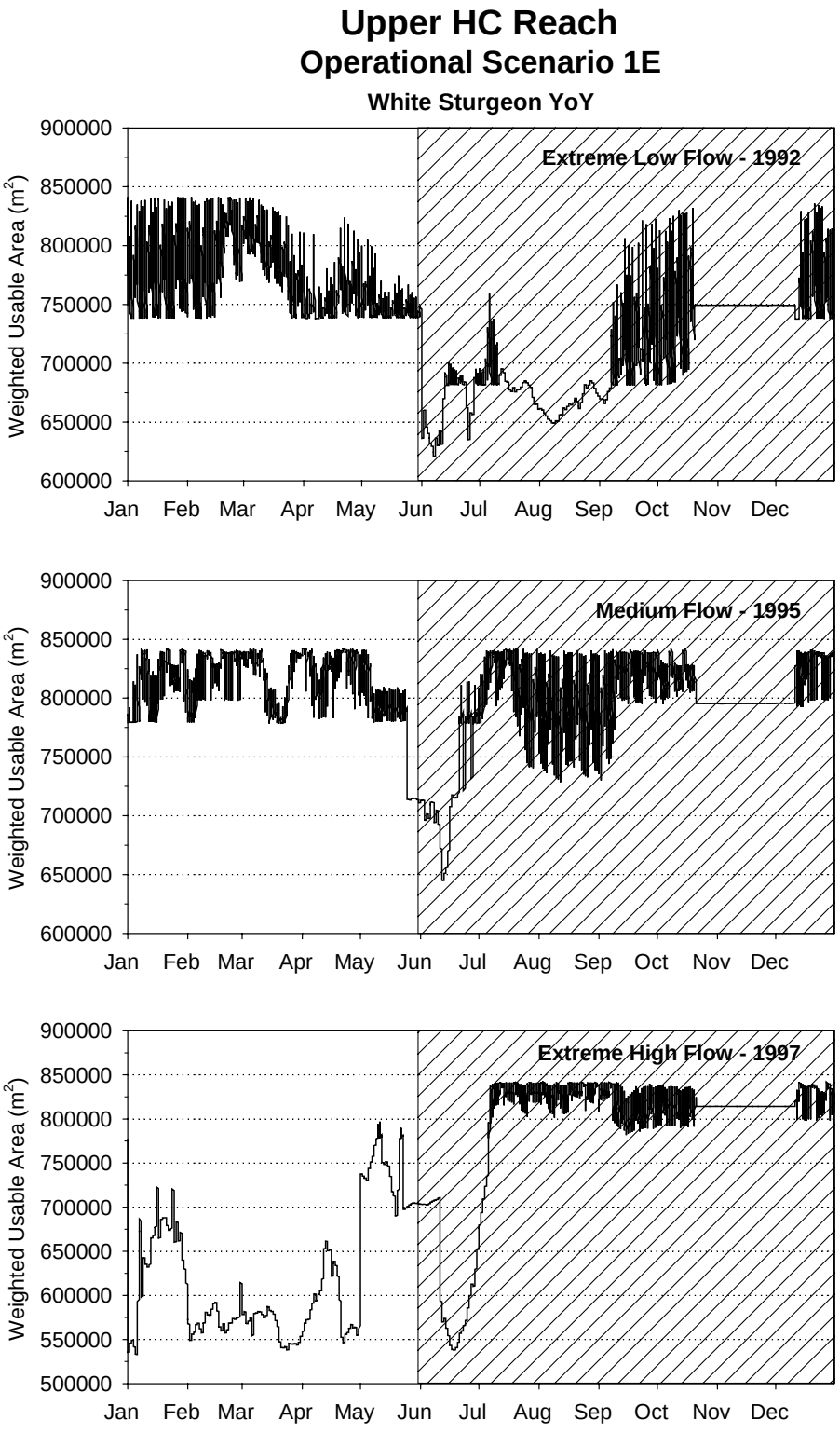


Figure 158. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

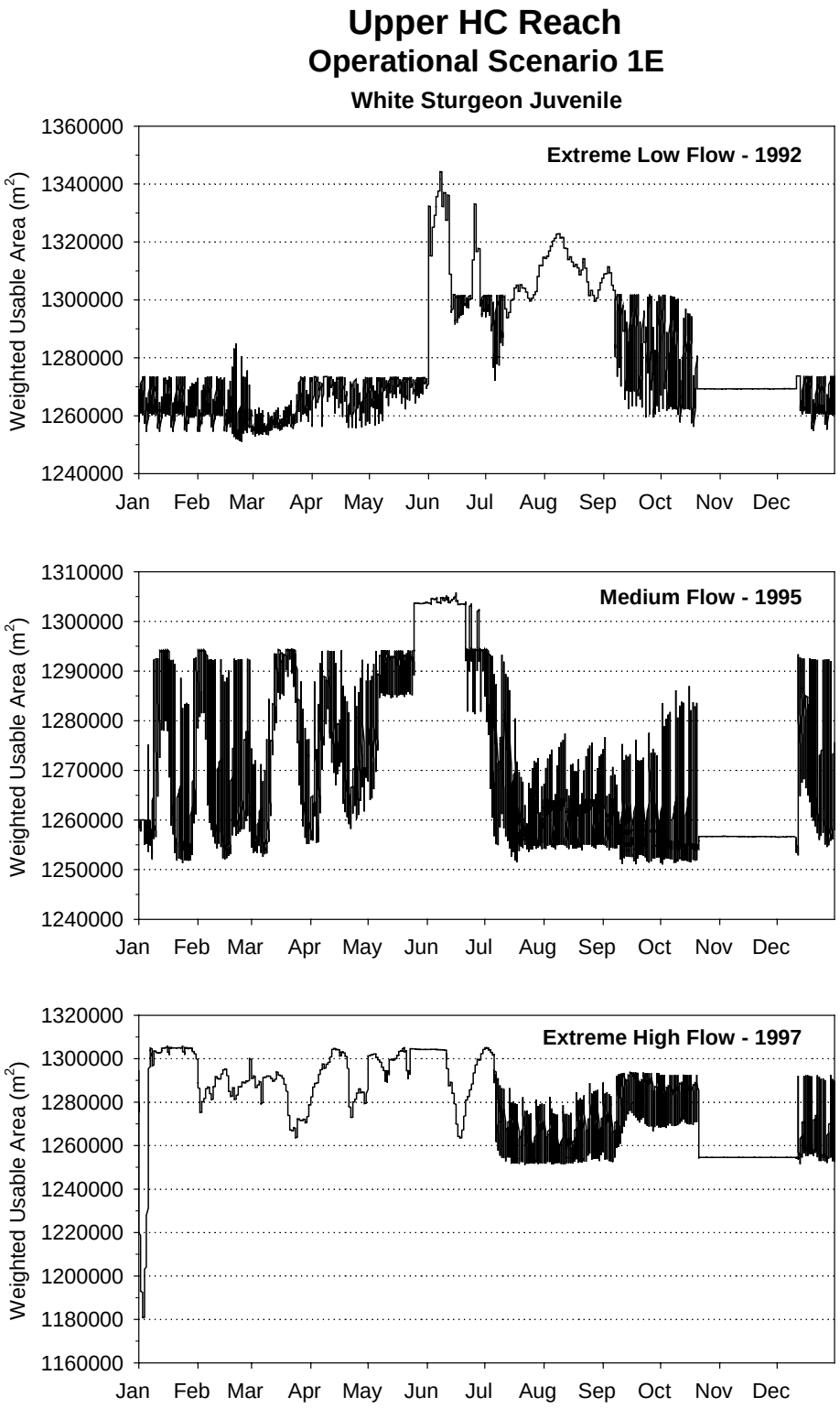


Figure 159. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

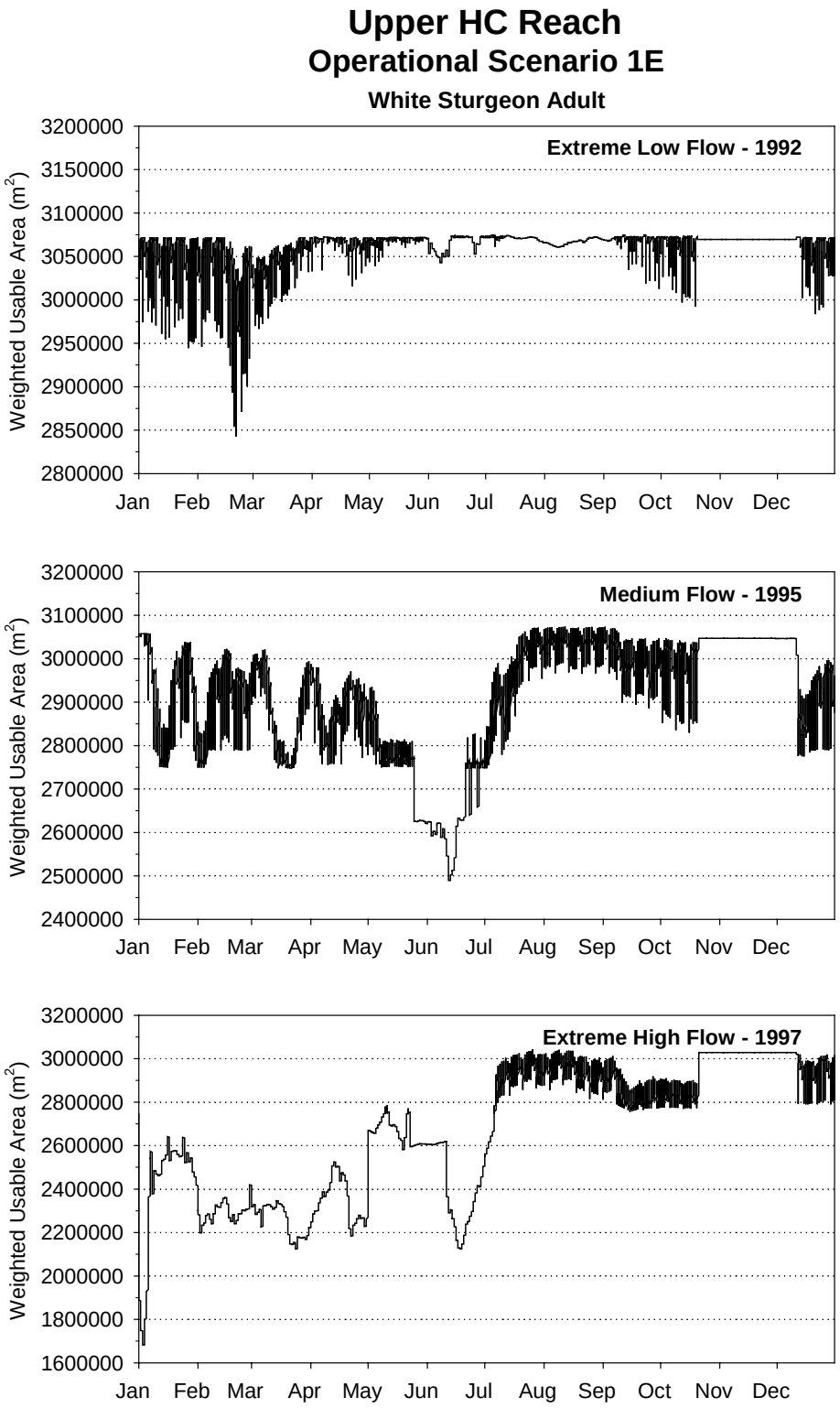


Figure 160. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

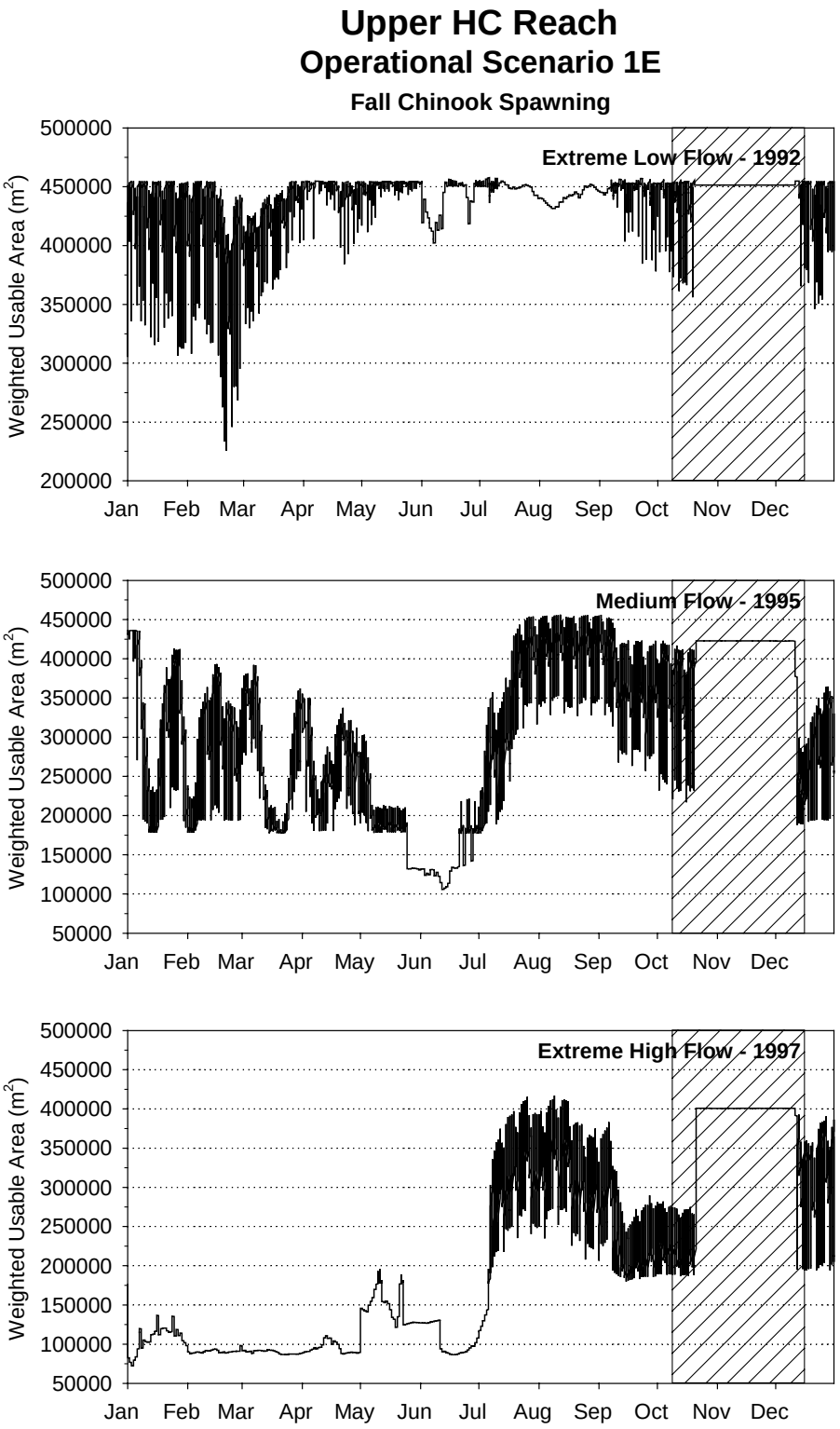


Figure 161. Total weighted usable area (WUA) under Operational Scenario 1E for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

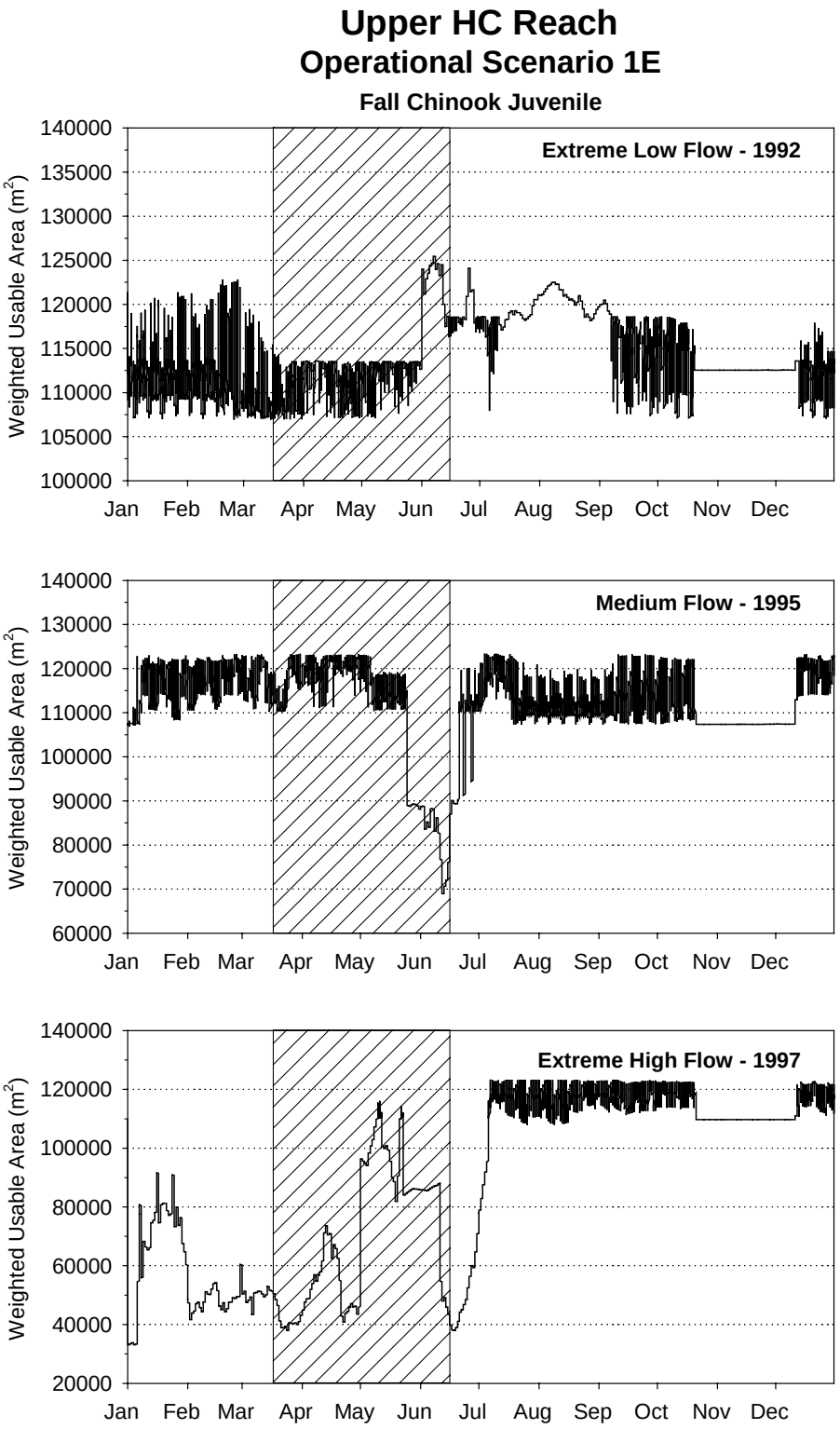


Figure 162. Total weighted usable area (WUA) under Operational Scenario 1E for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

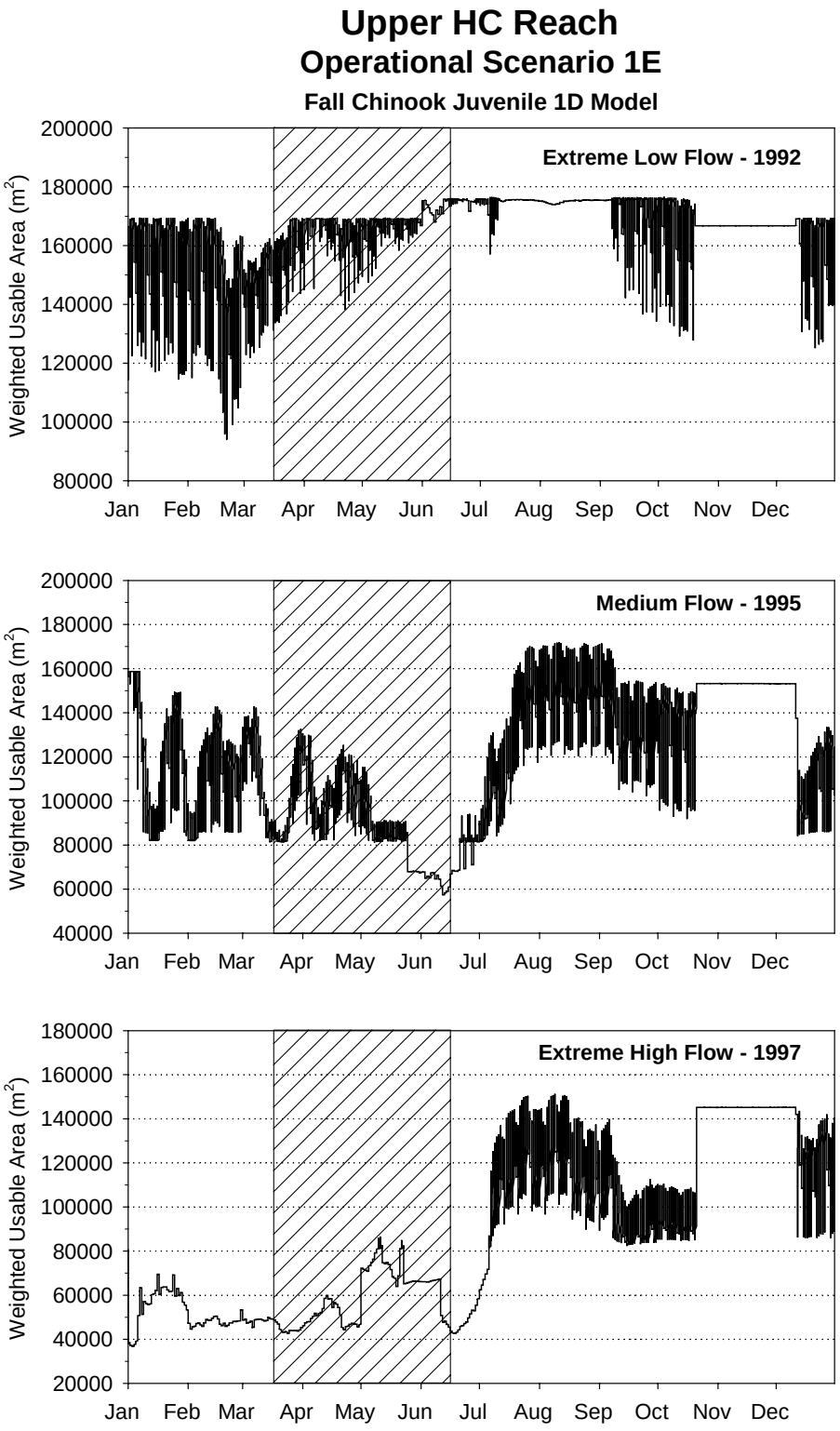


Figure 163. Total weighted usable area (WUA) under Operational Scenario 1E for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

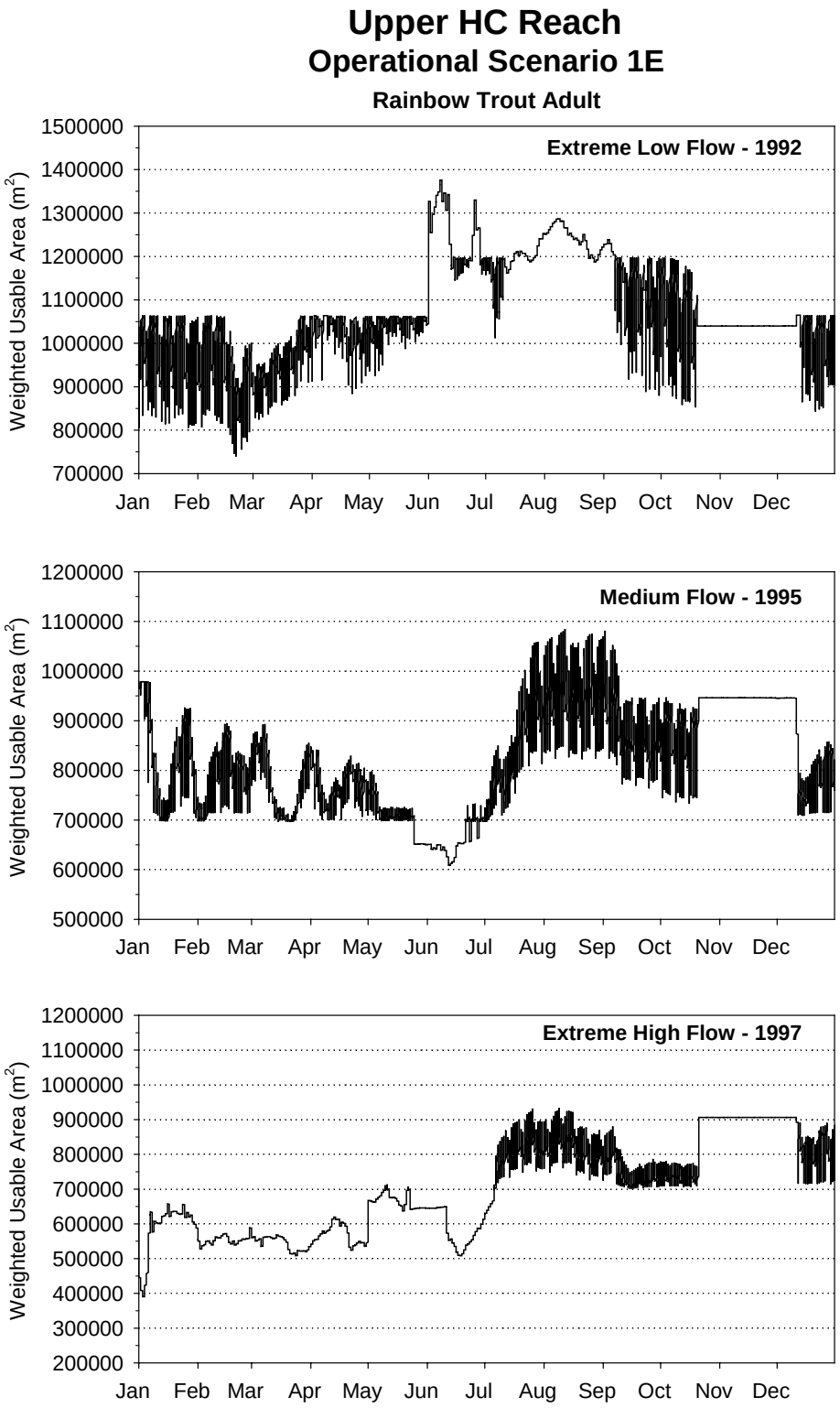


Figure 164. Total weighted usable area (WUA) under Operational Scenario 1E for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

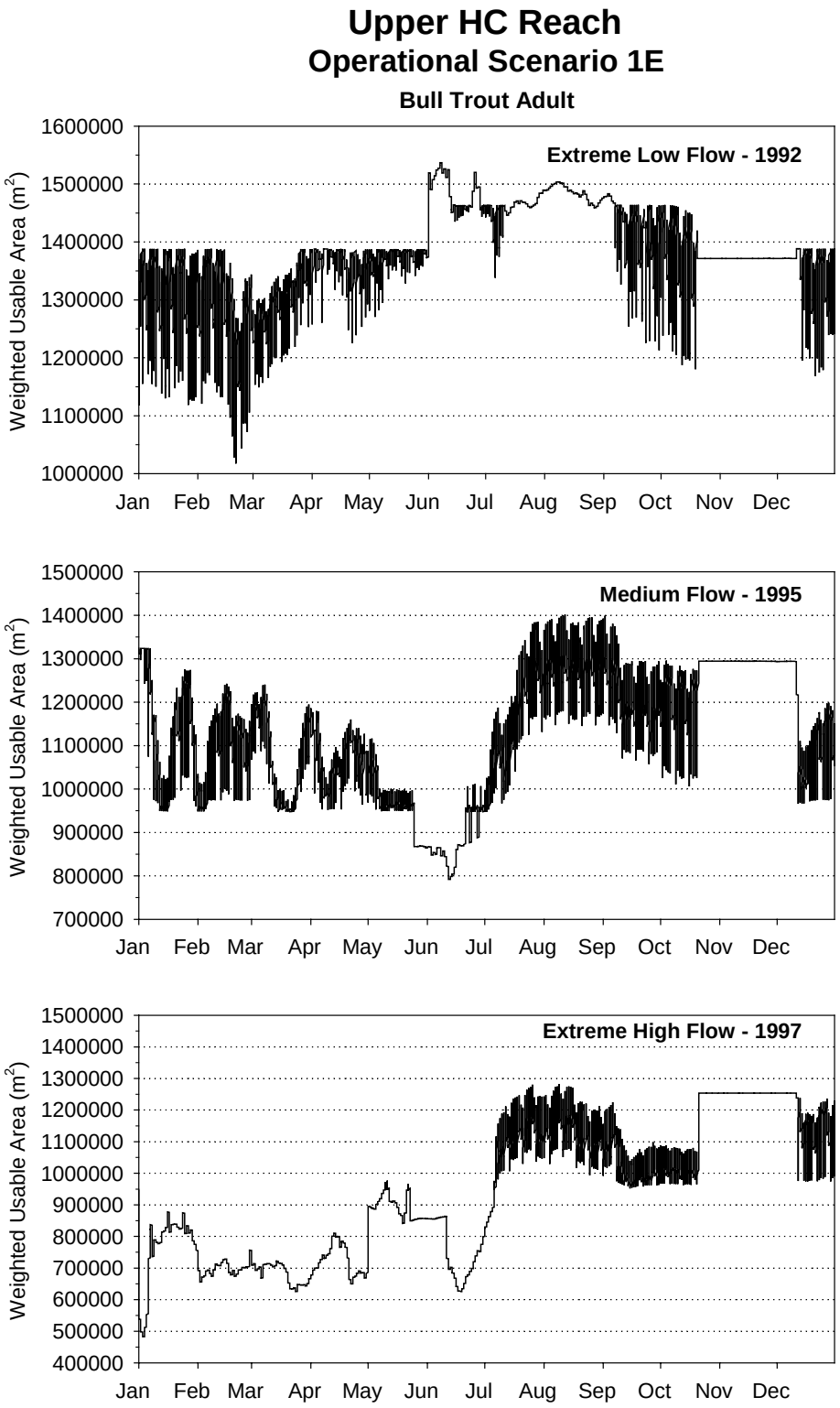


Figure 165. Total weighted usable area (WUA) under Operational Scenario 1E for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

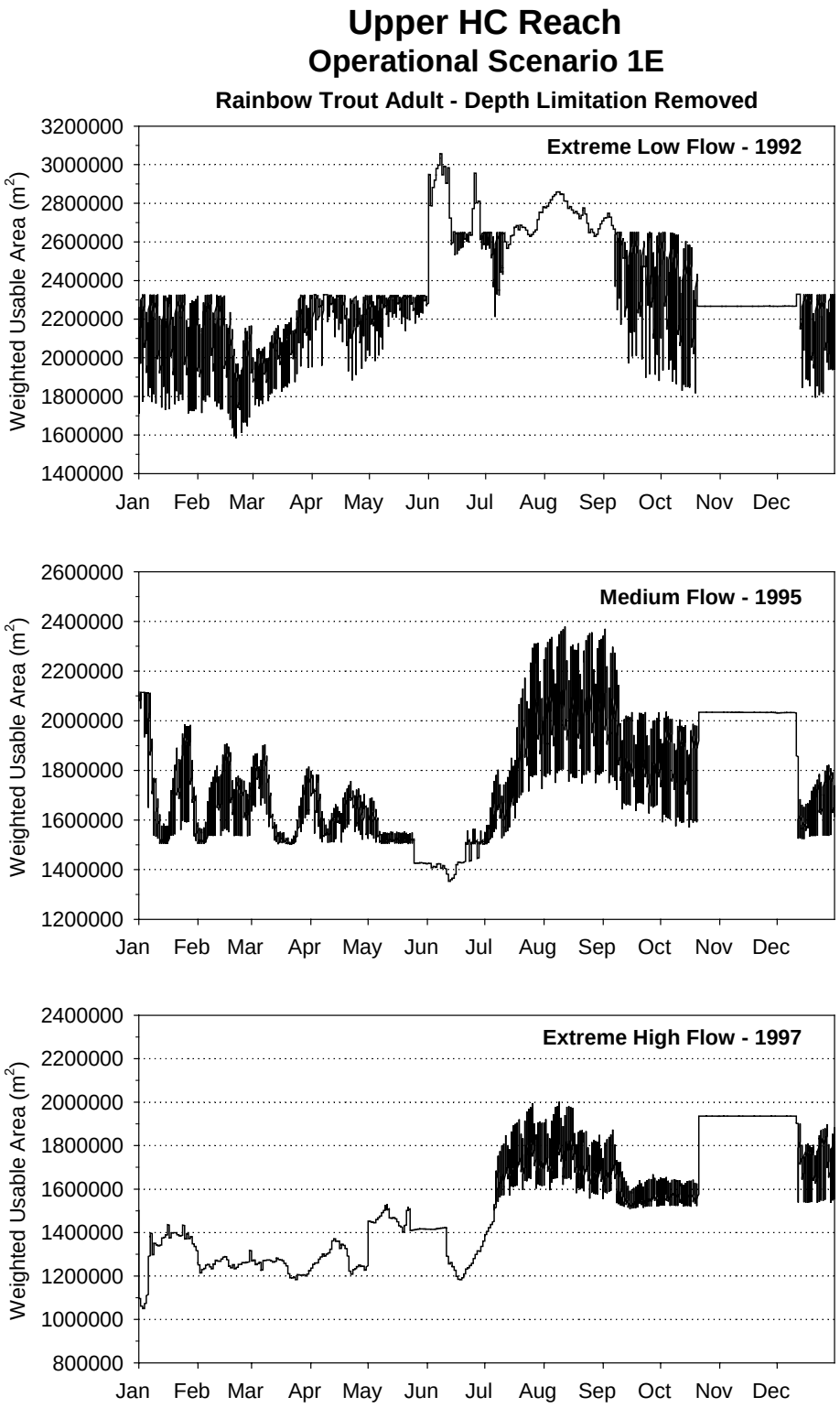


Figure 166. Total weighted usable area (WUA) under Operational Scenario 1E for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

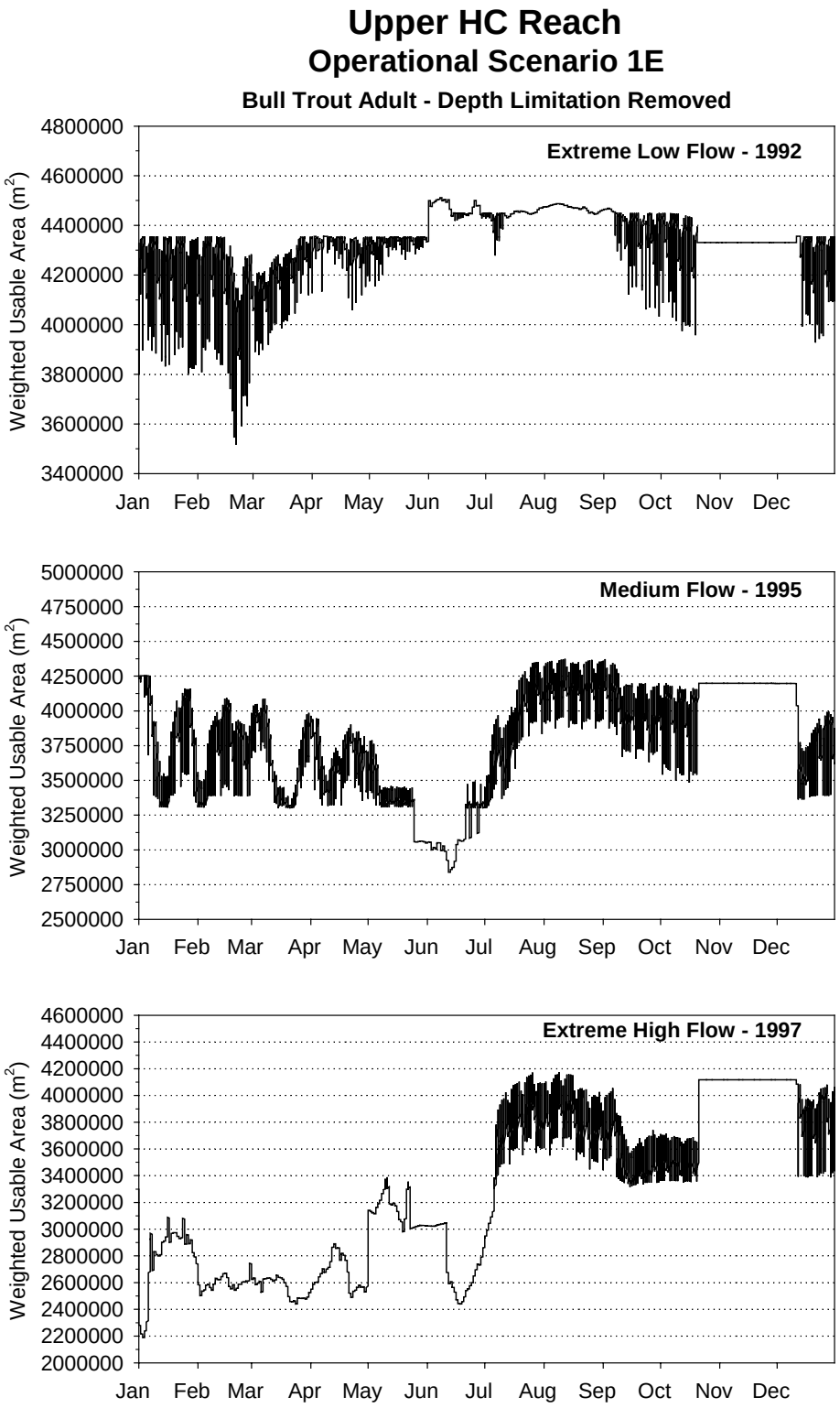


Figure 167. Total weighted usable area (WUA) under Operational Scenario 1E for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

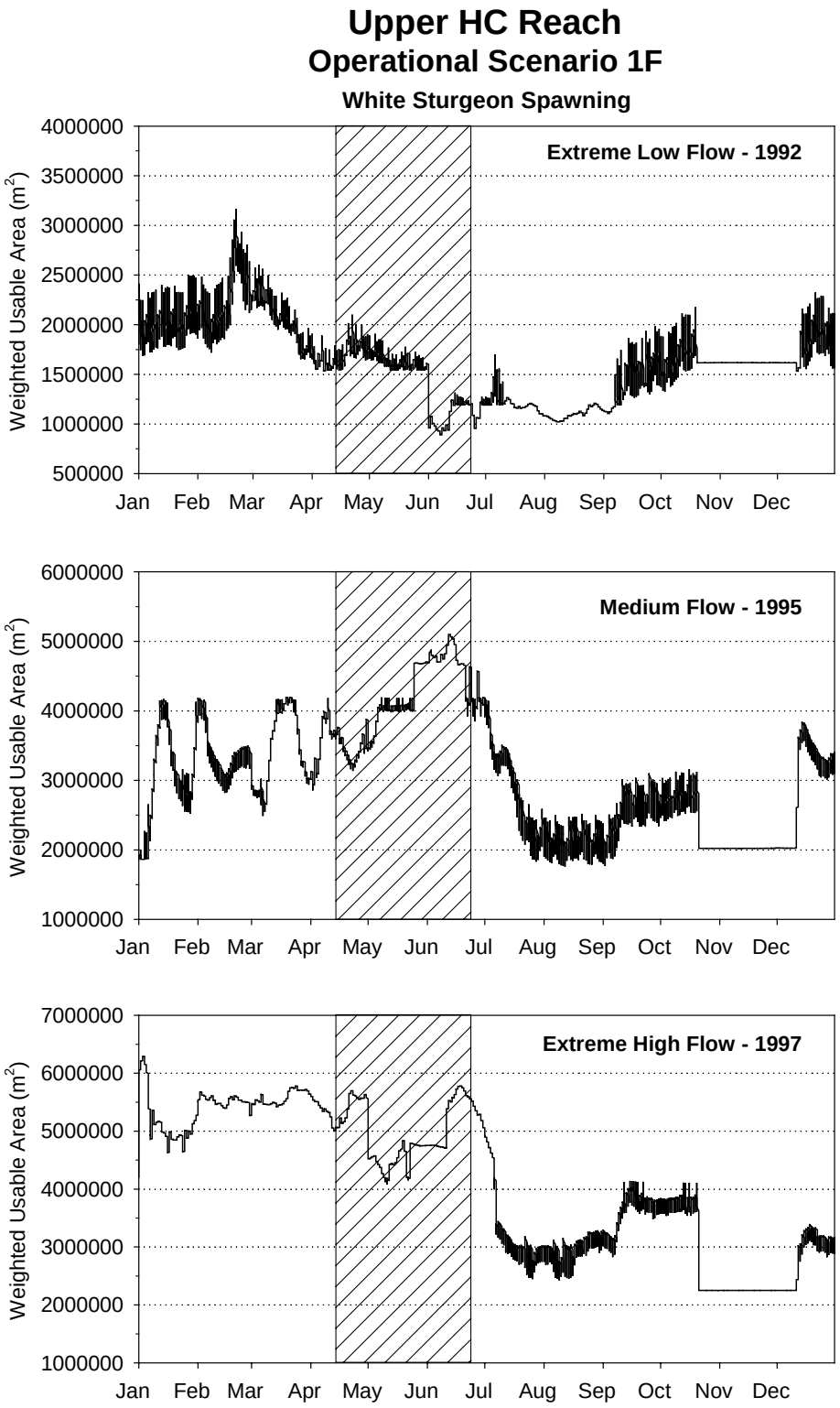


Figure 168. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

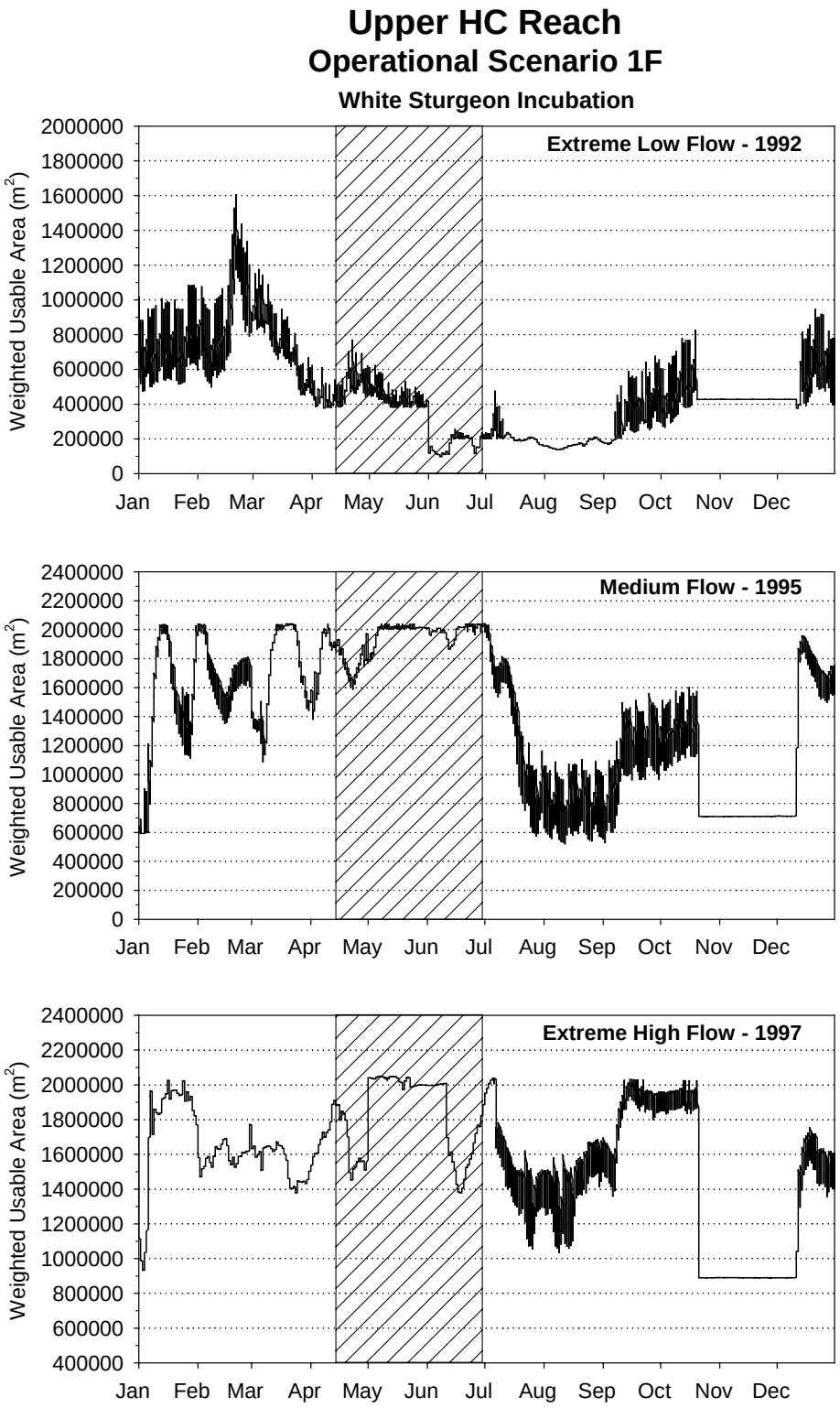


Figure 169. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

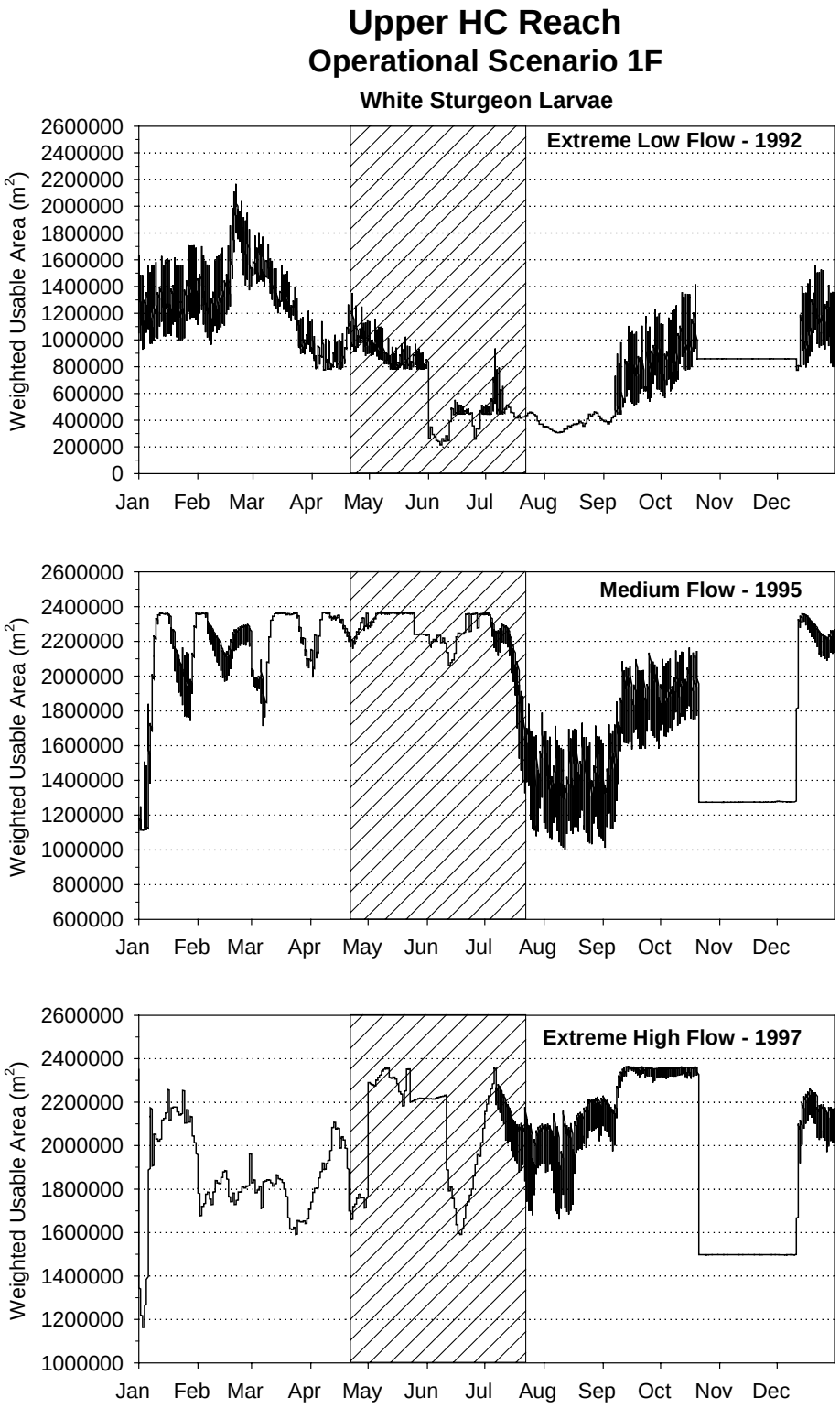


Figure 170. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

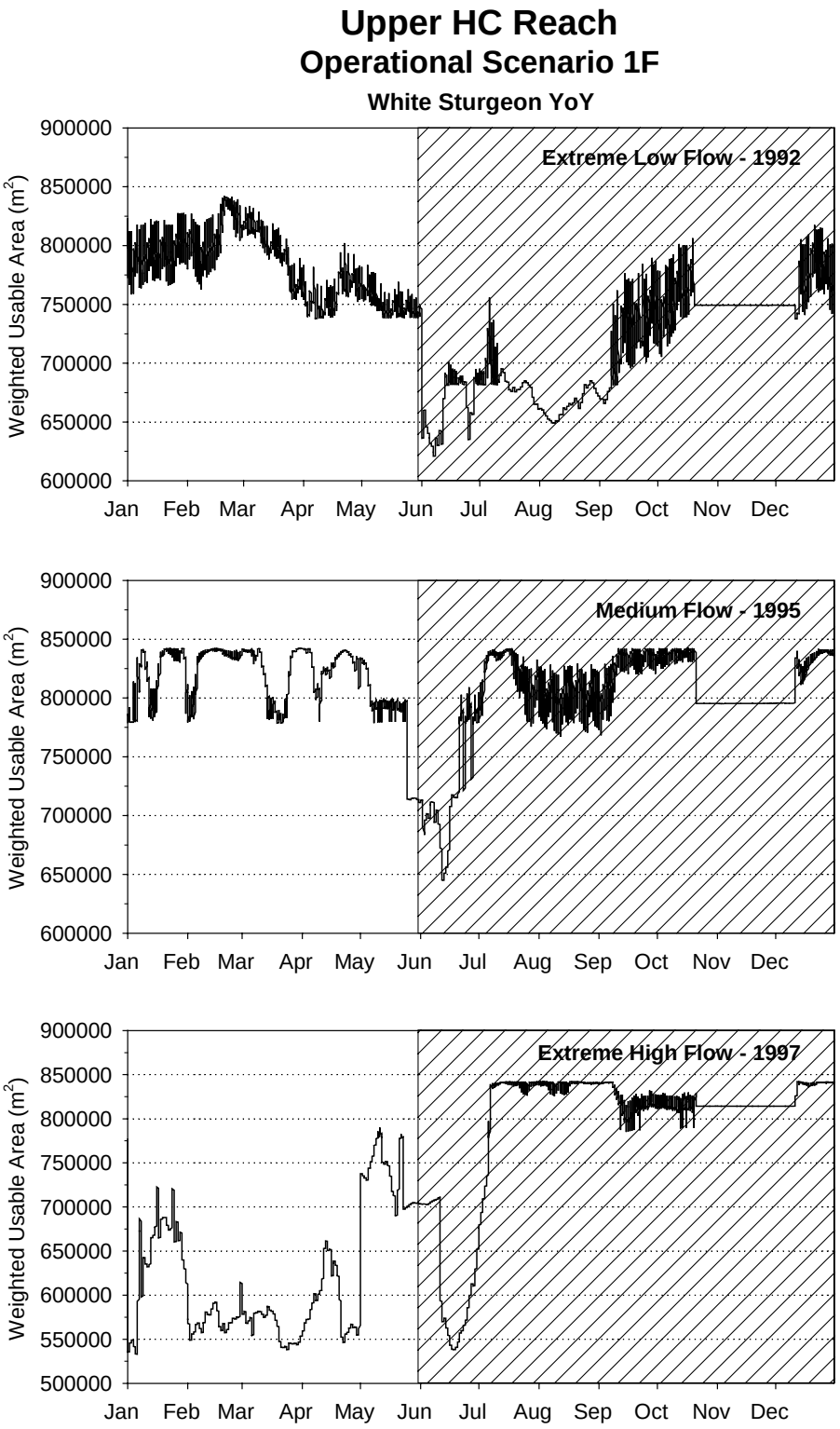


Figure 171. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

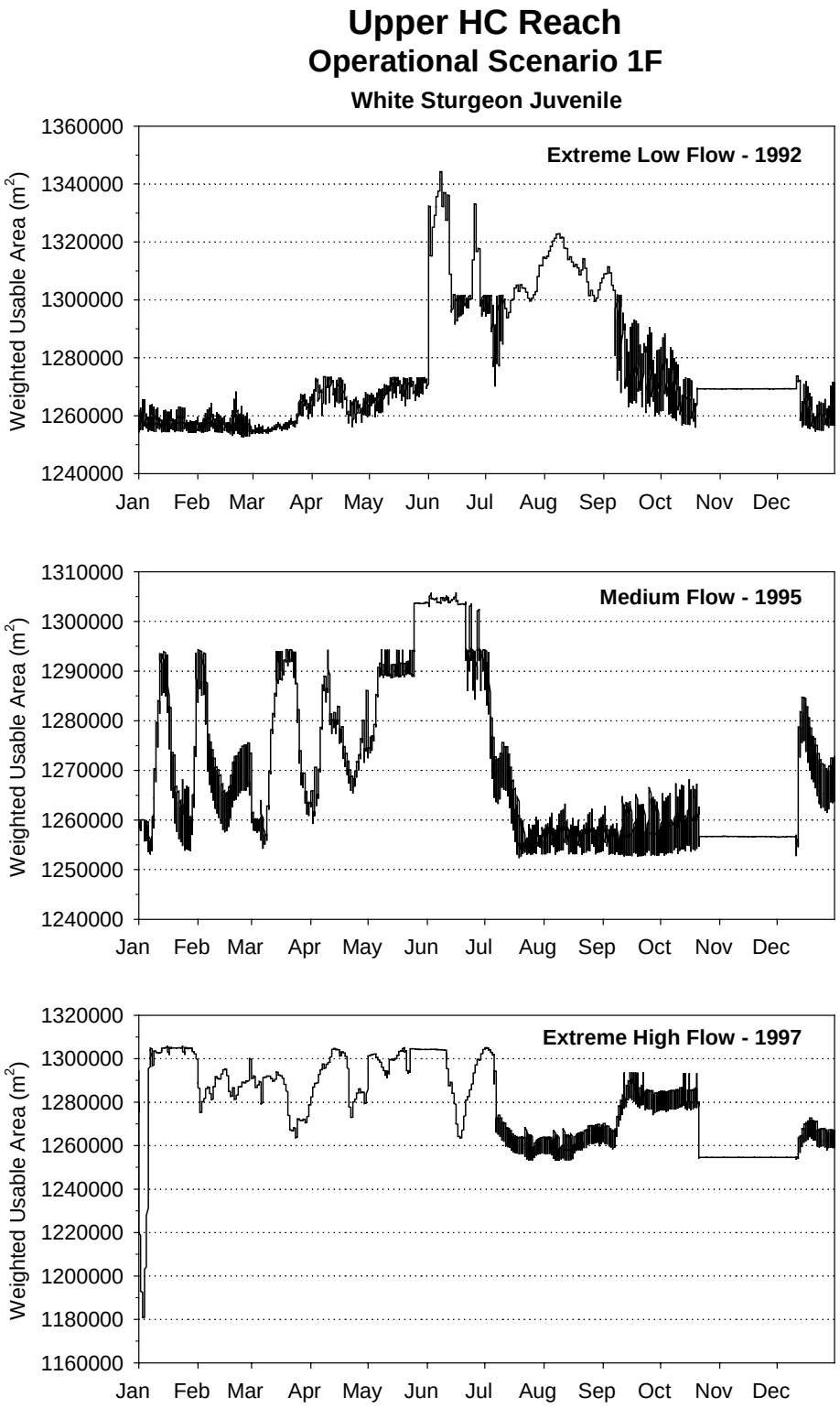


Figure 172. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

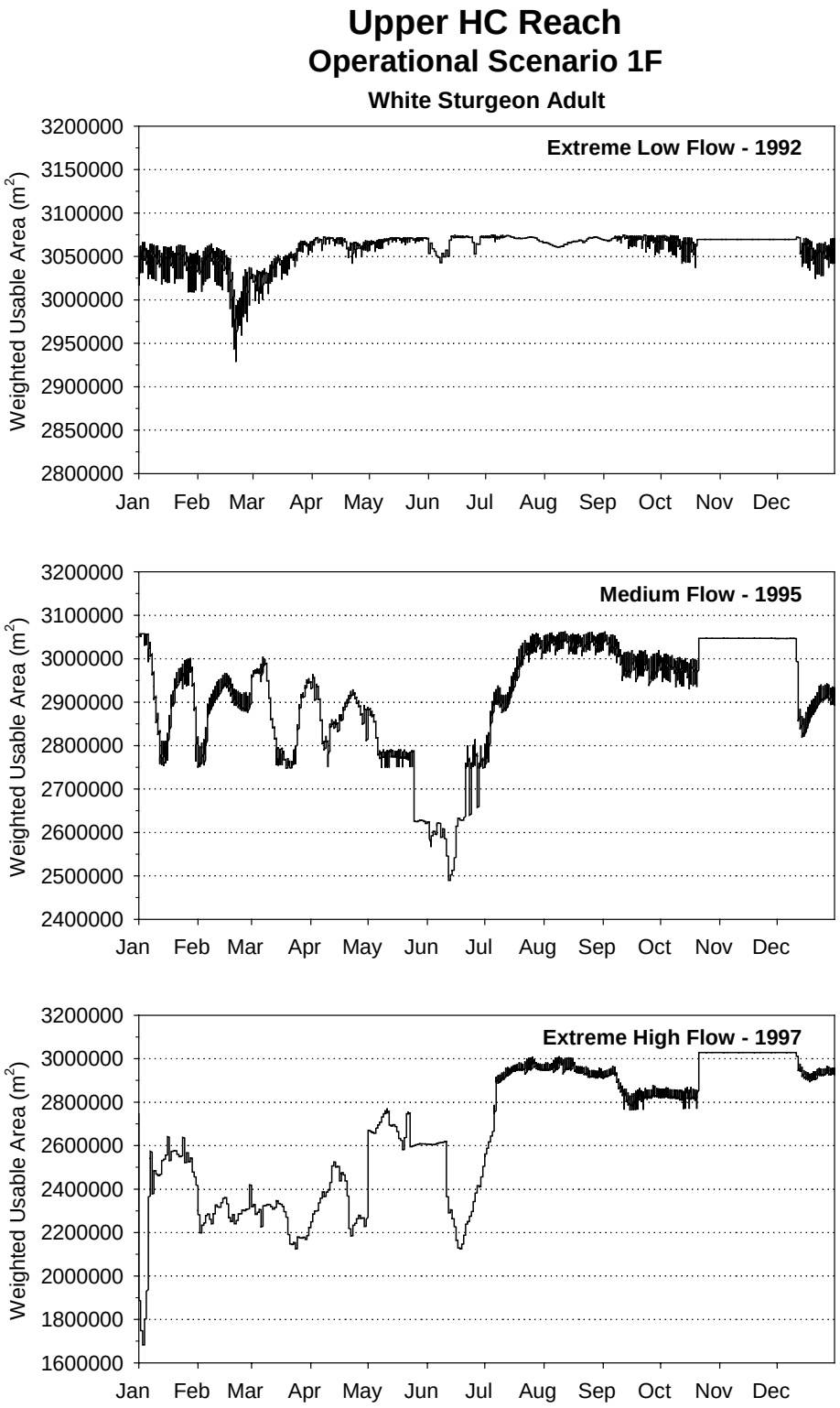


Figure 173. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

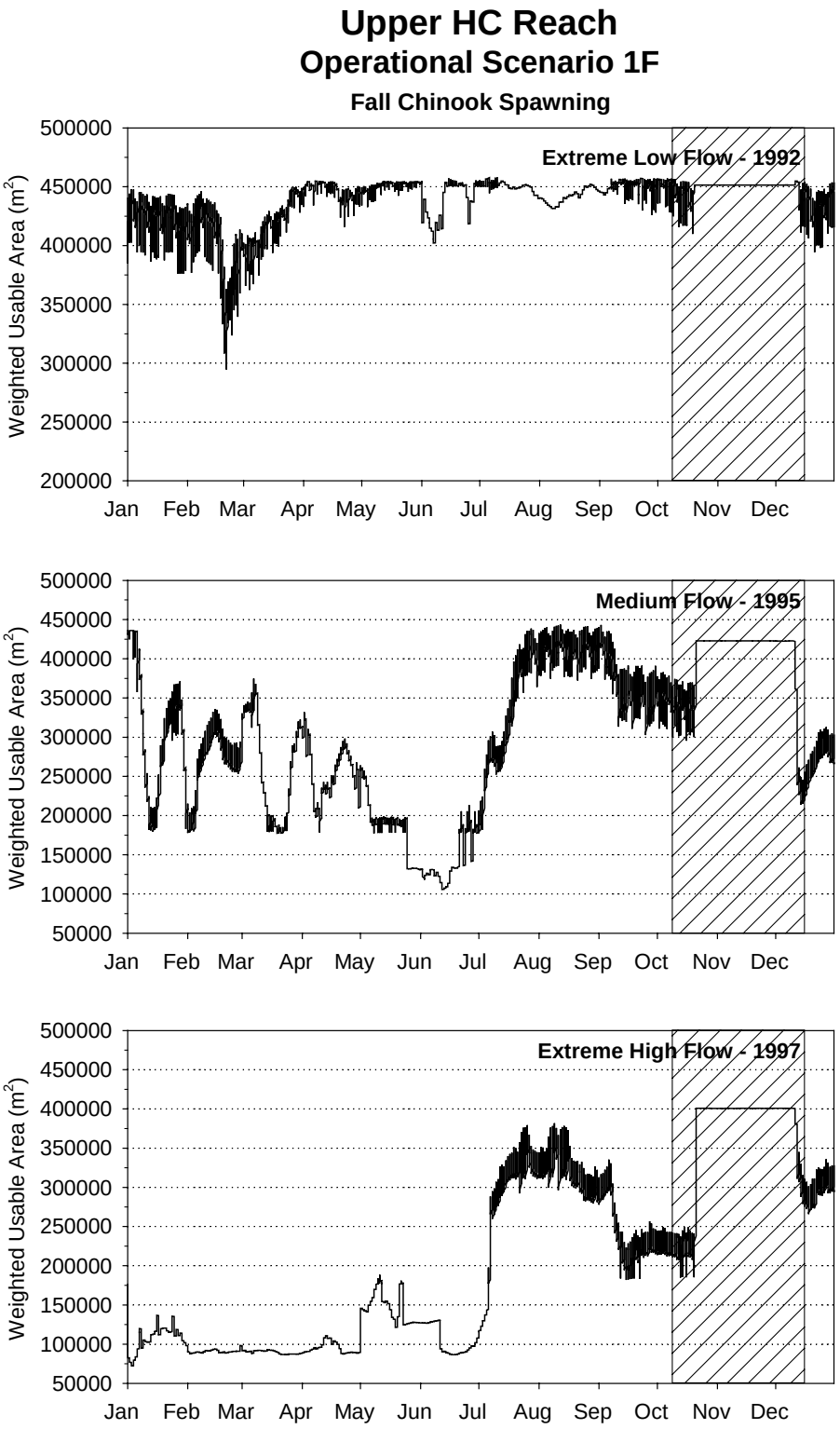


Figure 174. Total weighted usable area (WUA) under Operational Scenario 1F for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

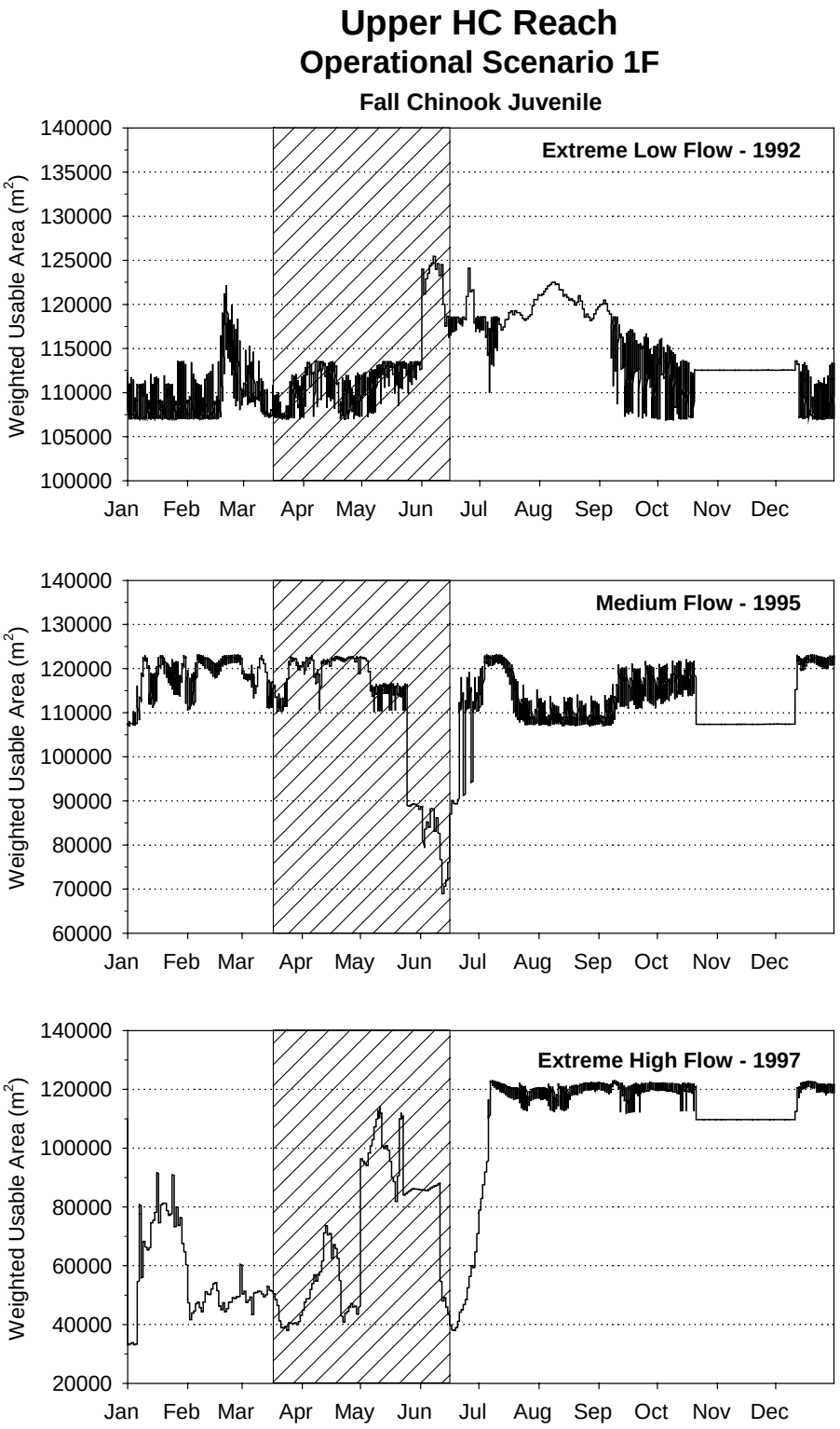


Figure 175. Total weighted usable area (WUA) under Operational Scenario 1F for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

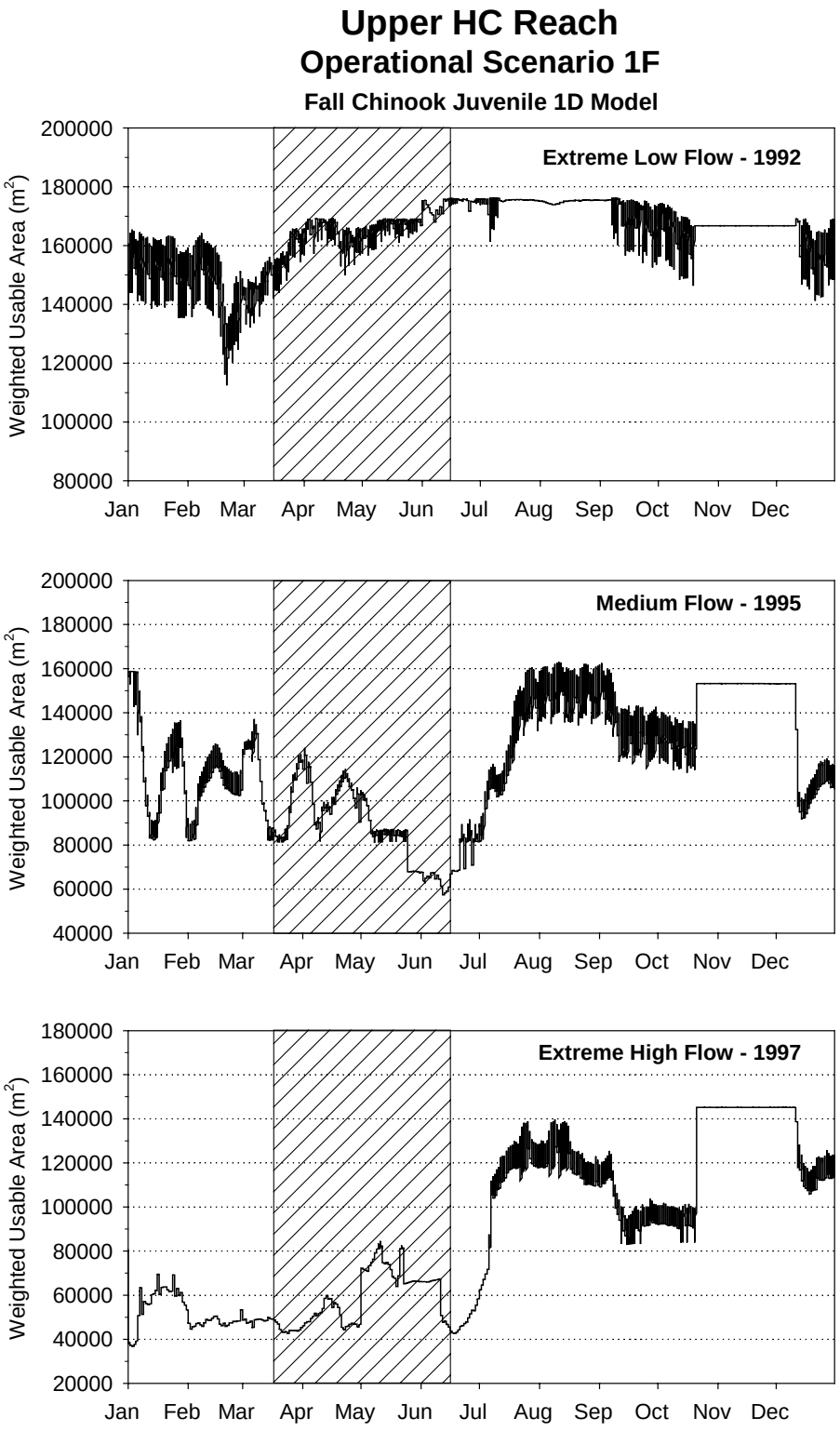


Figure 176. Total weighted usable area (WUA) under Operational Scenario 1F for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

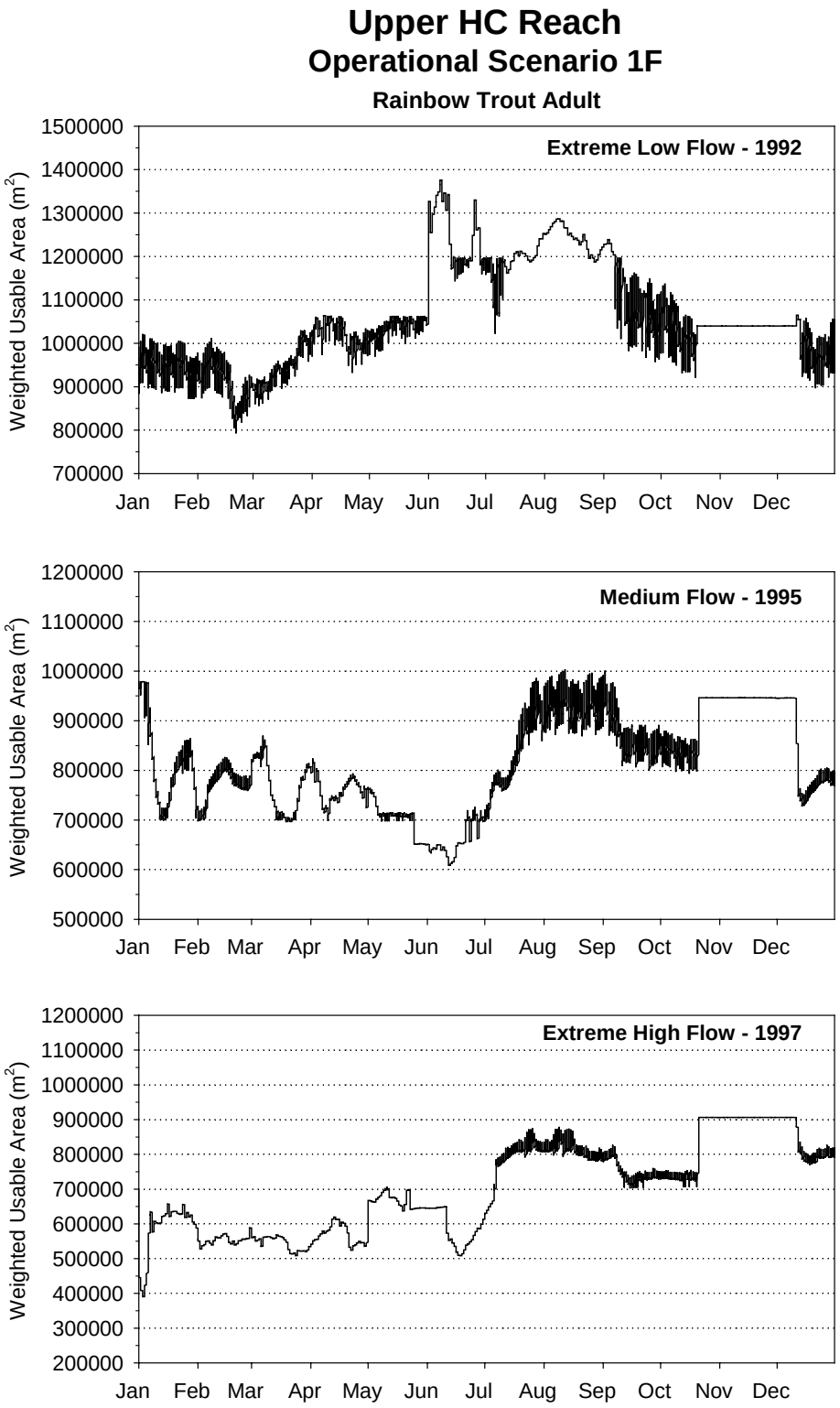


Figure 177. Total weighted usable area (WUA) under Operational Scenario 1F for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

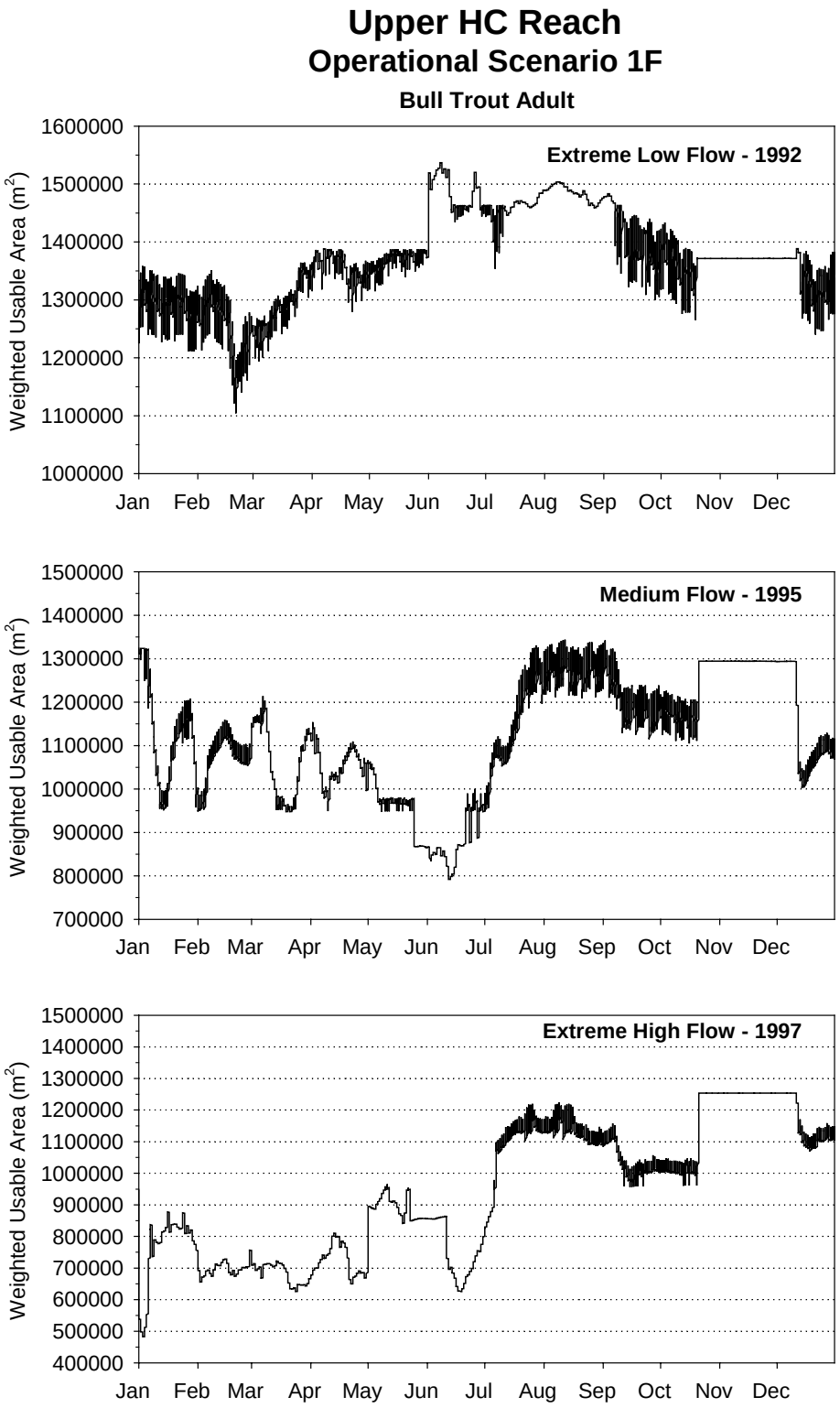


Figure 178. Total weighted usable area (WUA) under Operational Scenario 1F for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

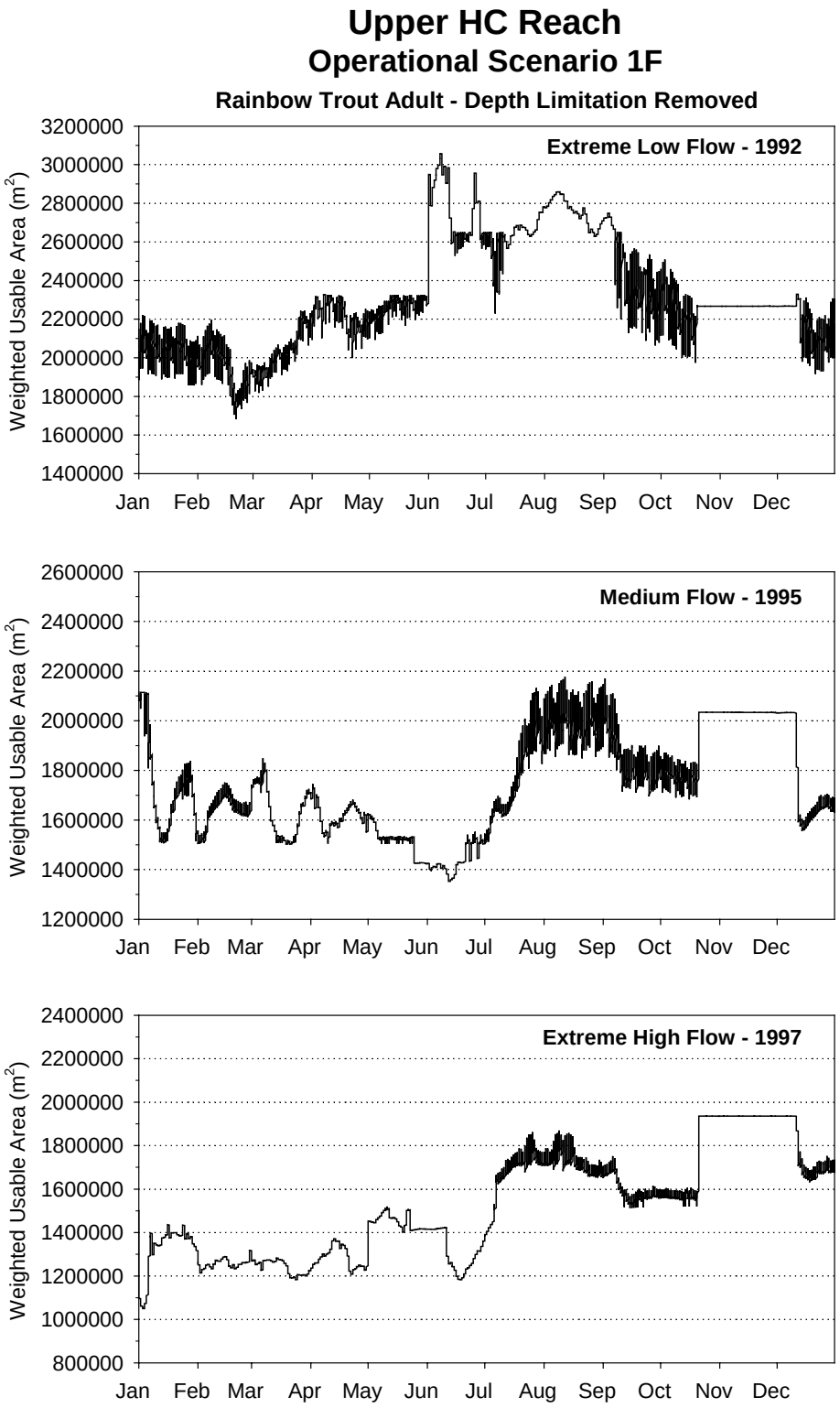


Figure 179. Total weighted usable area (WUA) under Operational Scenario 1F for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

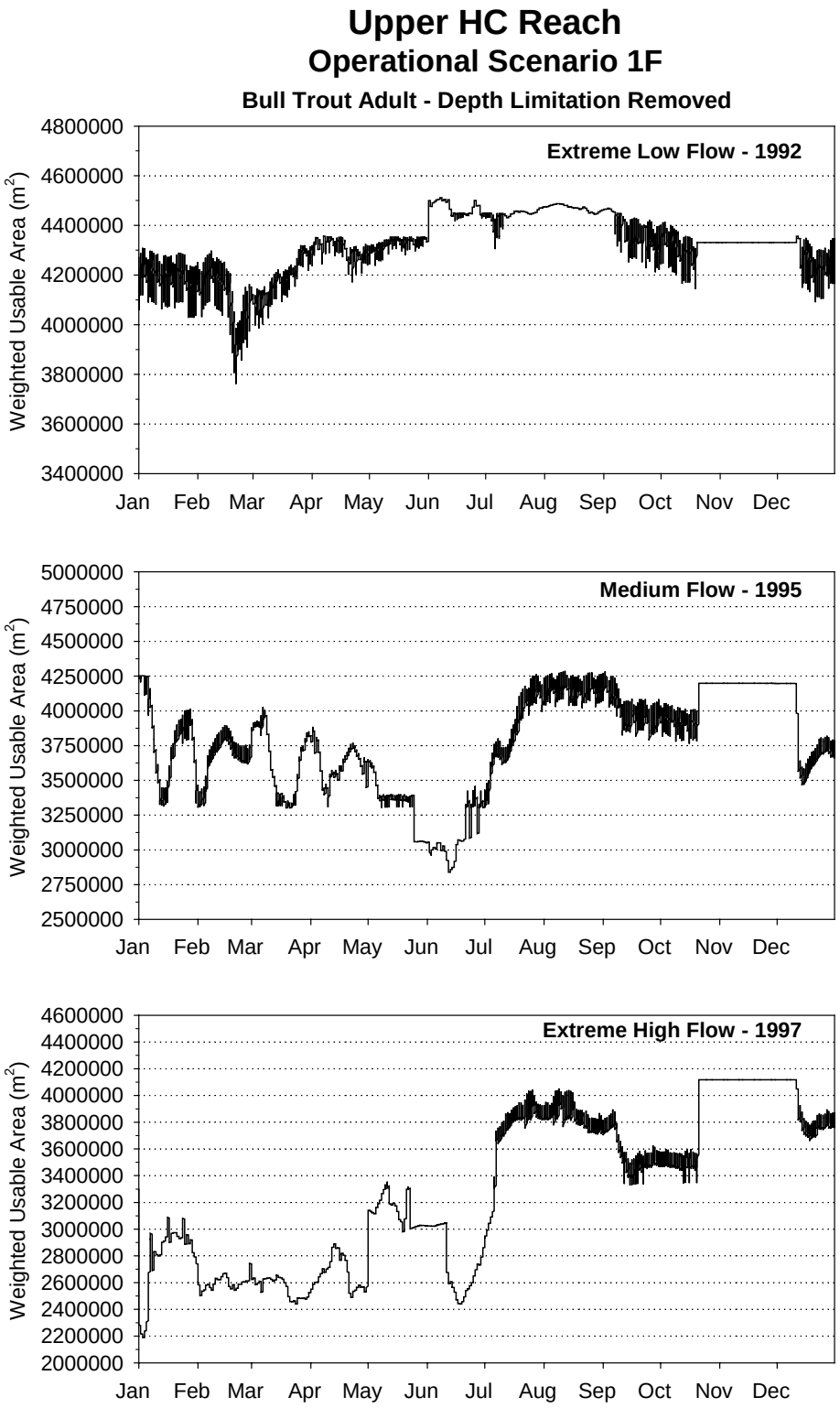


Figure 180. Total weighted usable area (WUA) under Operational Scenario 1F for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

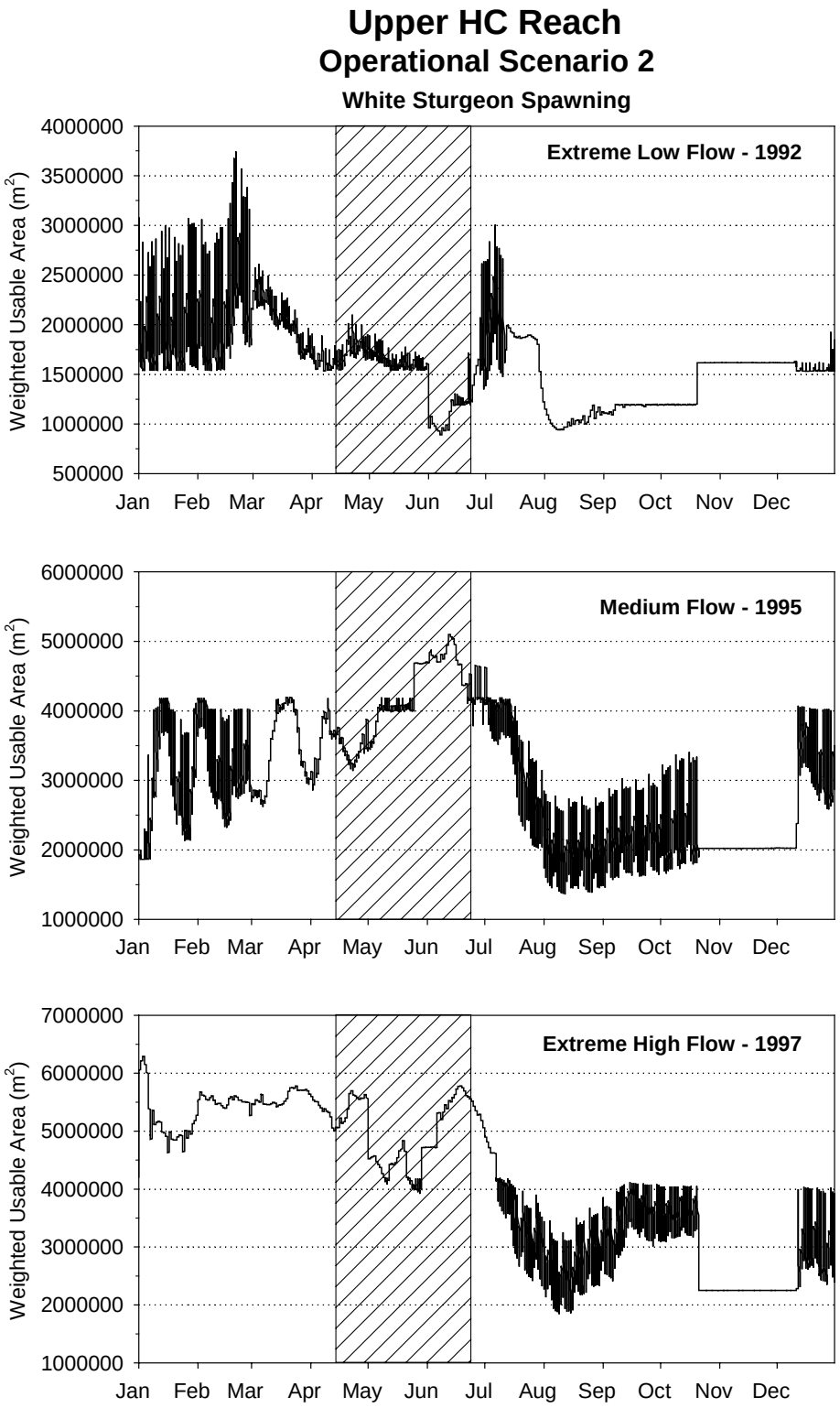


Figure 181. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

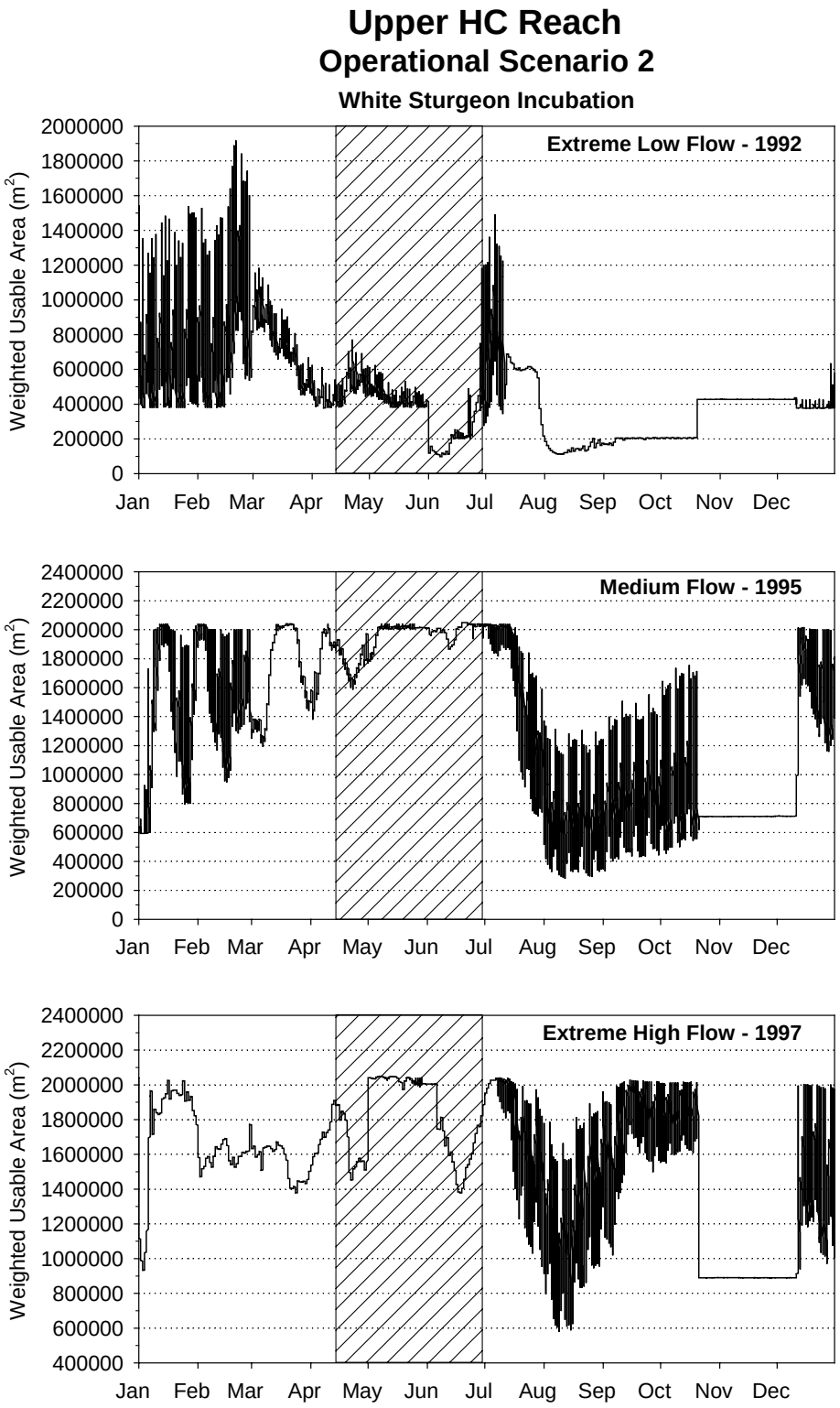


Figure 182. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

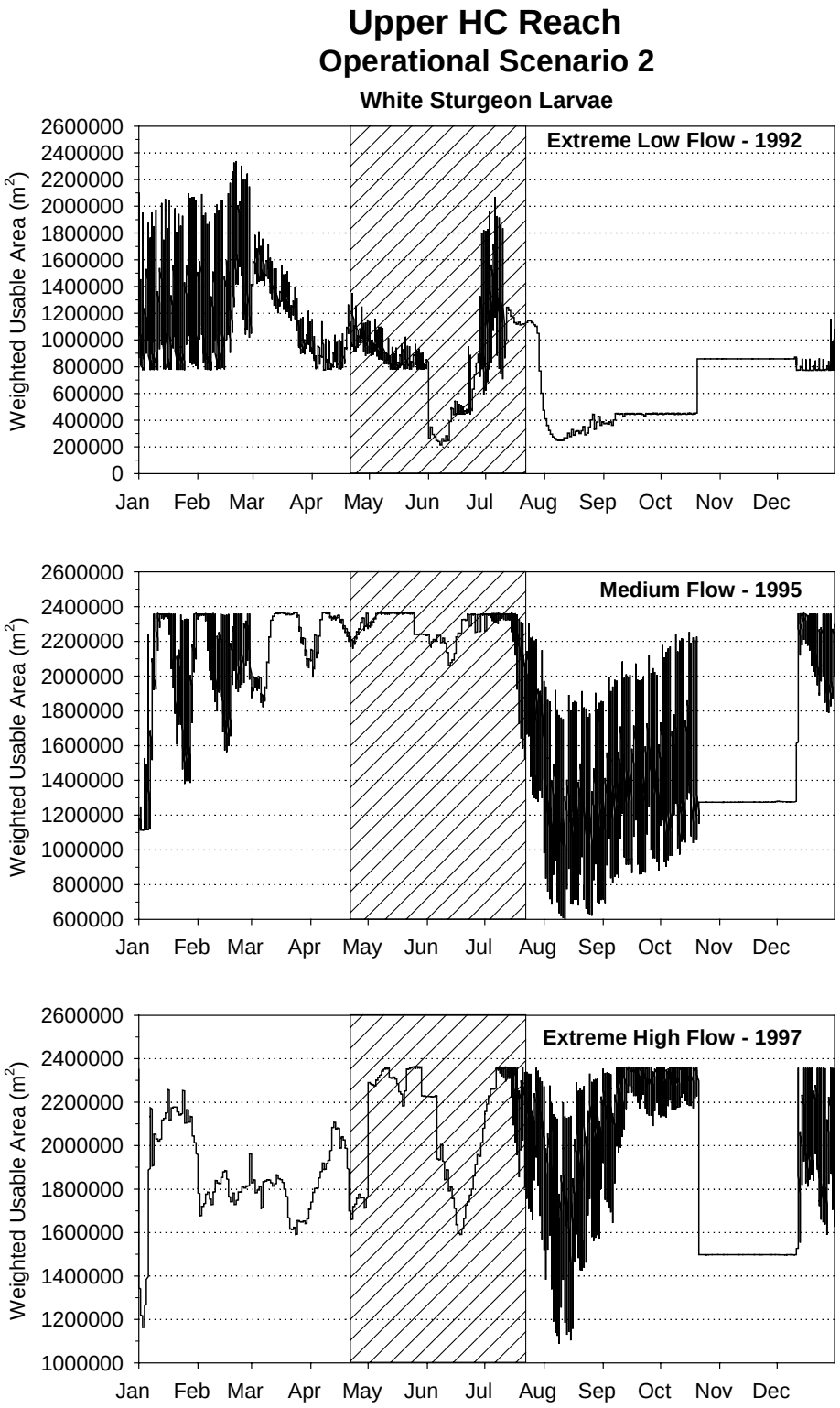


Figure 183. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

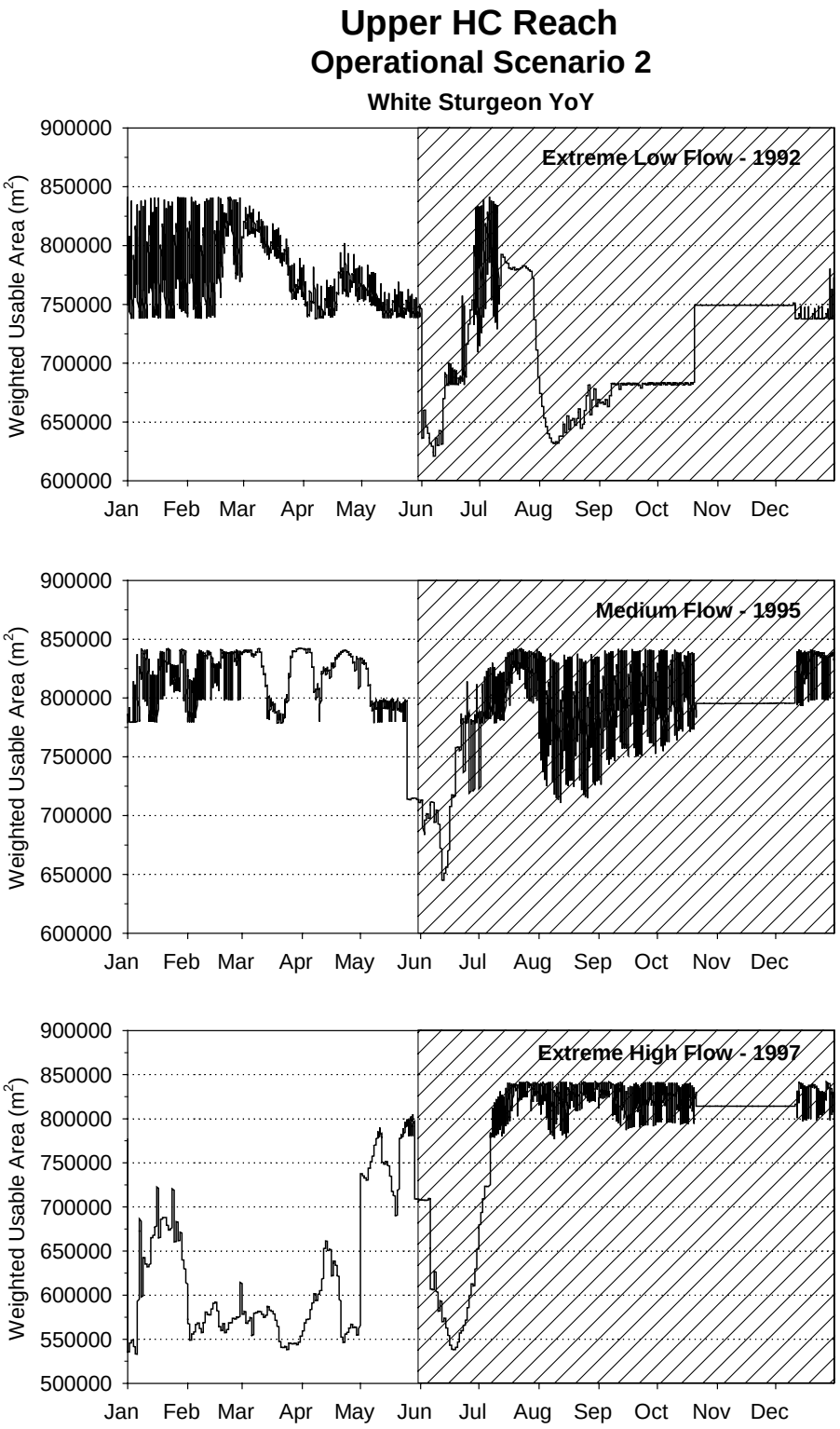


Figure 184. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

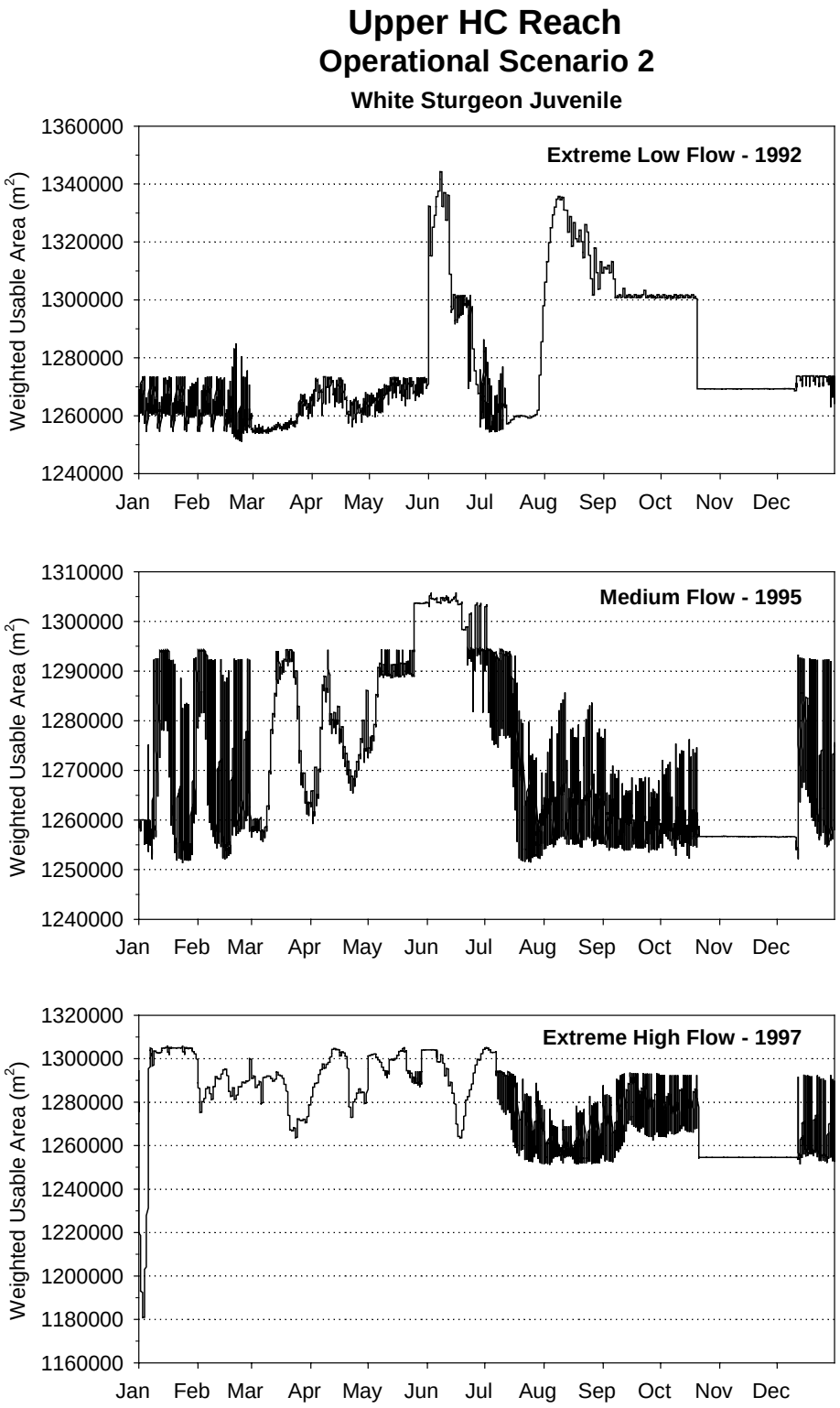


Figure 185. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

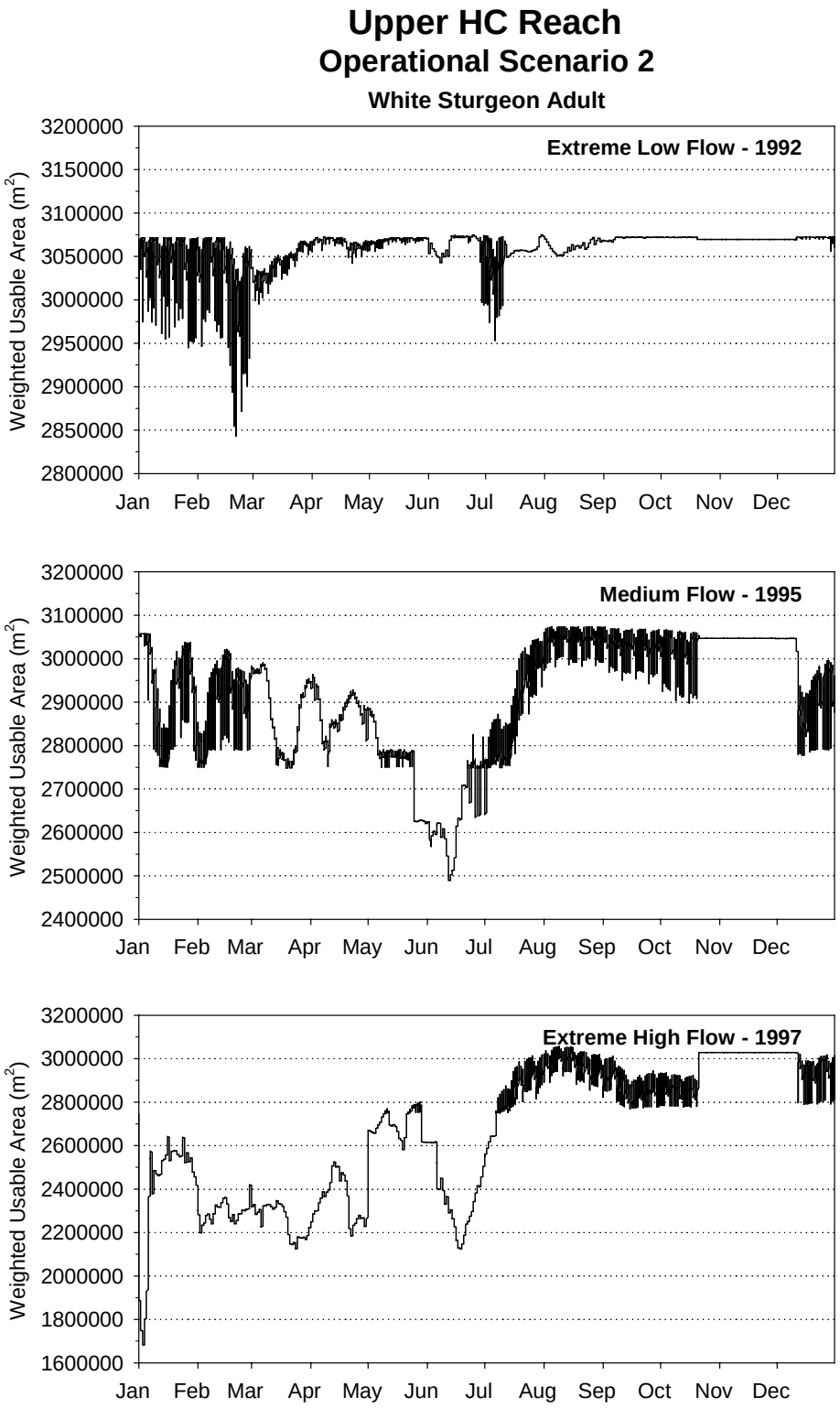


Figure 186. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

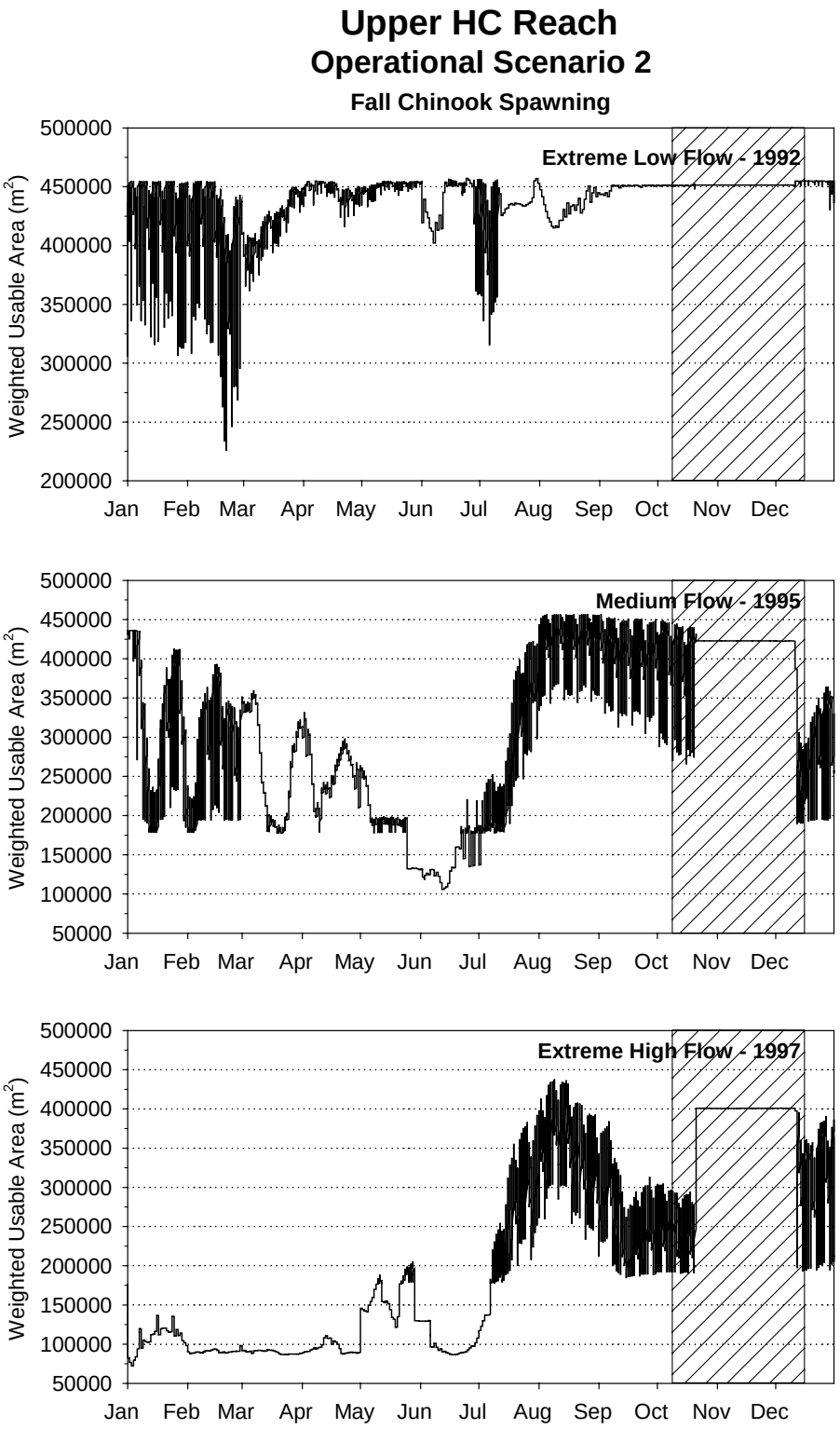


Figure 187. Total weighted usable area (WUA) under Operational Scenario 2 for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

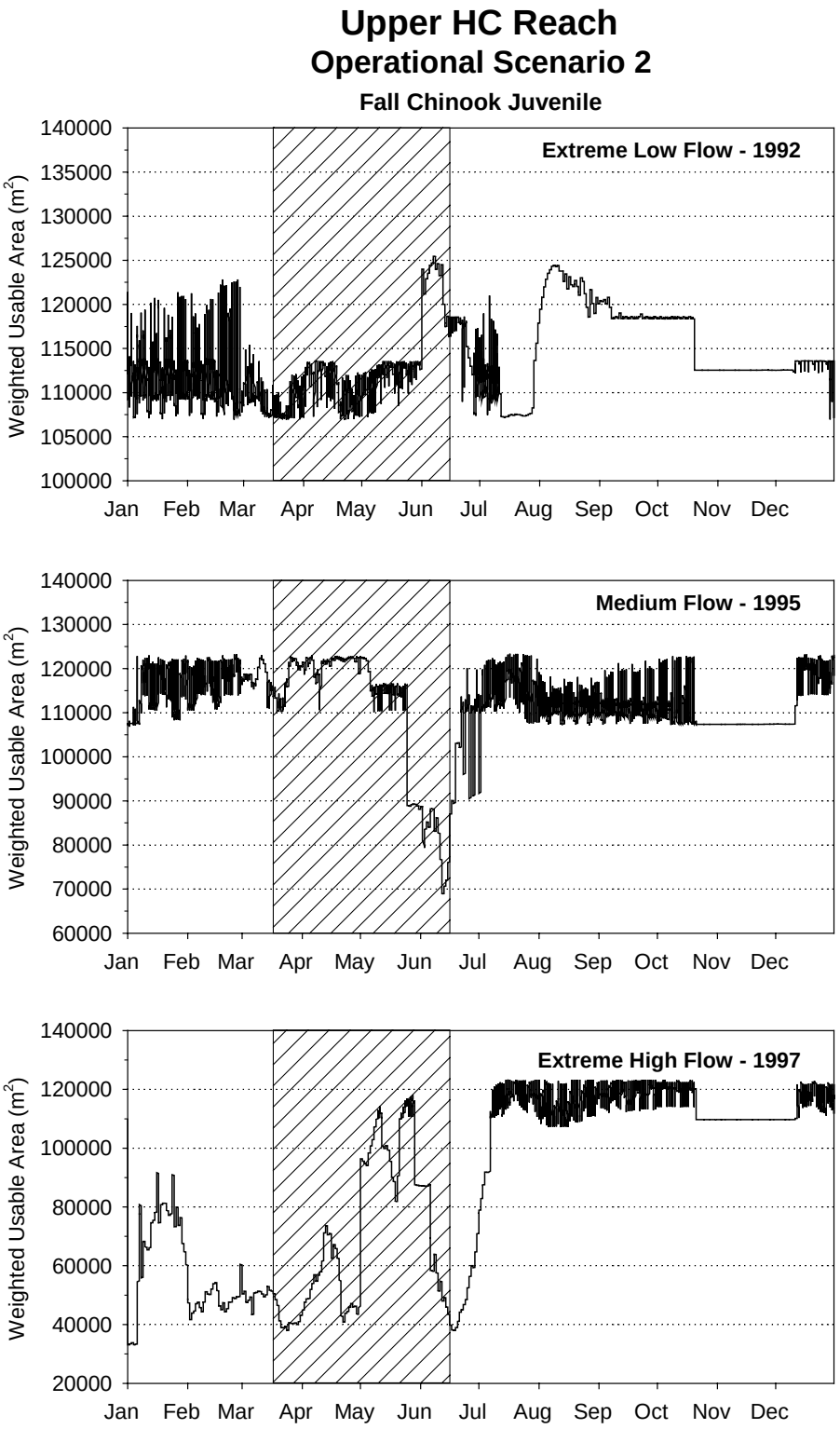


Figure 188. Total weighted usable area (WUA) under Operational Scenario 2 for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

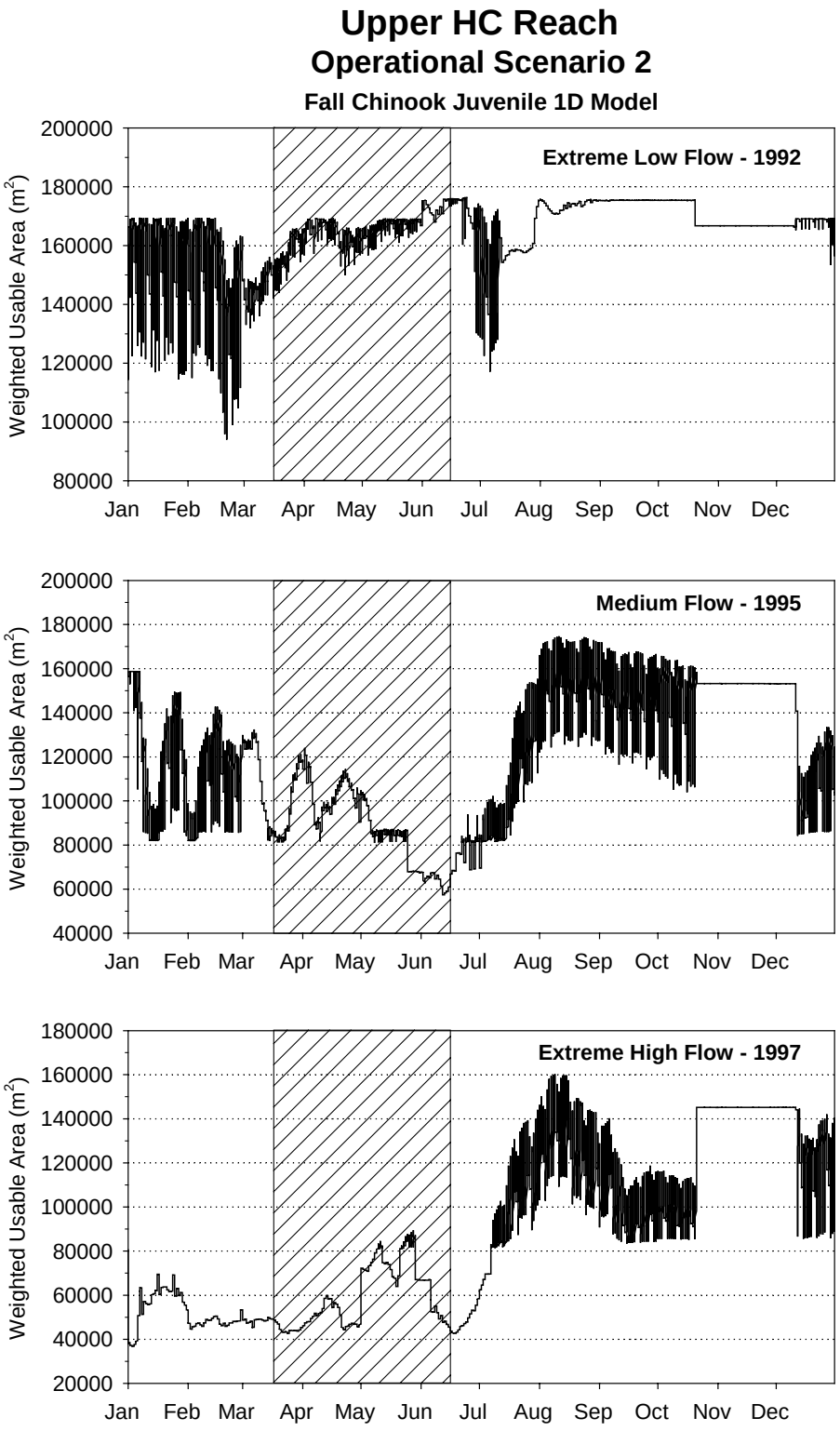


Figure 189. Total weighted usable area (WUA) under Operational Scenario 2 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

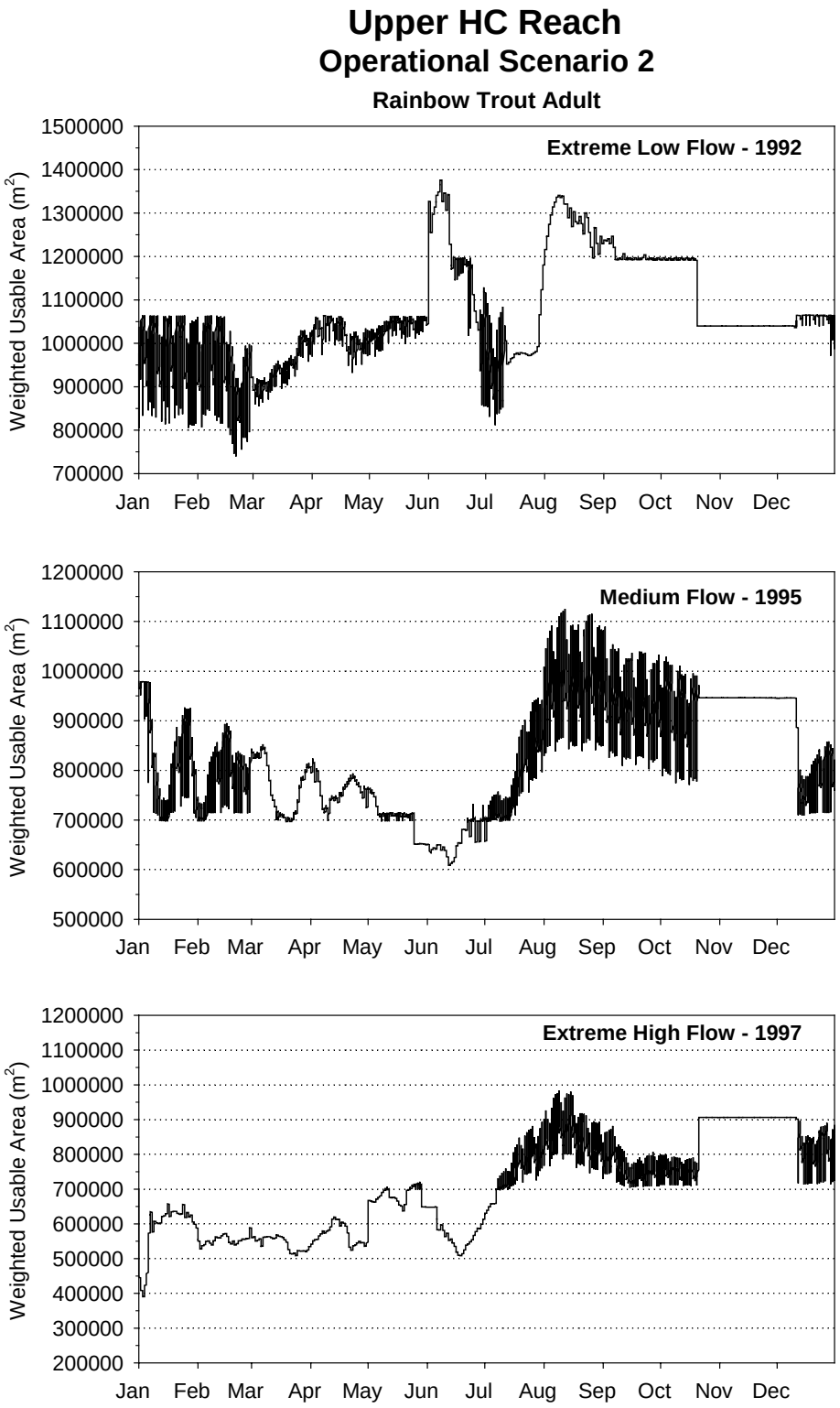


Figure 190. Total weighted usable area (WUA) under Operational Scenario 2 for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

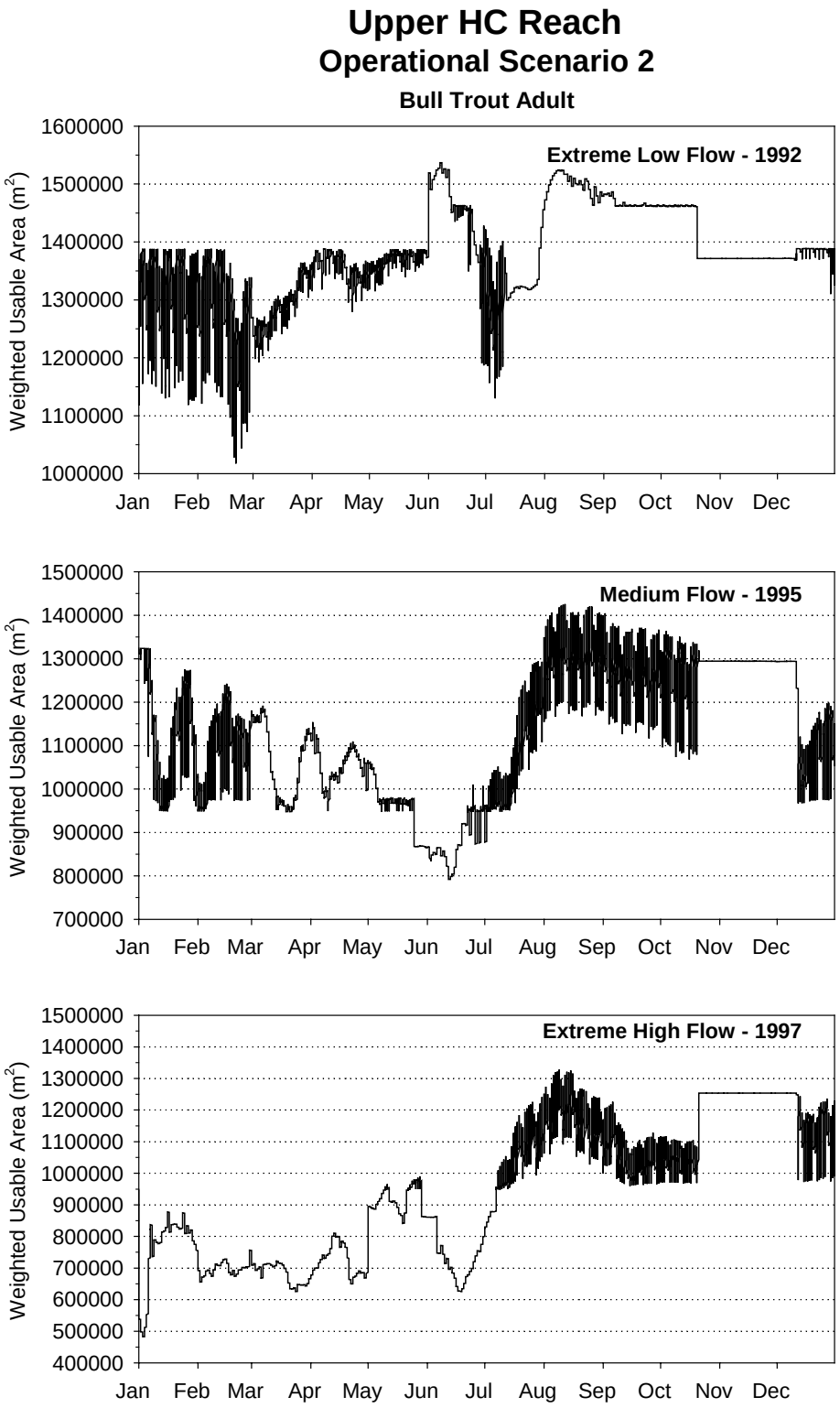


Figure 191. Total weighted usable area (WUA) under Operational Scenario 2 for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

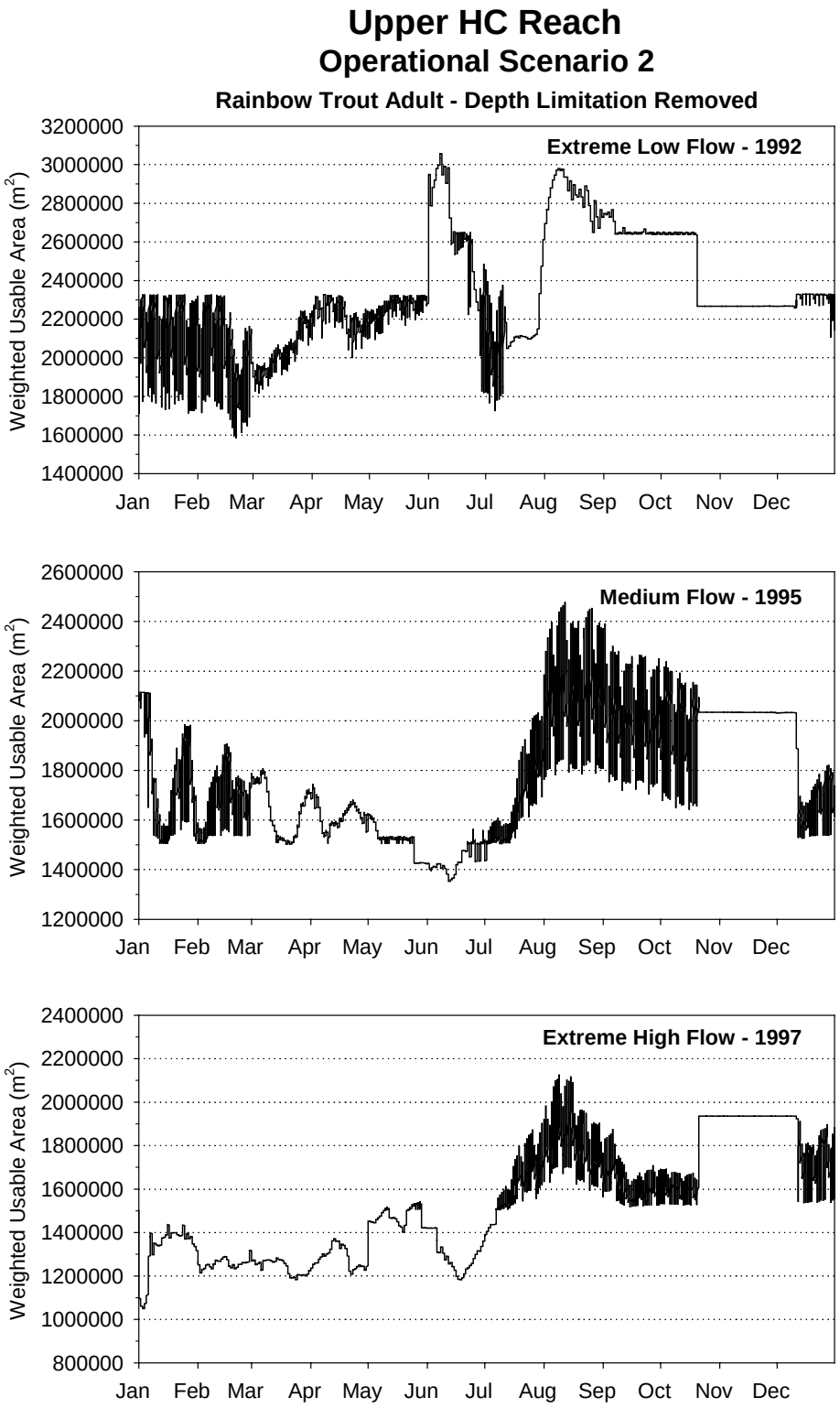


Figure 192. Total weighted usable area (WUA) under Operational Scenario 2 for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

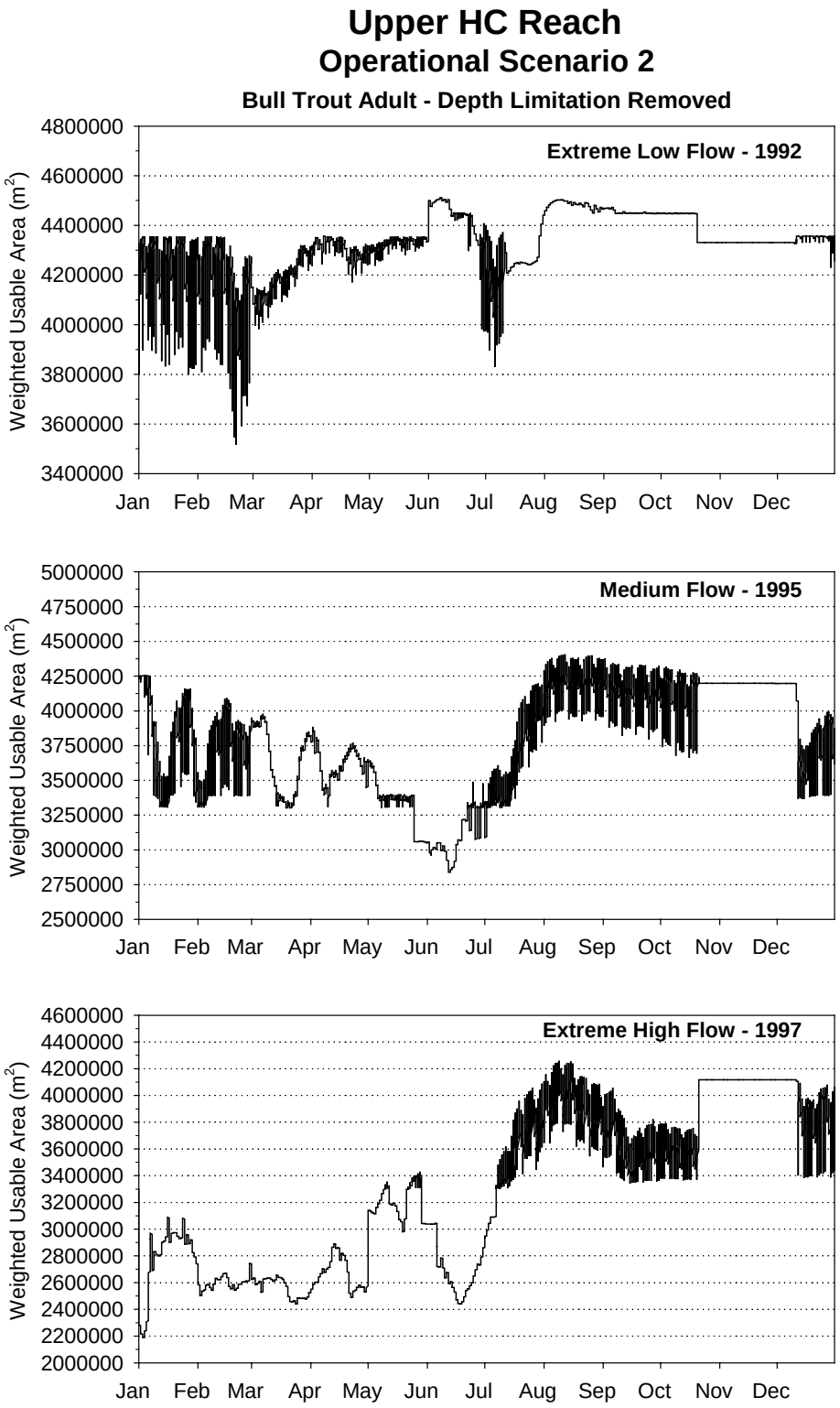


Figure 193. Total weighted usable area (WUA) under Operational Scenario 2 for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

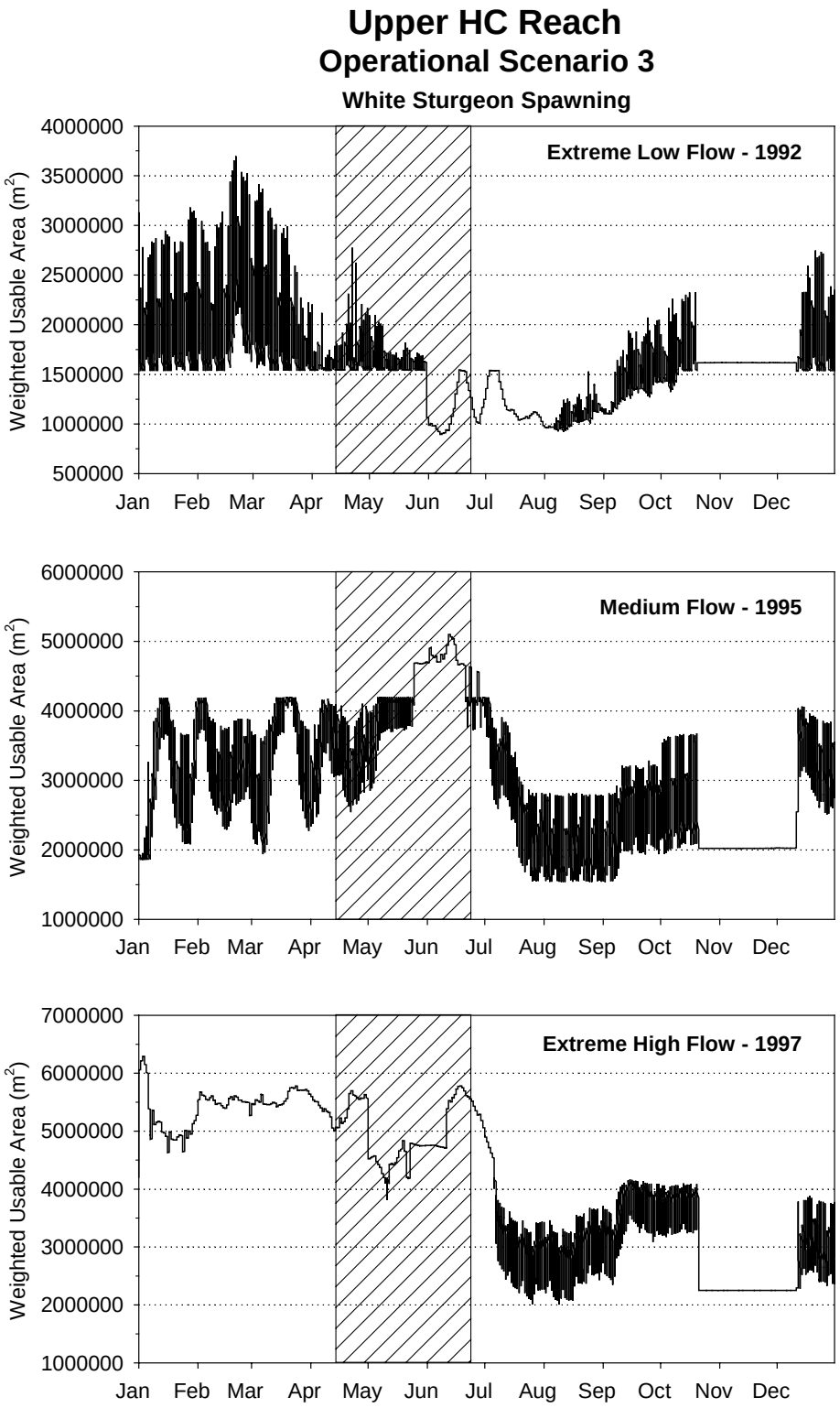


Figure 194. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

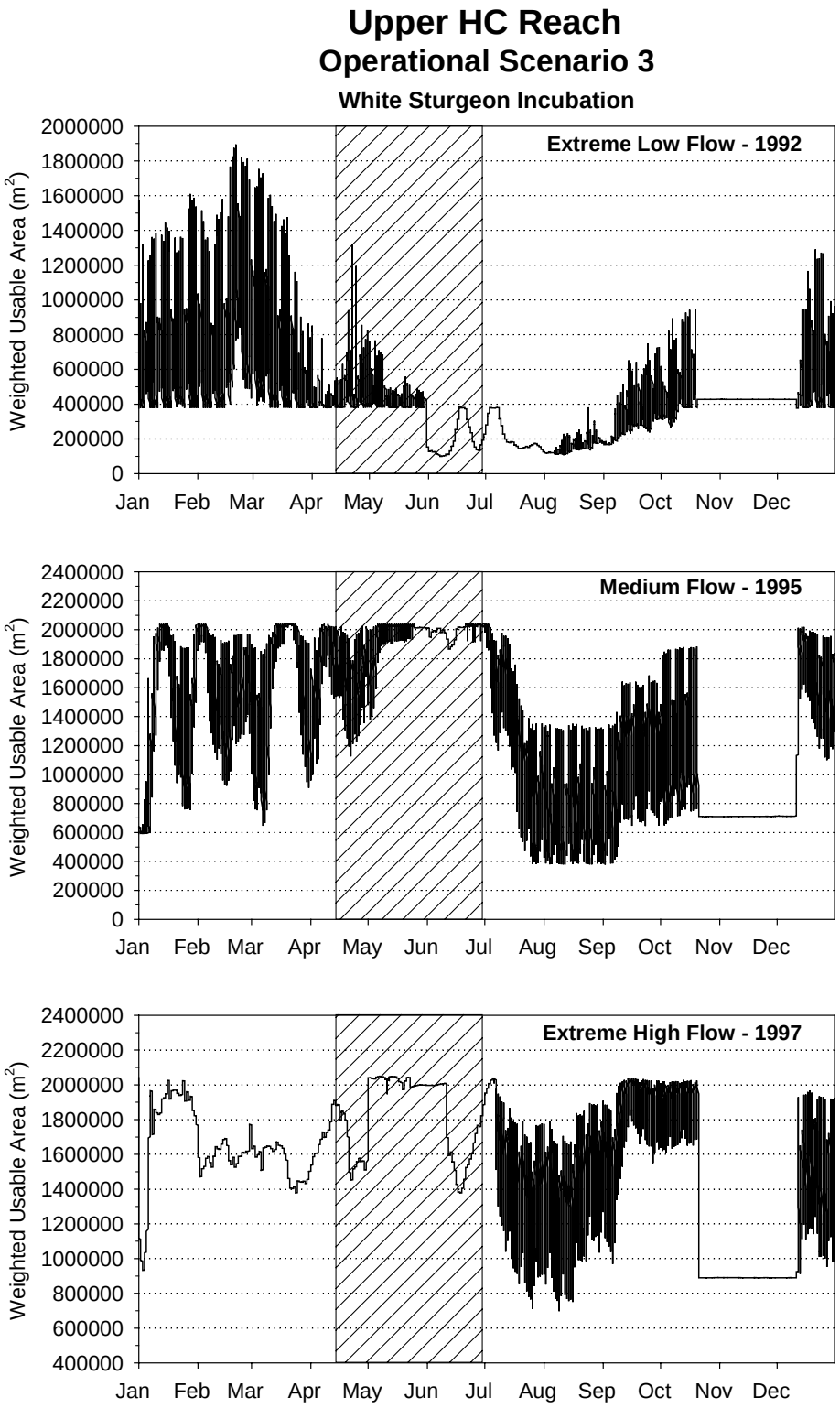


Figure 195. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

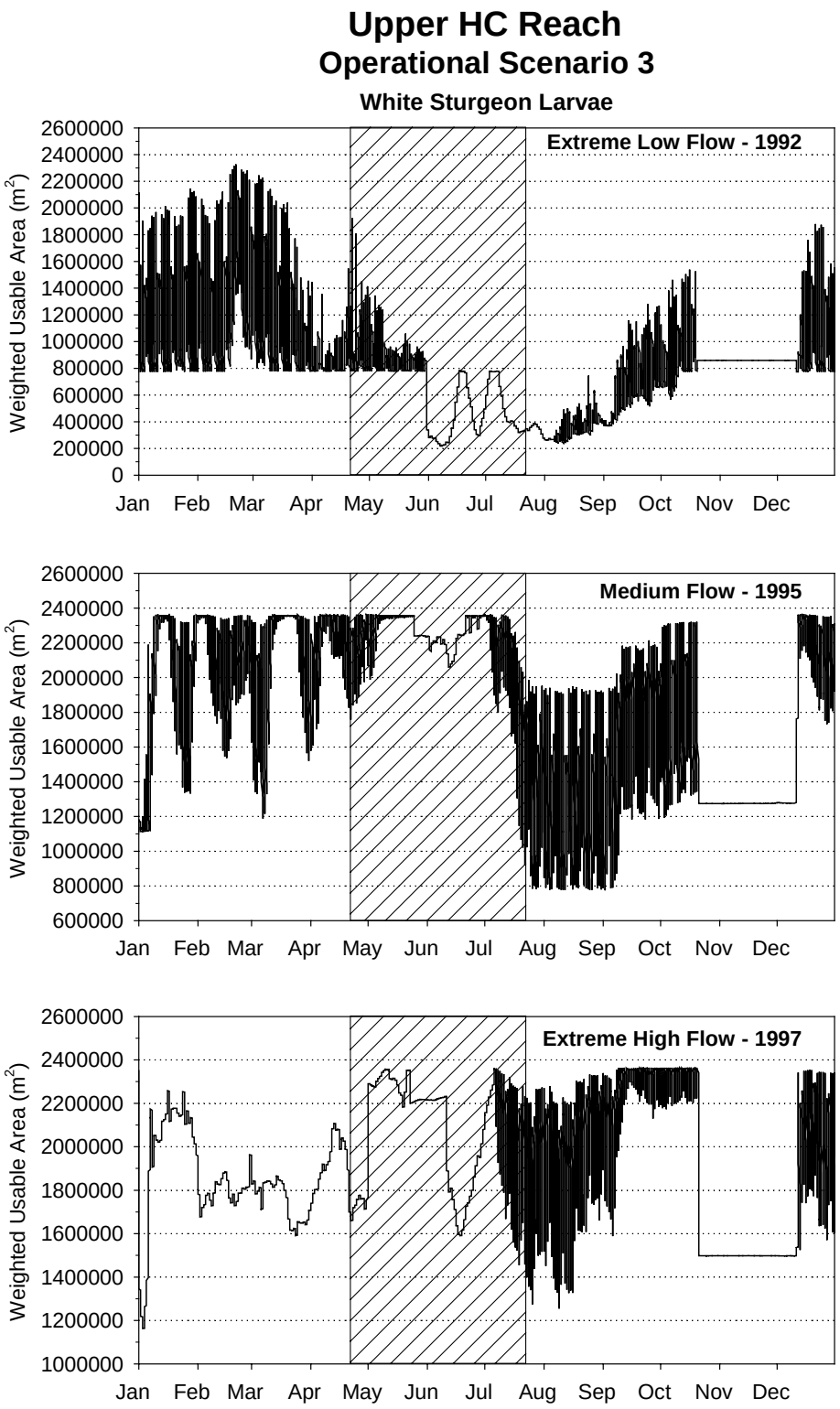


Figure 196. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

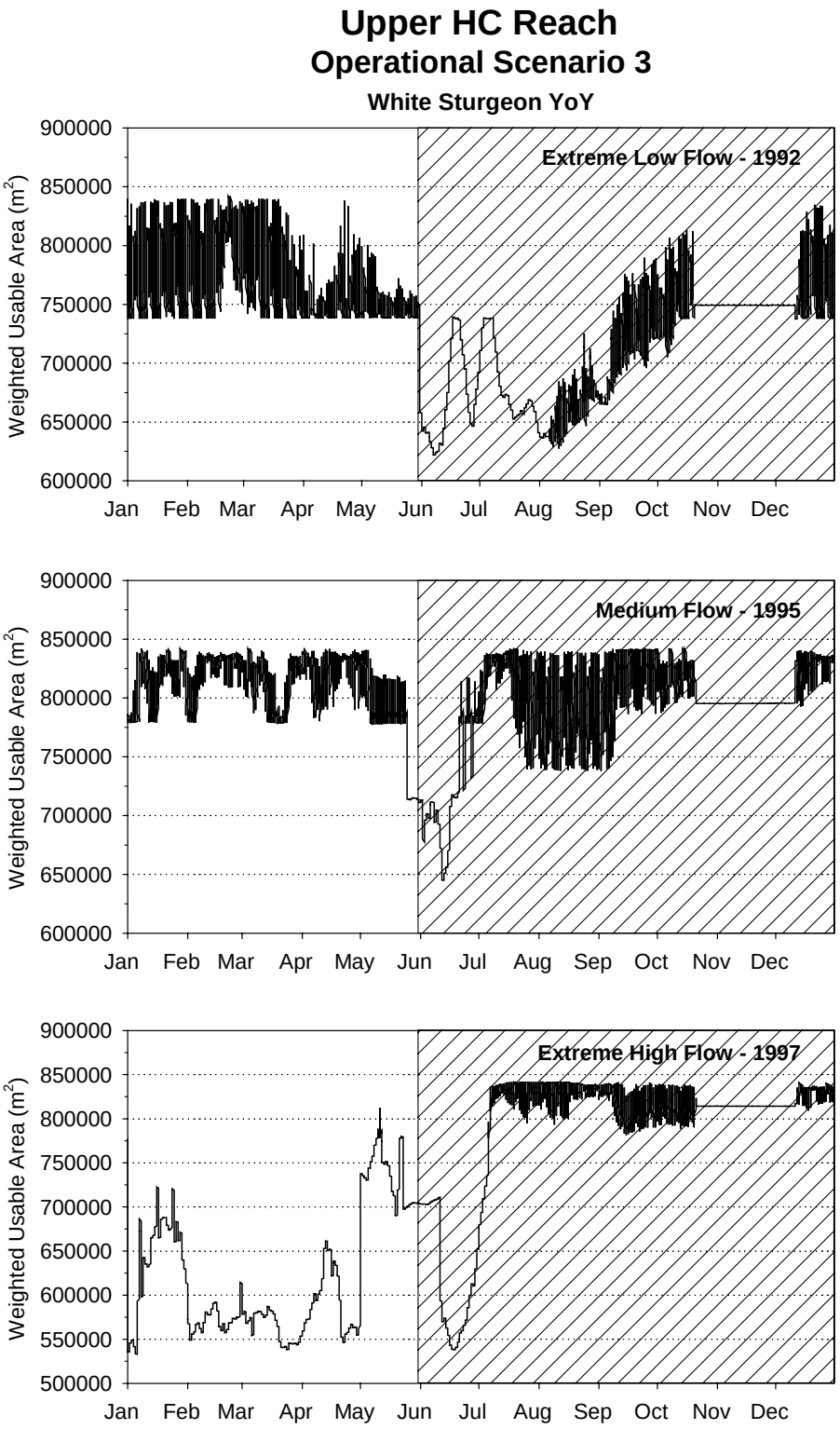


Figure 197. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

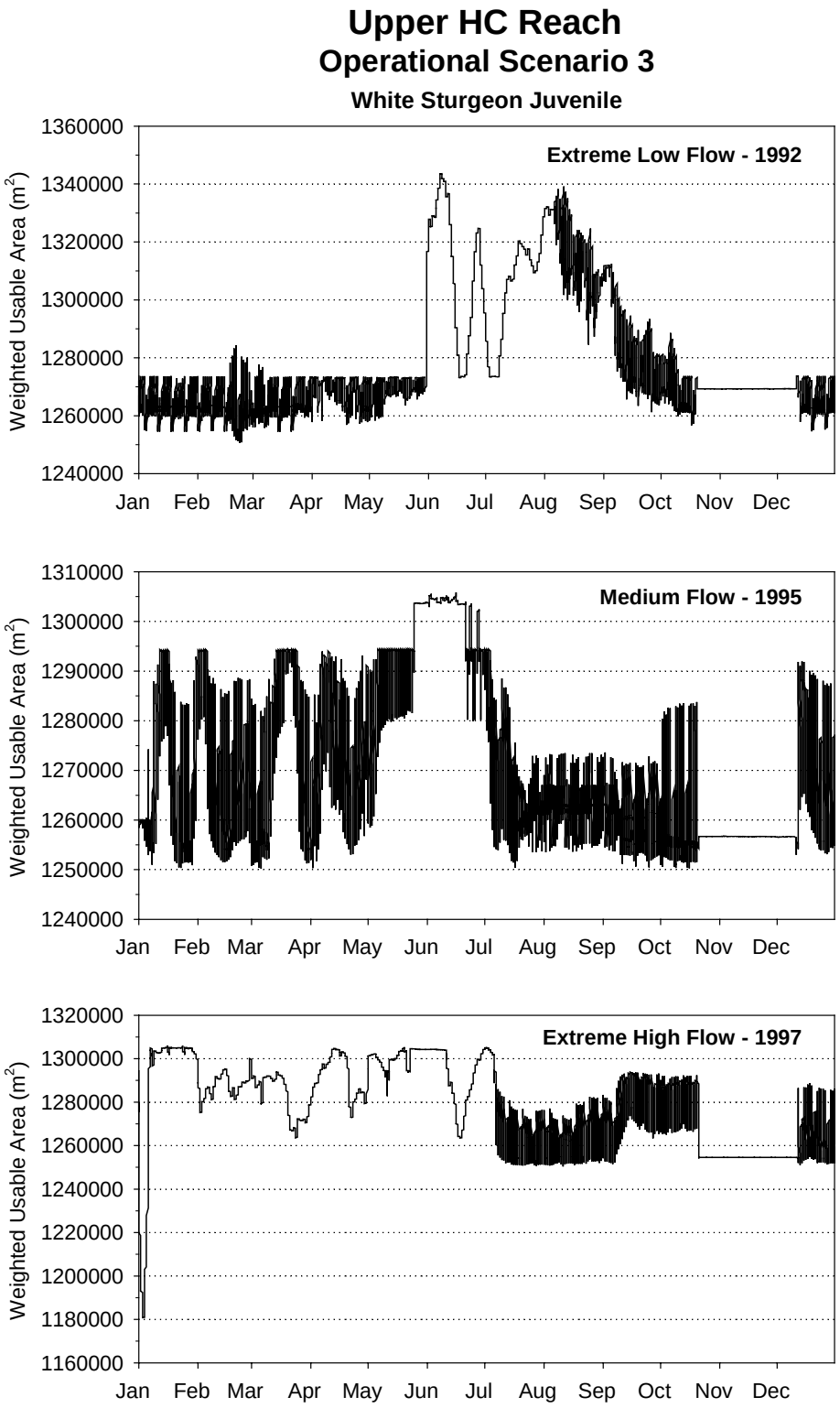


Figure 198. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

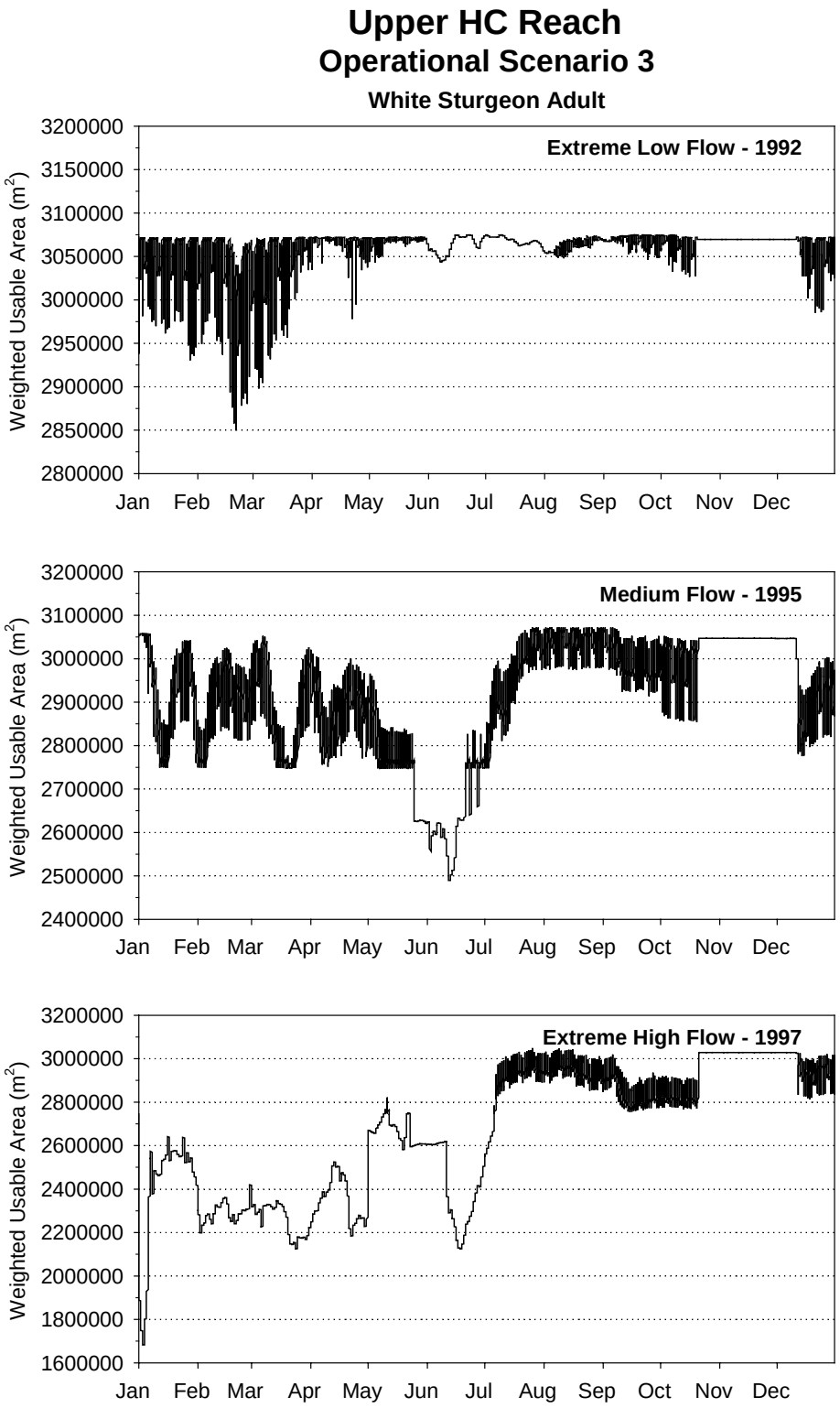


Figure 199. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

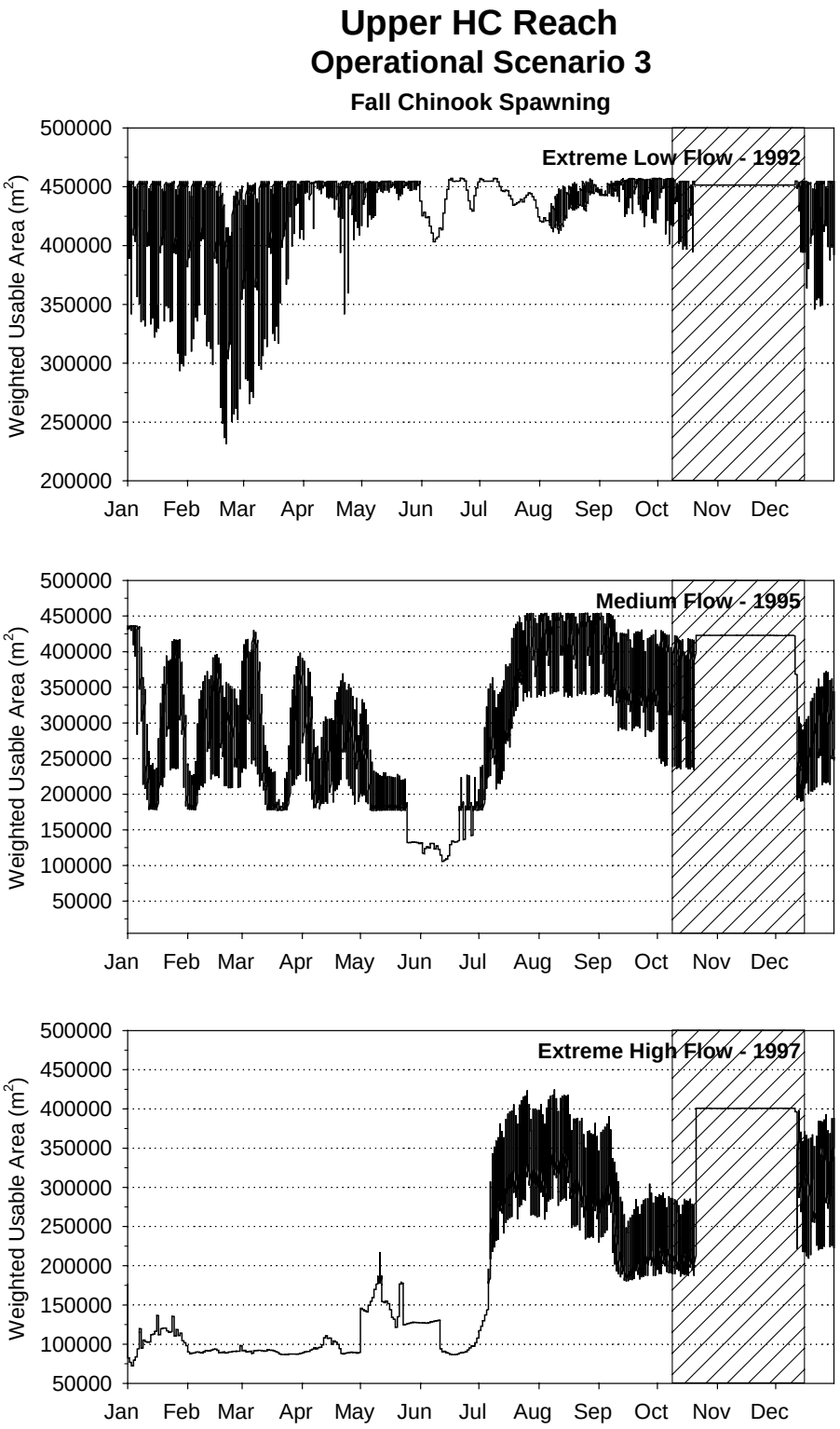


Figure 200. Total weighted usable area (WUA) under Operational Scenario 3 for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

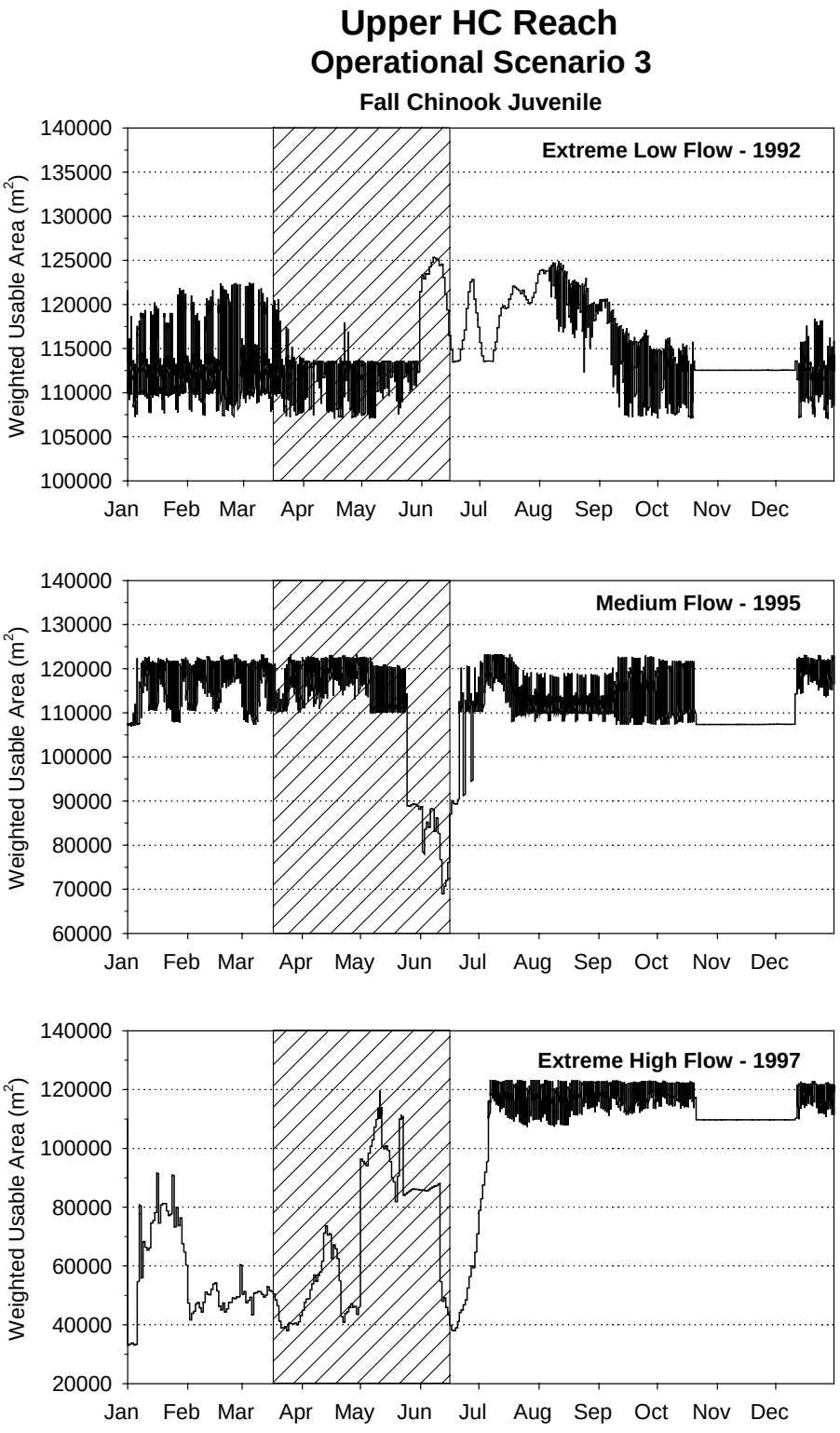


Figure 201. Total weighted usable area (WUA) under Operational Scenario 3 for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

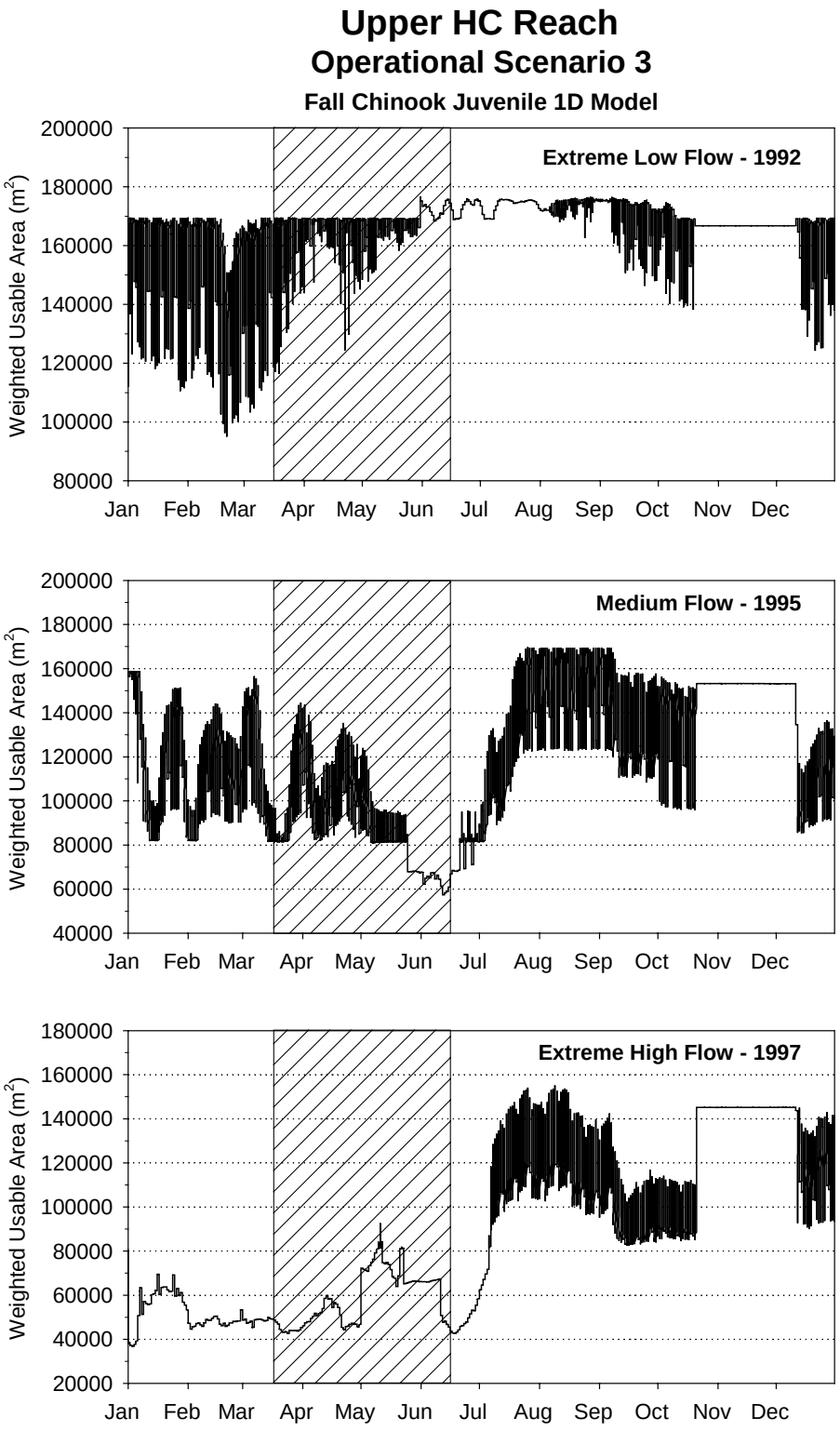


Figure 202. Total weighted usable area (WUA) under Operational Scenario 3 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

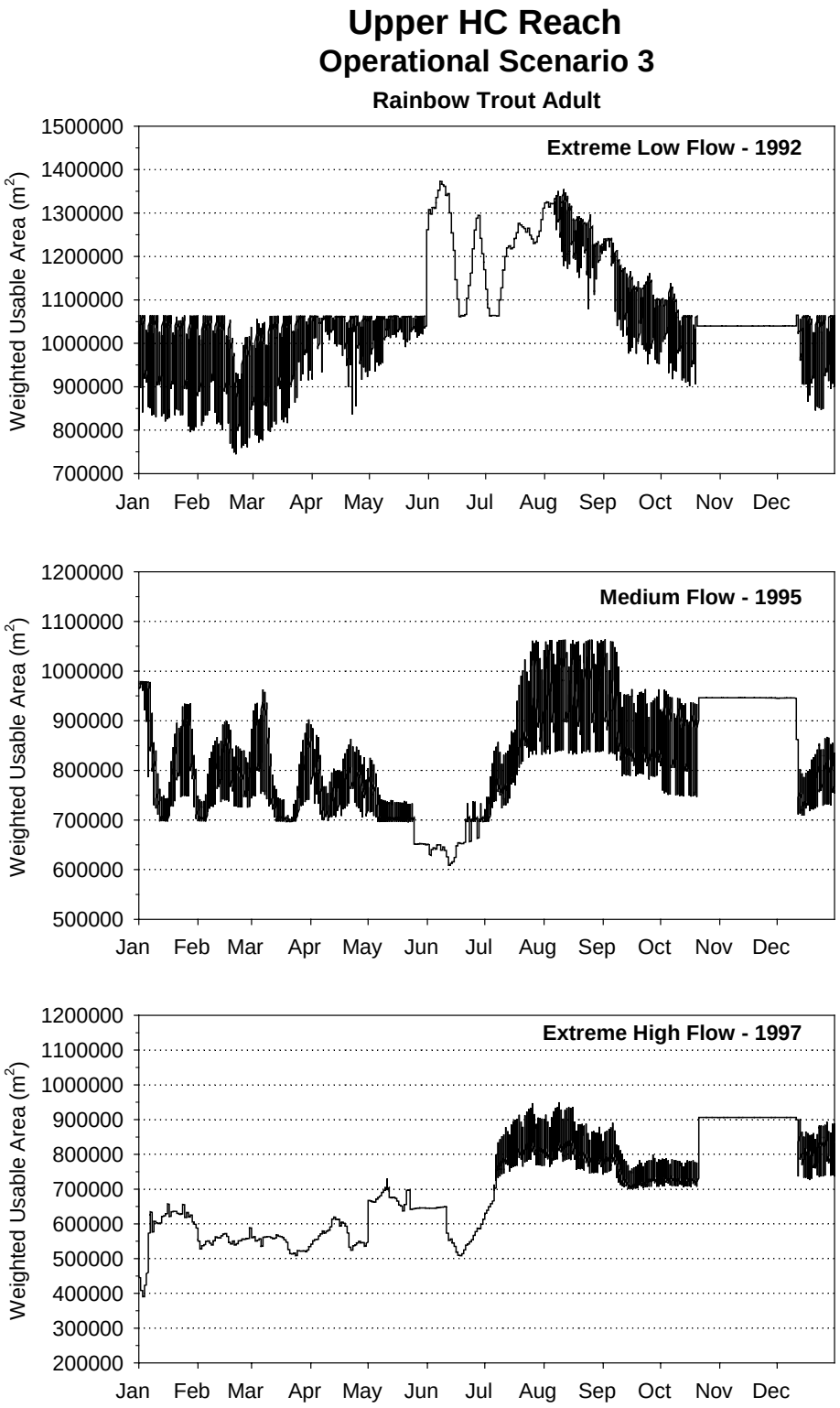


Figure 203. Total weighted usable area (WUA) under Operational Scenario 3 for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

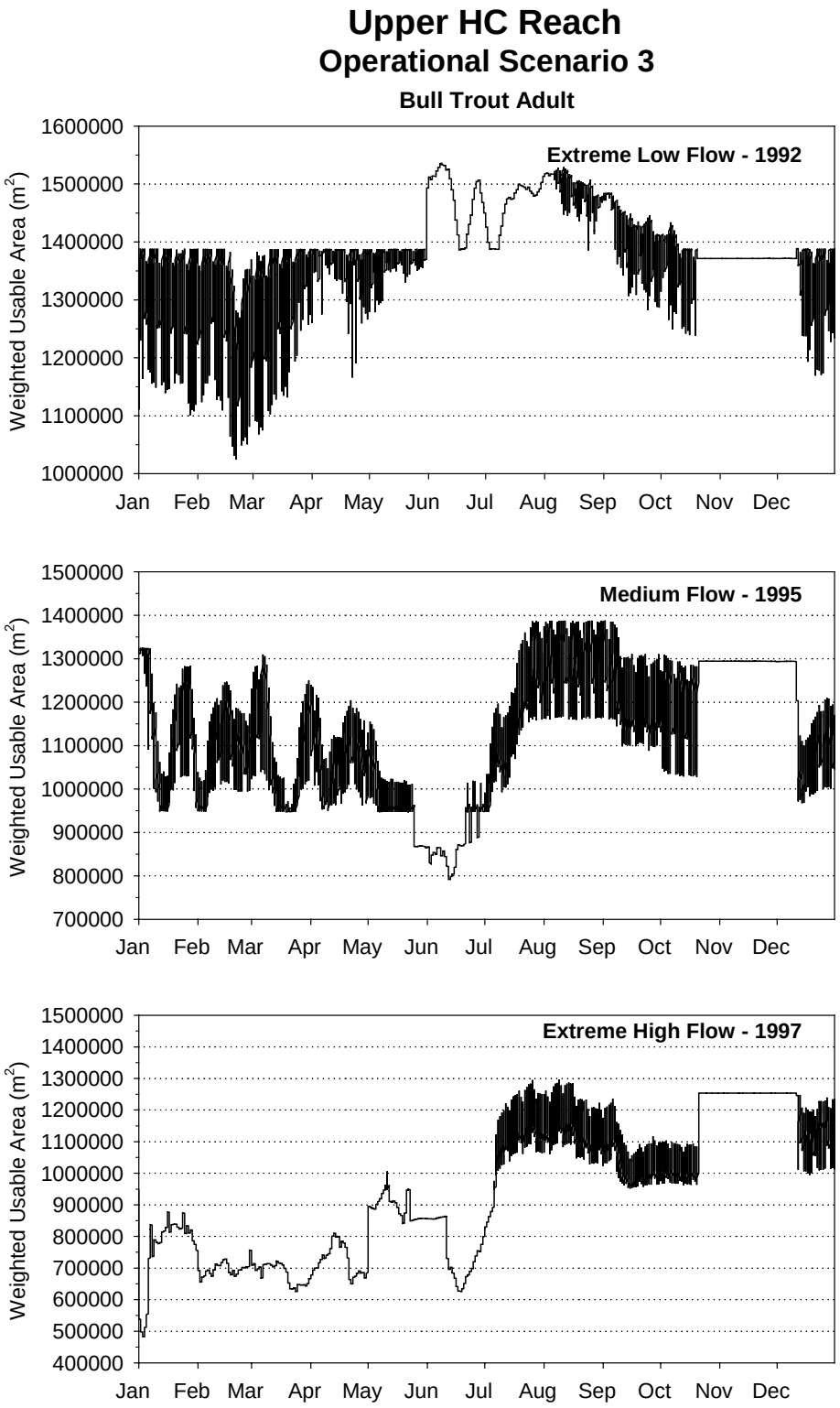


Figure 204. Total weighted usable area (WUA) under Operational Scenario 3 for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

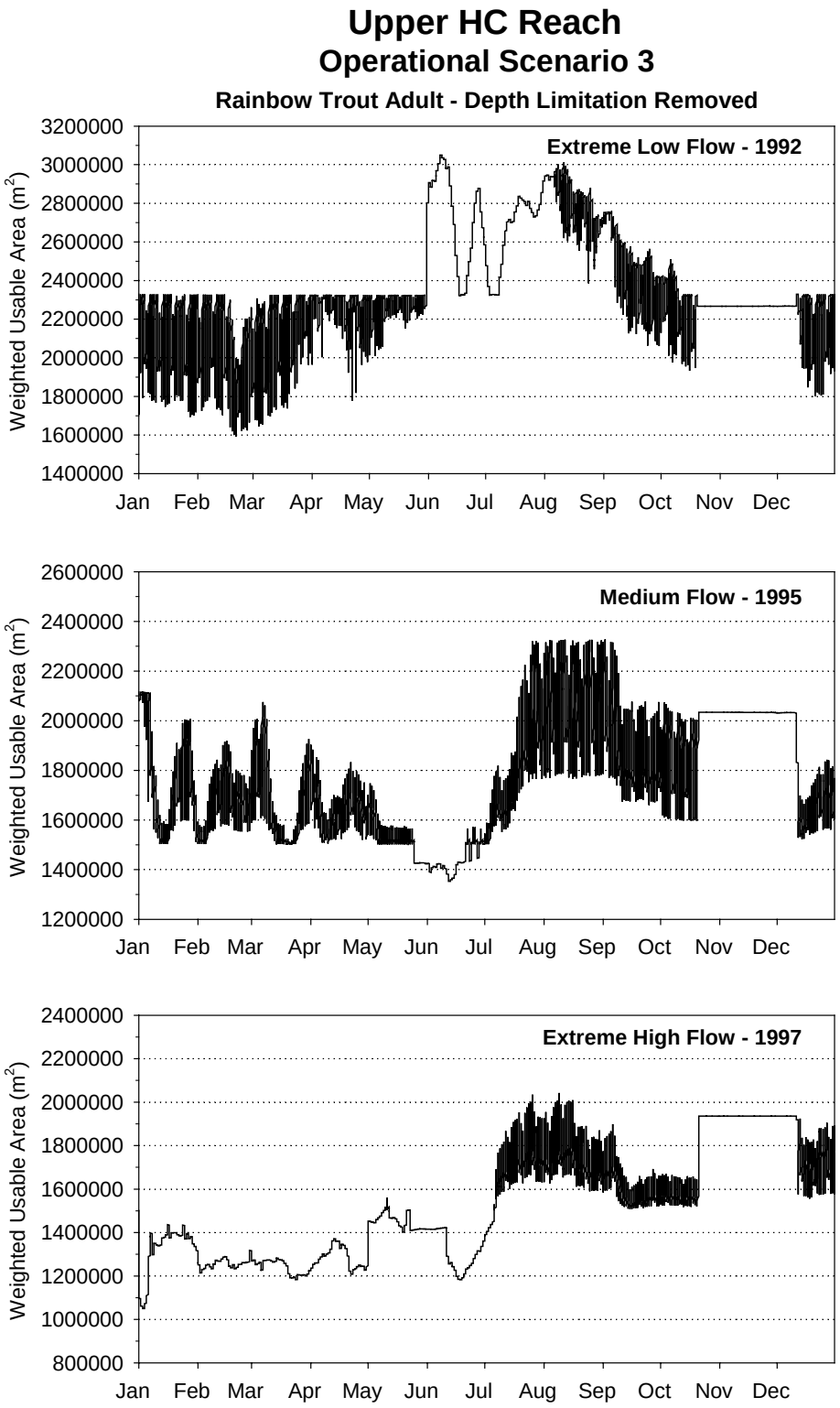


Figure 205. Total weighted usable area (WUA) under Operational Scenario 3 for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

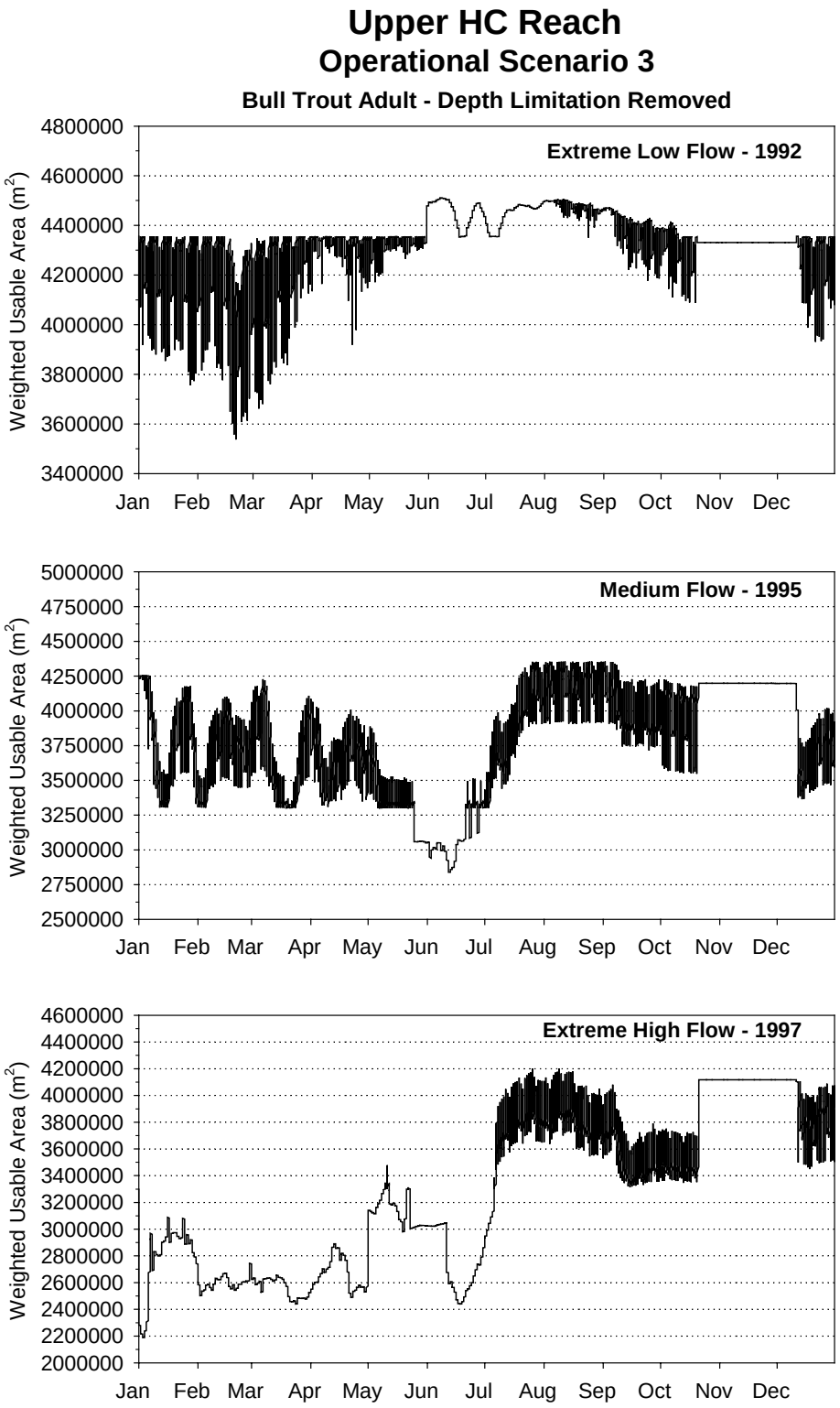


Figure 206. Total weighted usable area (WUA) under Operational Scenario 3 for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

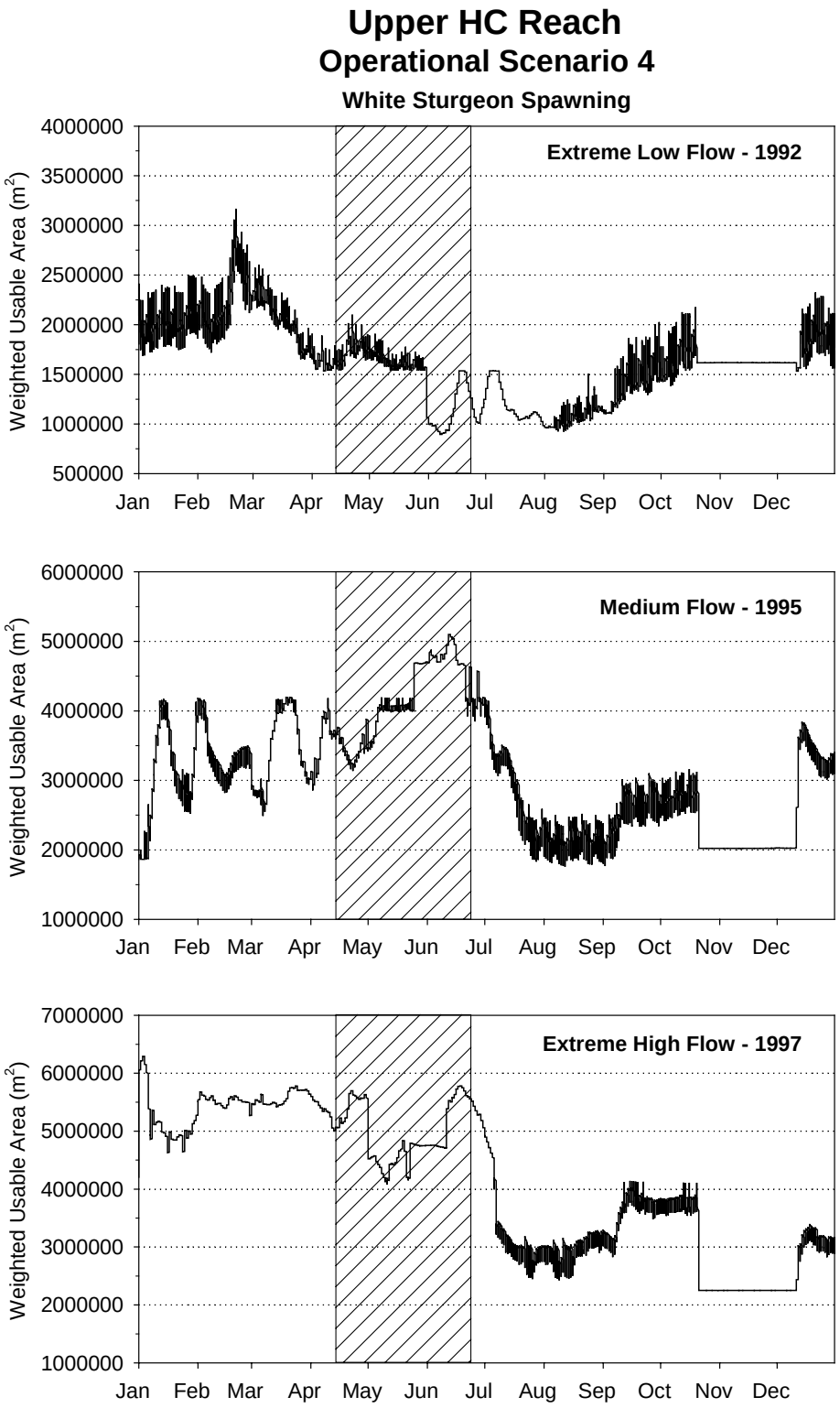


Figure 207. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

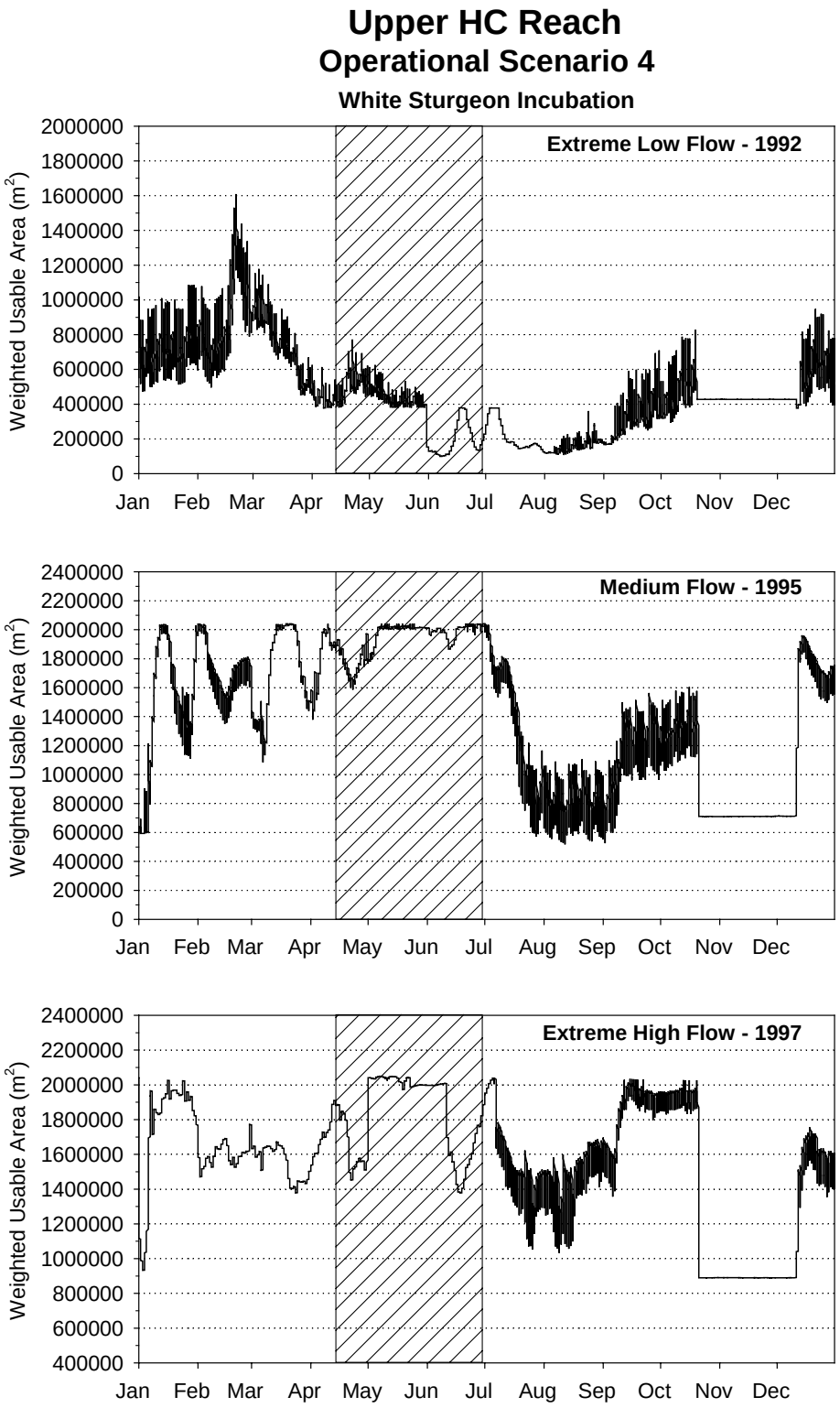


Figure 208. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

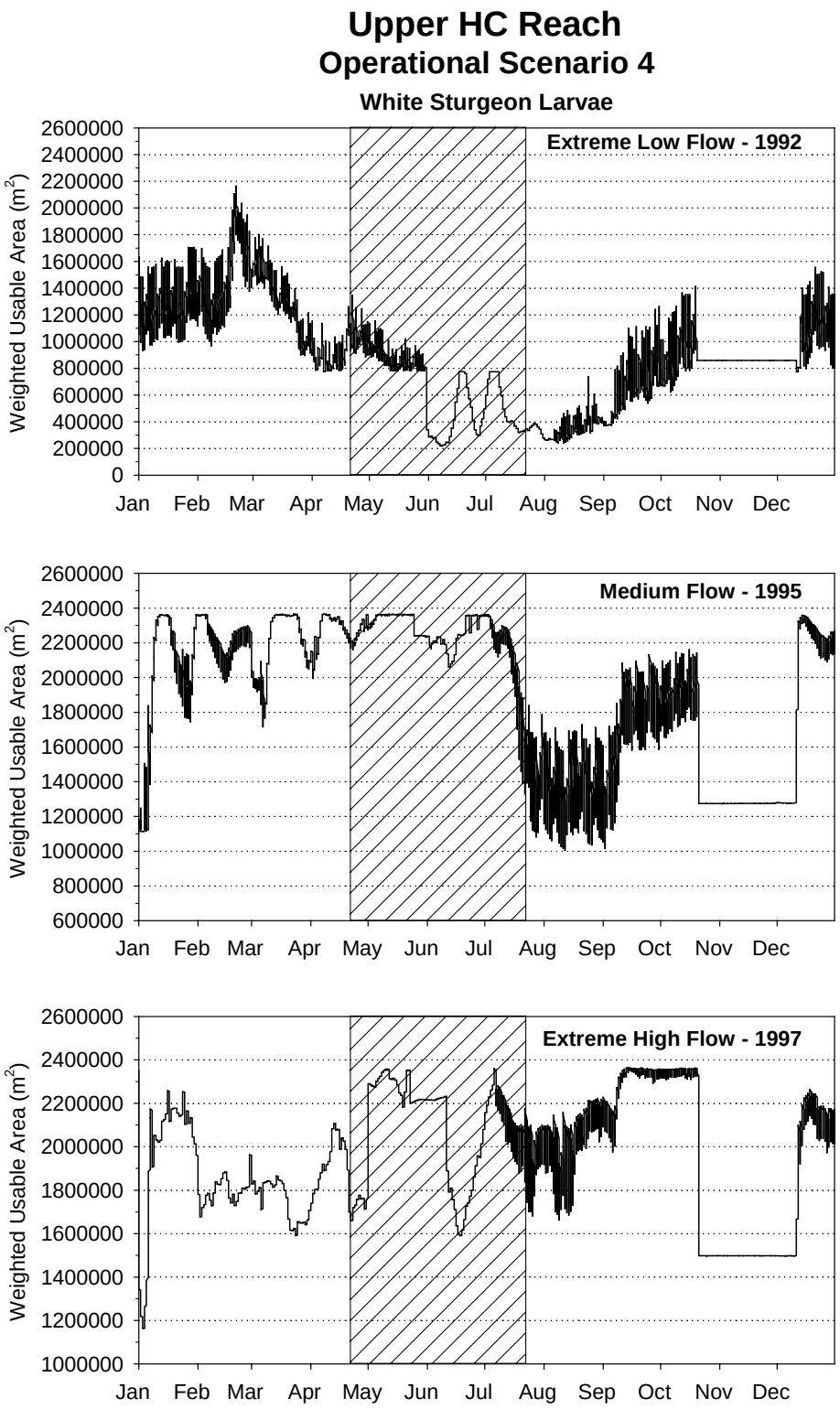


Figure 209. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

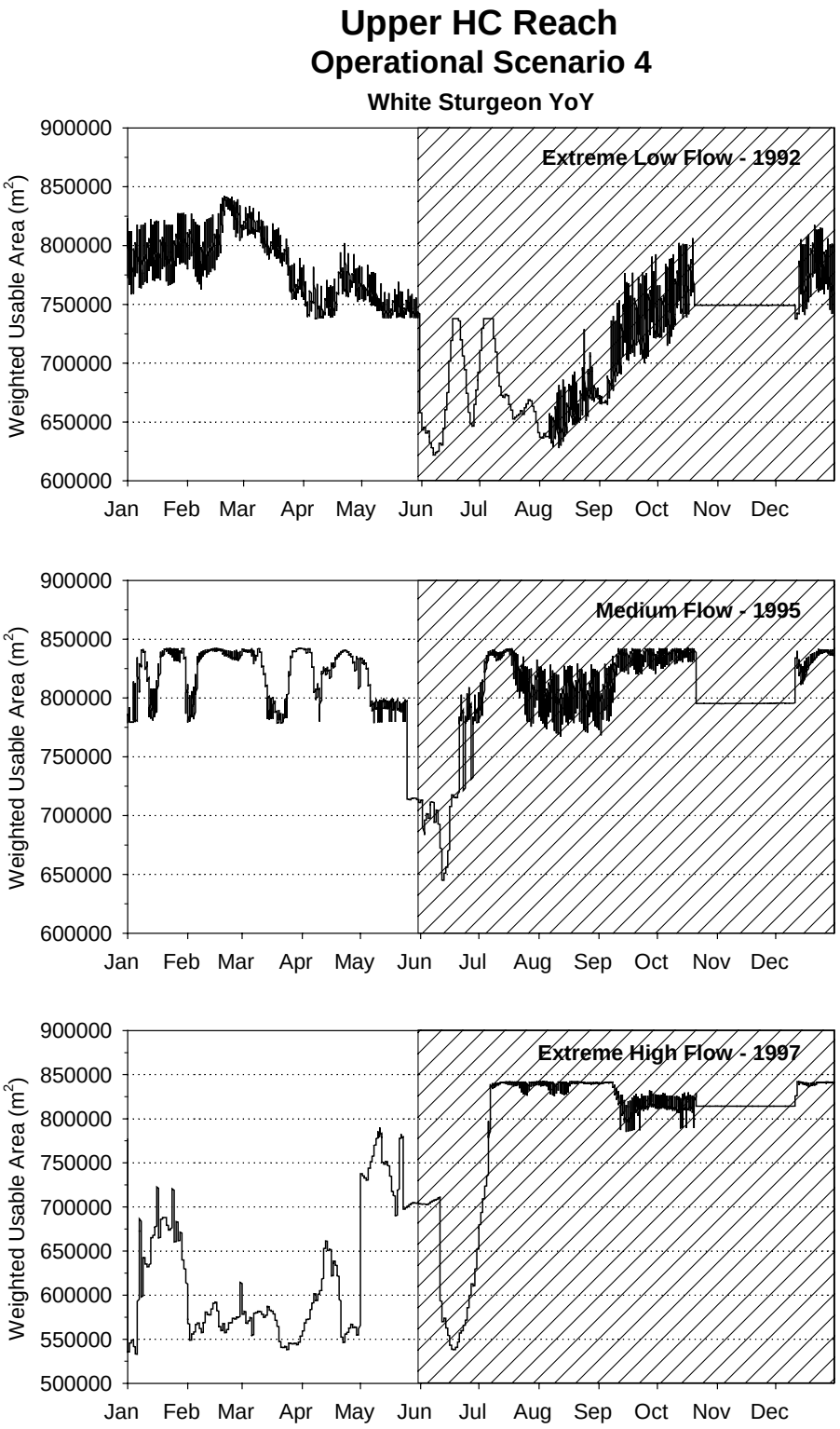


Figure 210. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

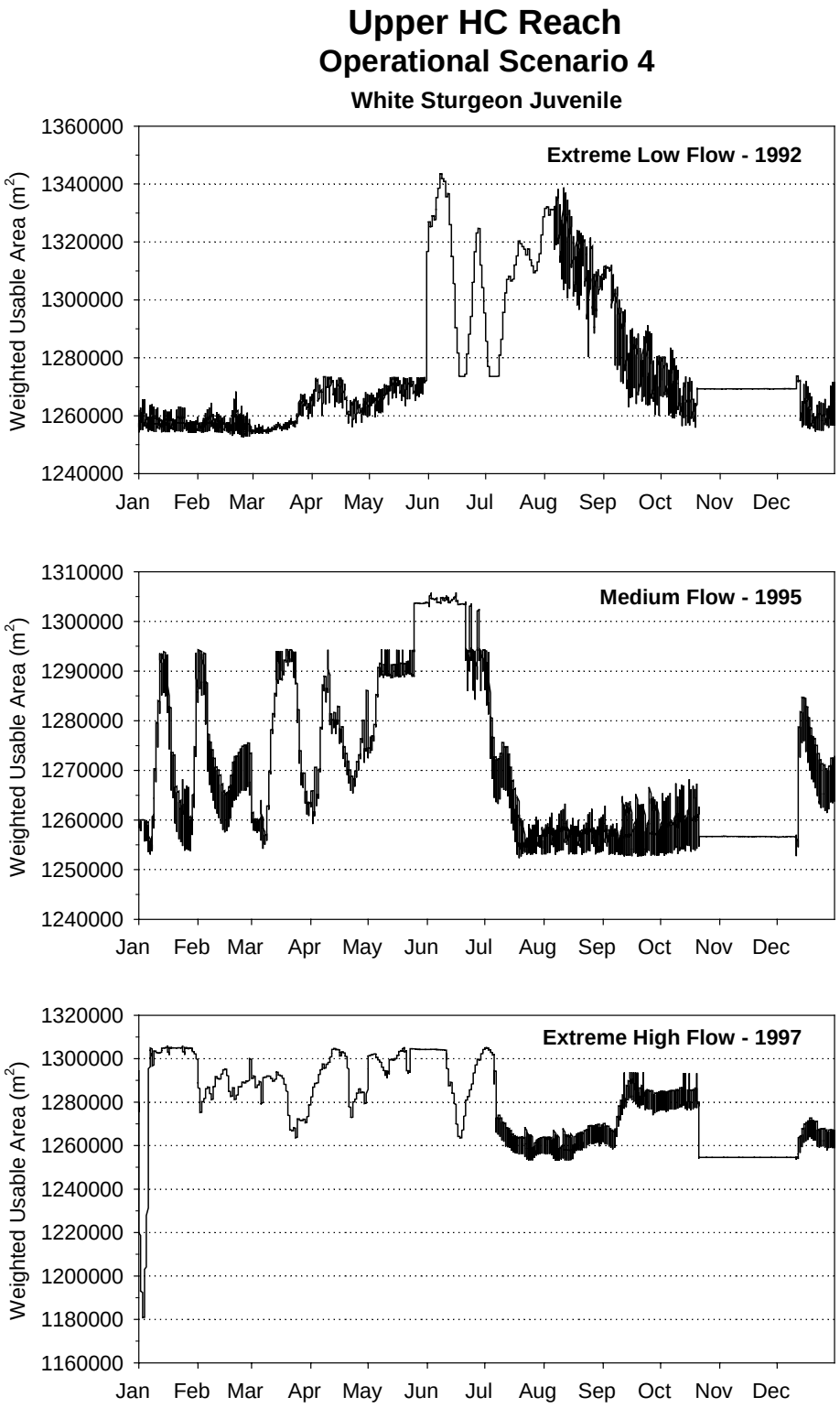


Figure 211. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

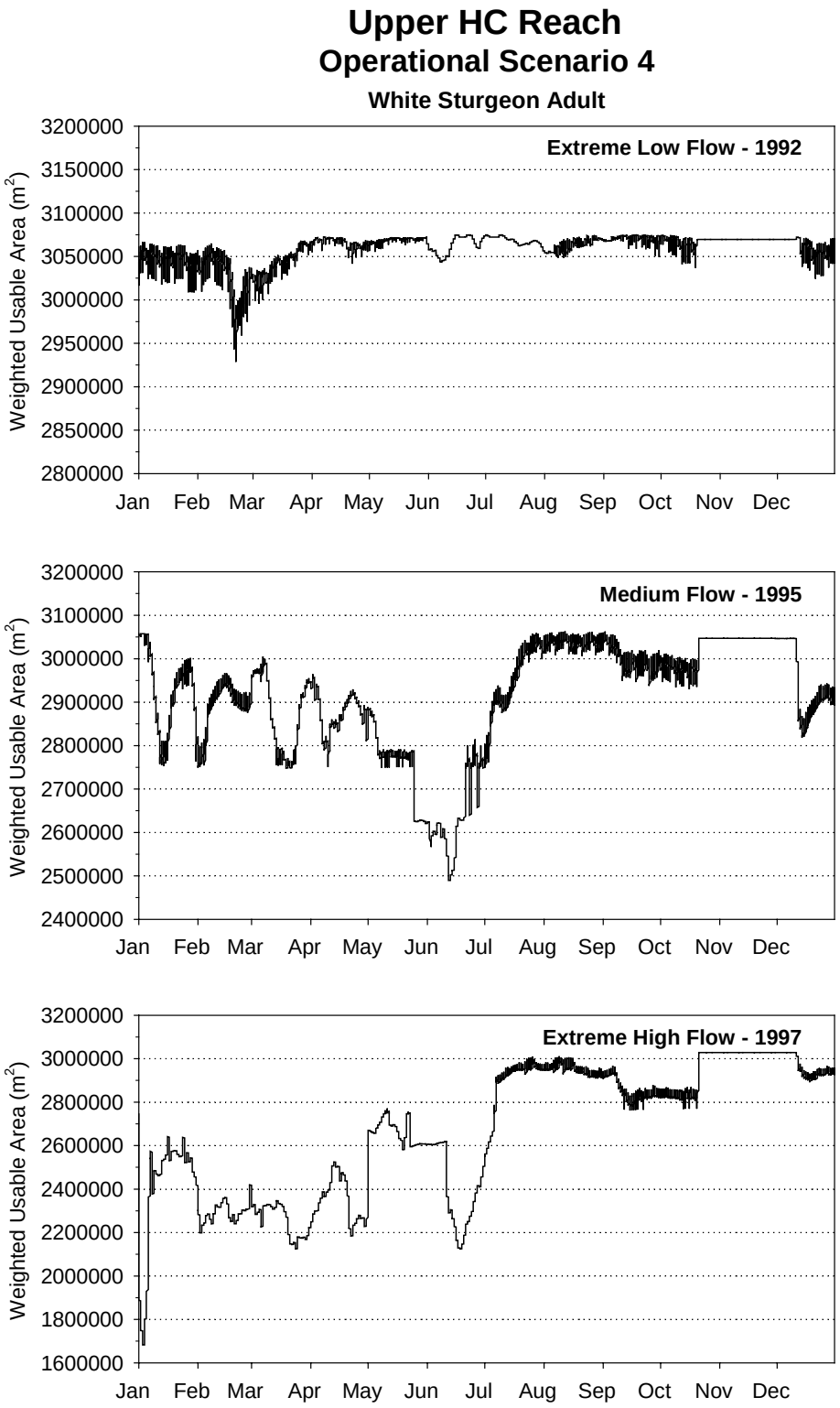


Figure 212. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

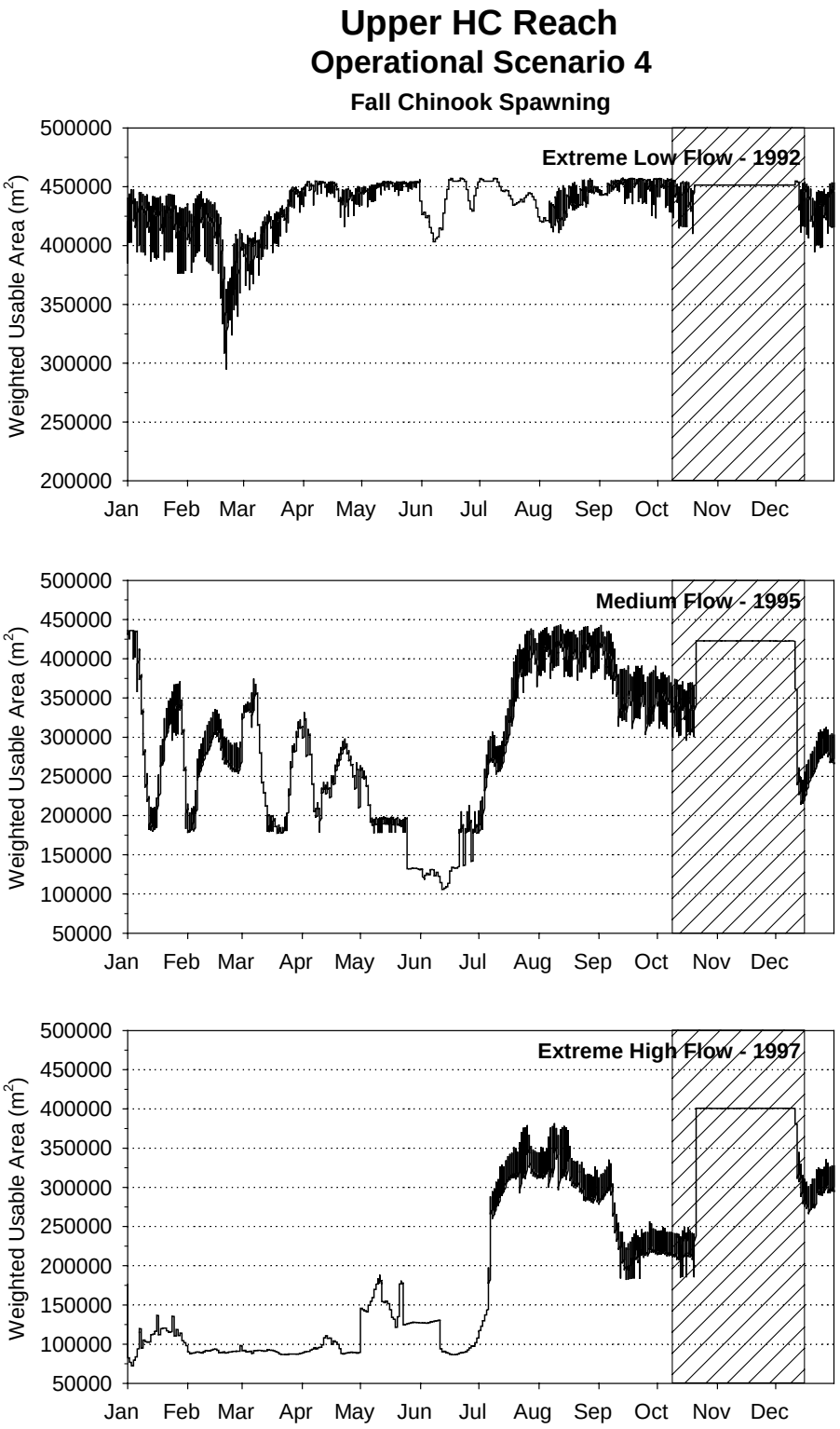


Figure 213. Total weighted usable area (WUA) under Operational Scenario 4 for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

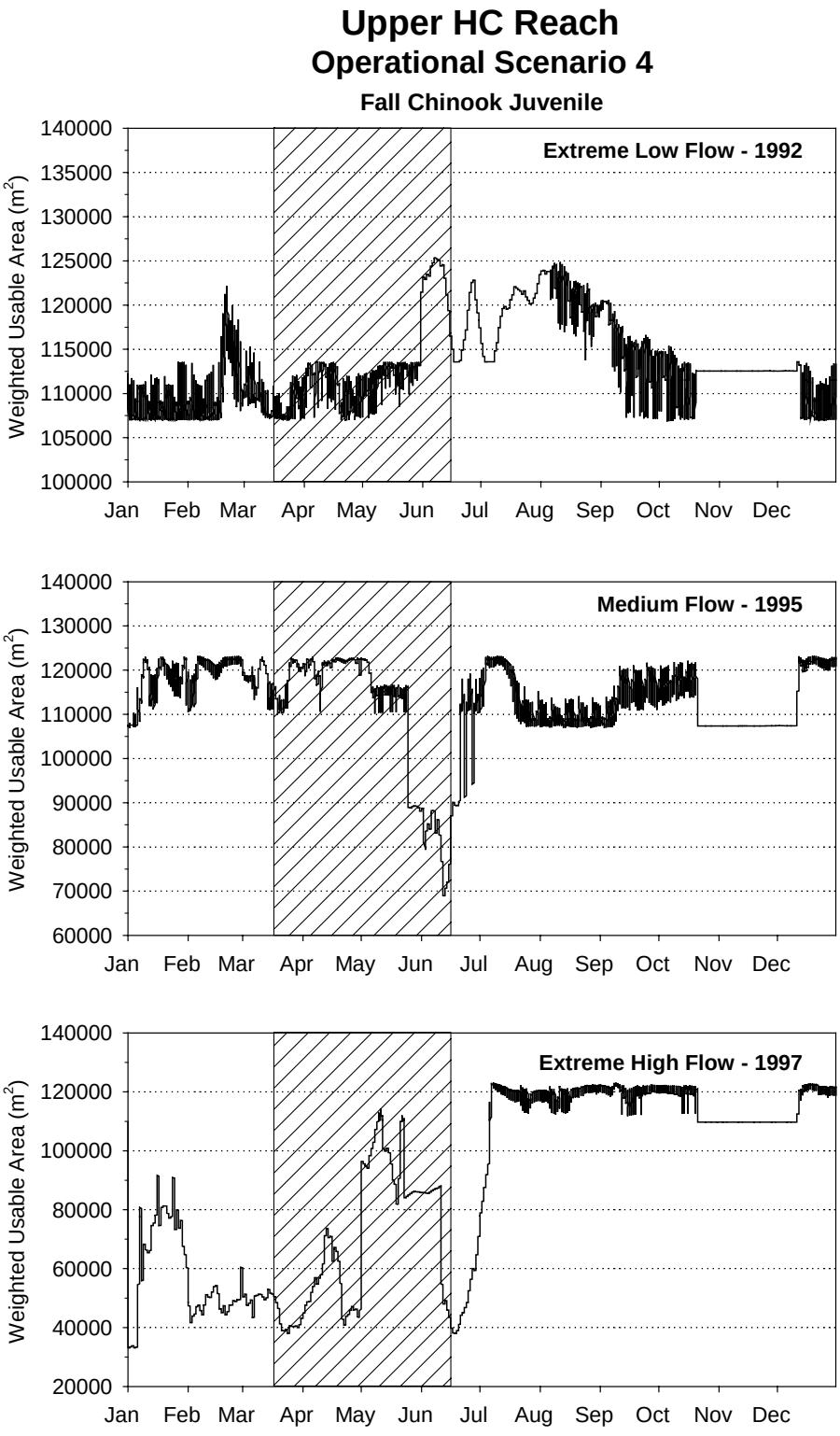


Figure 214. Total weighted usable area (WUA) under Operational Scenario 4 for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

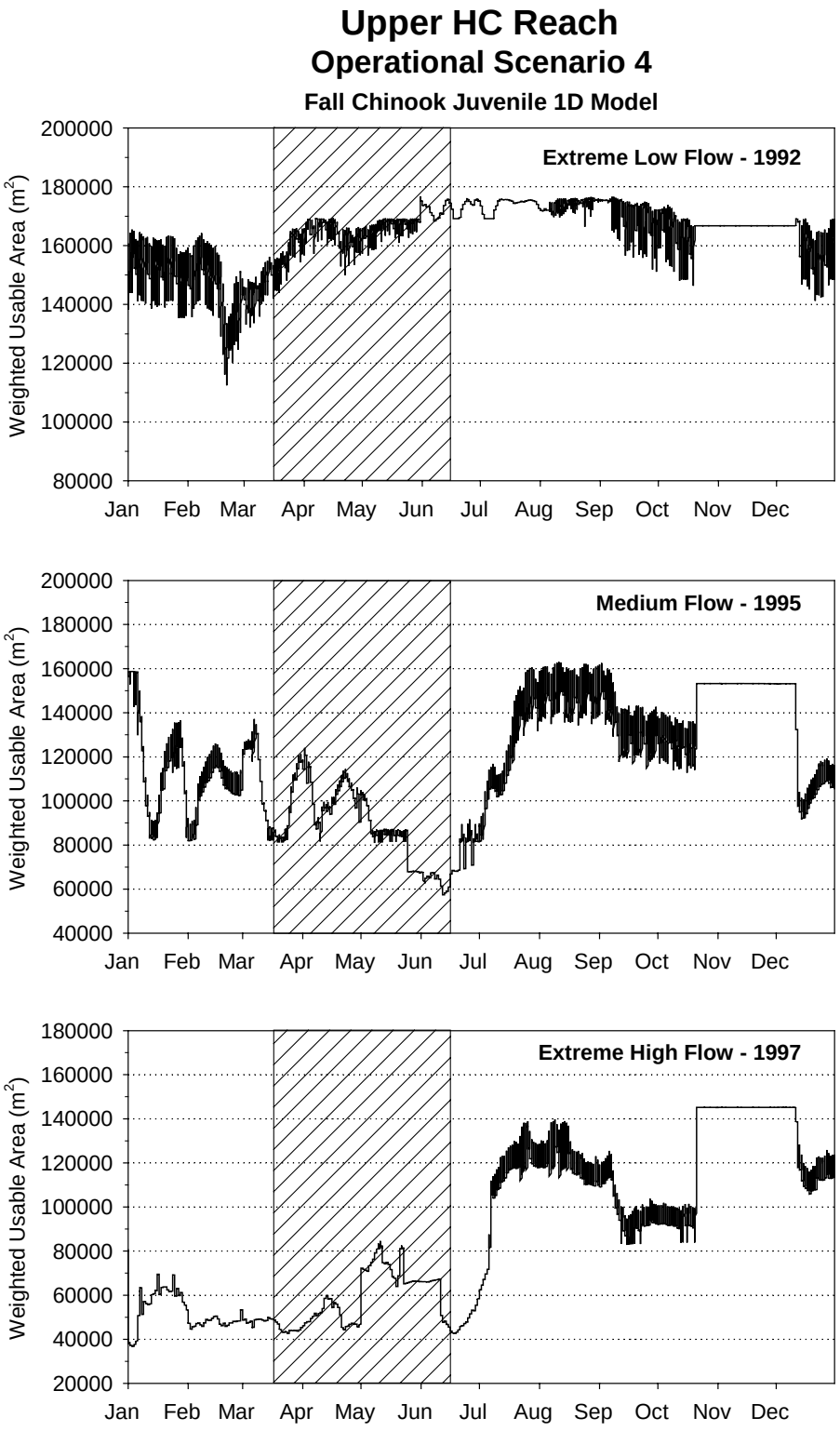


Figure 215. Total weighted usable area (WUA) under Operational Scenario 4 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

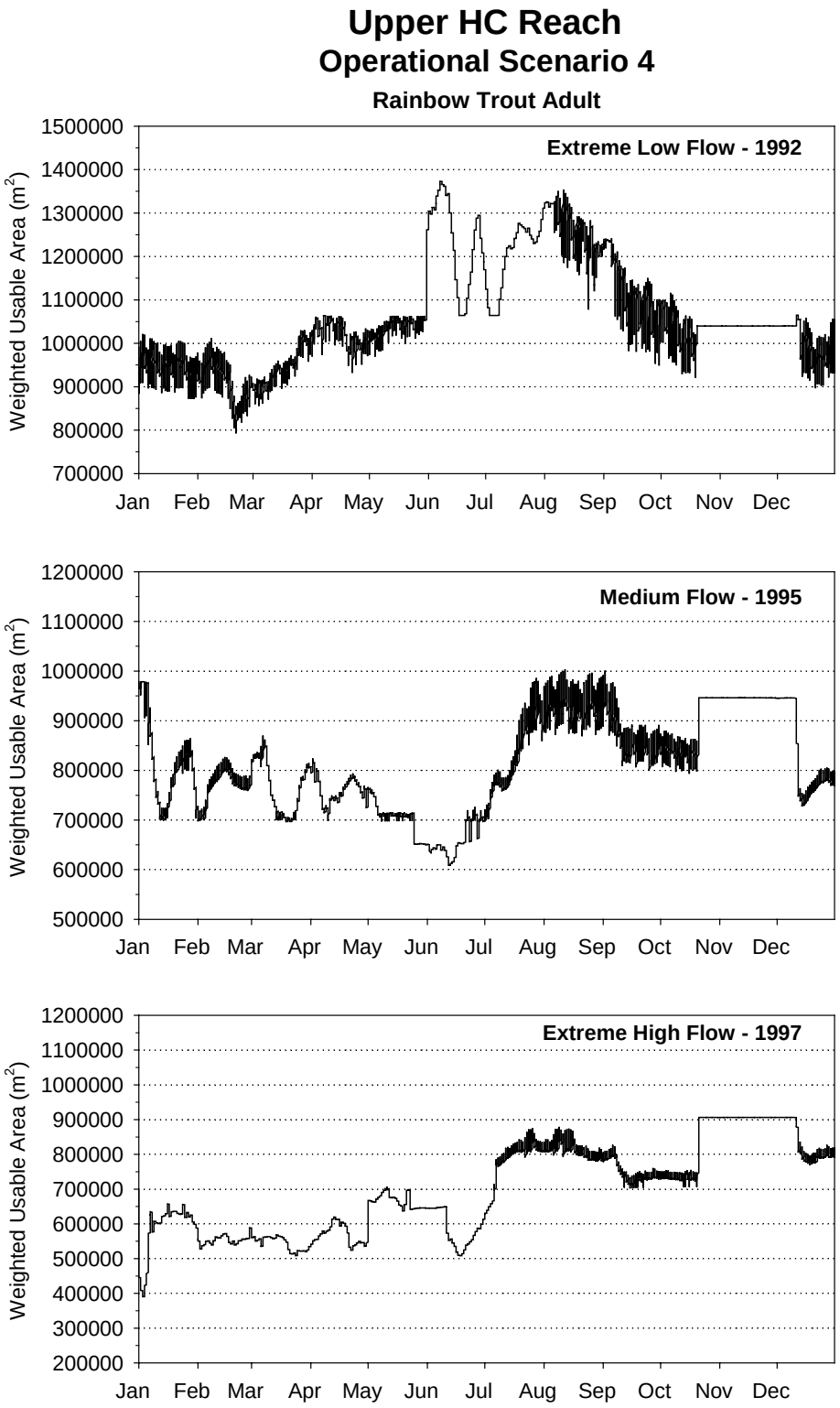


Figure 216. Total weighted usable area (WUA) under Operational Scenario 4 for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

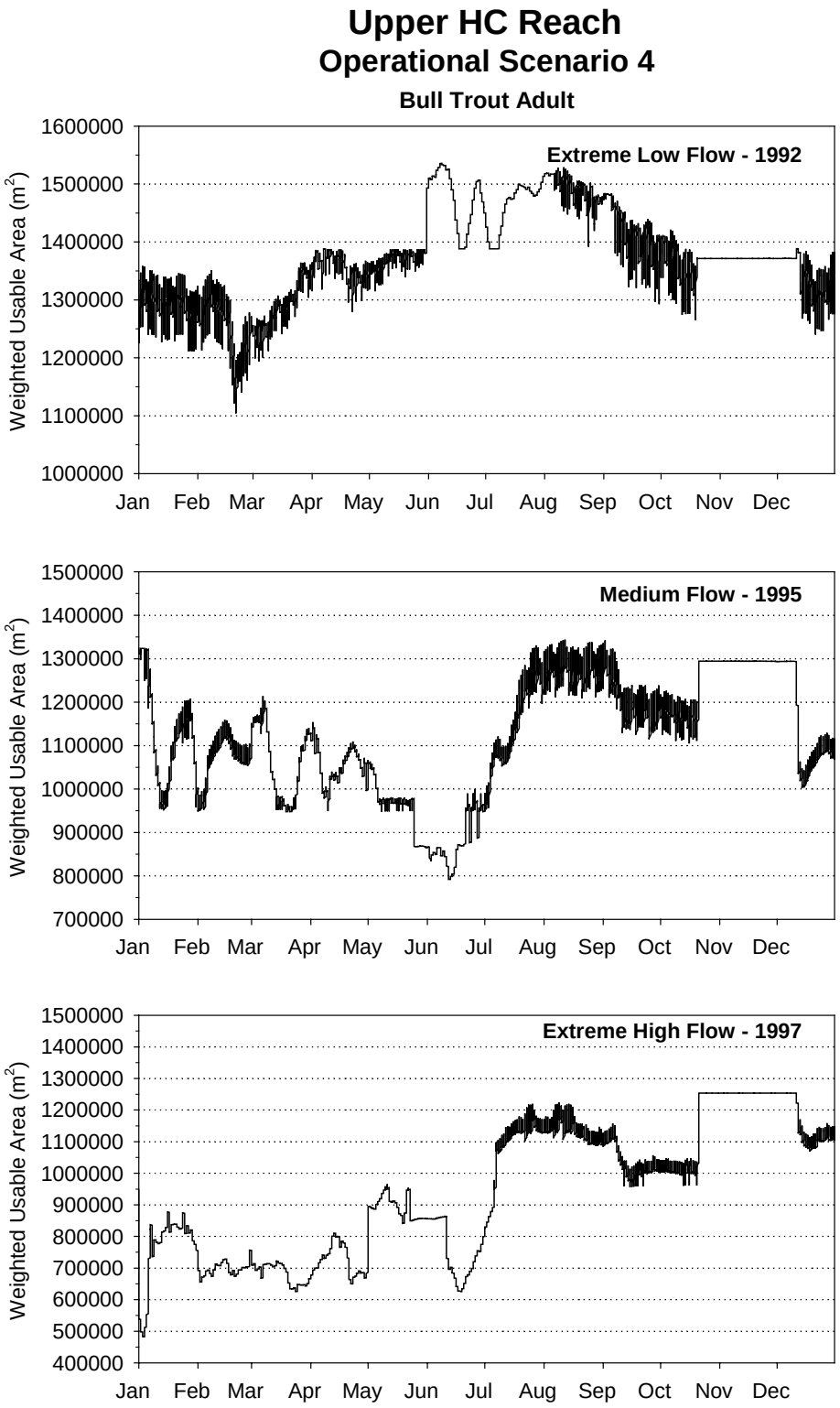


Figure 217. Total weighted usable area (WUA) under Operational Scenario 4 for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

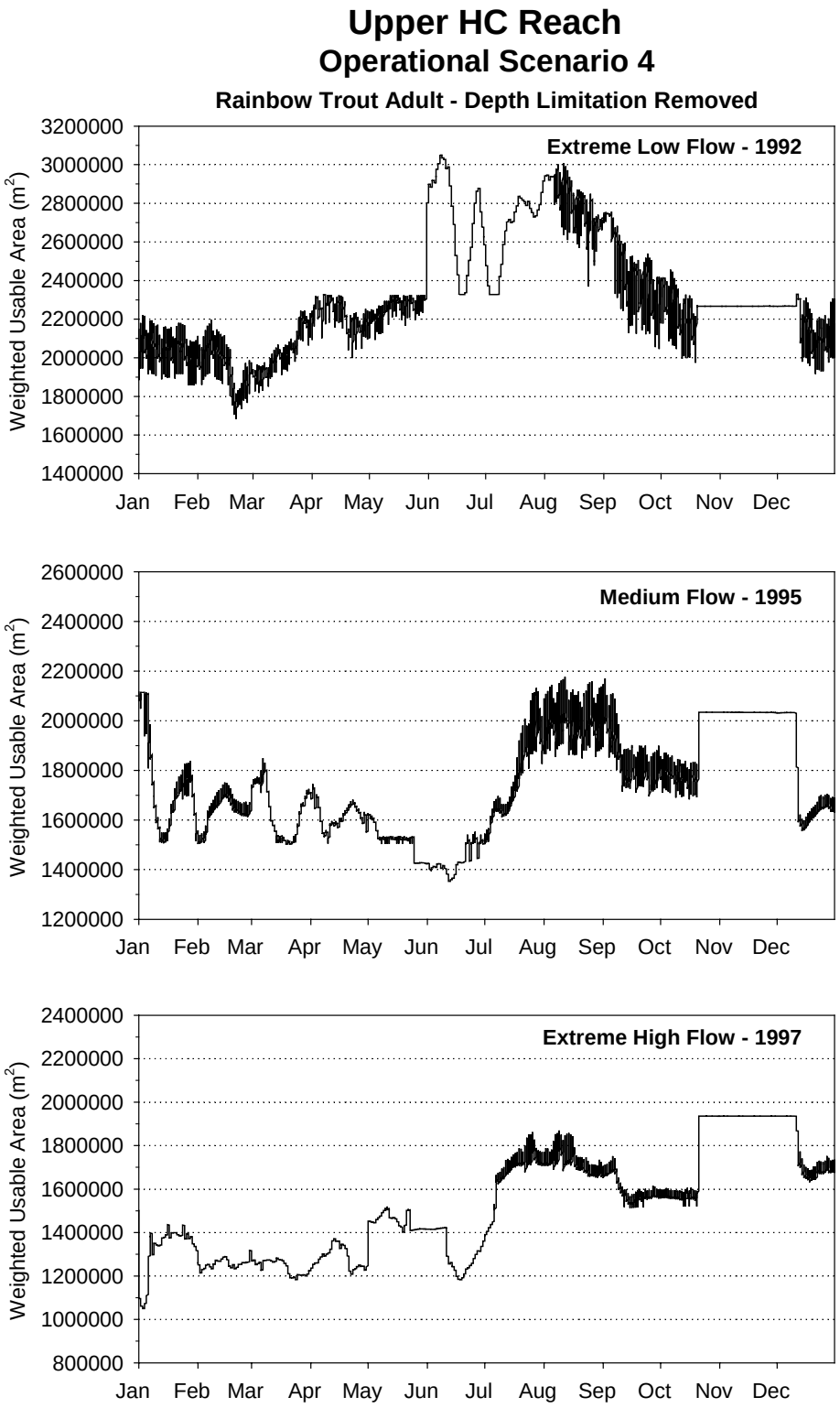


Figure 218. Total weighted usable area (WUA) under Operational Scenario 4 for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

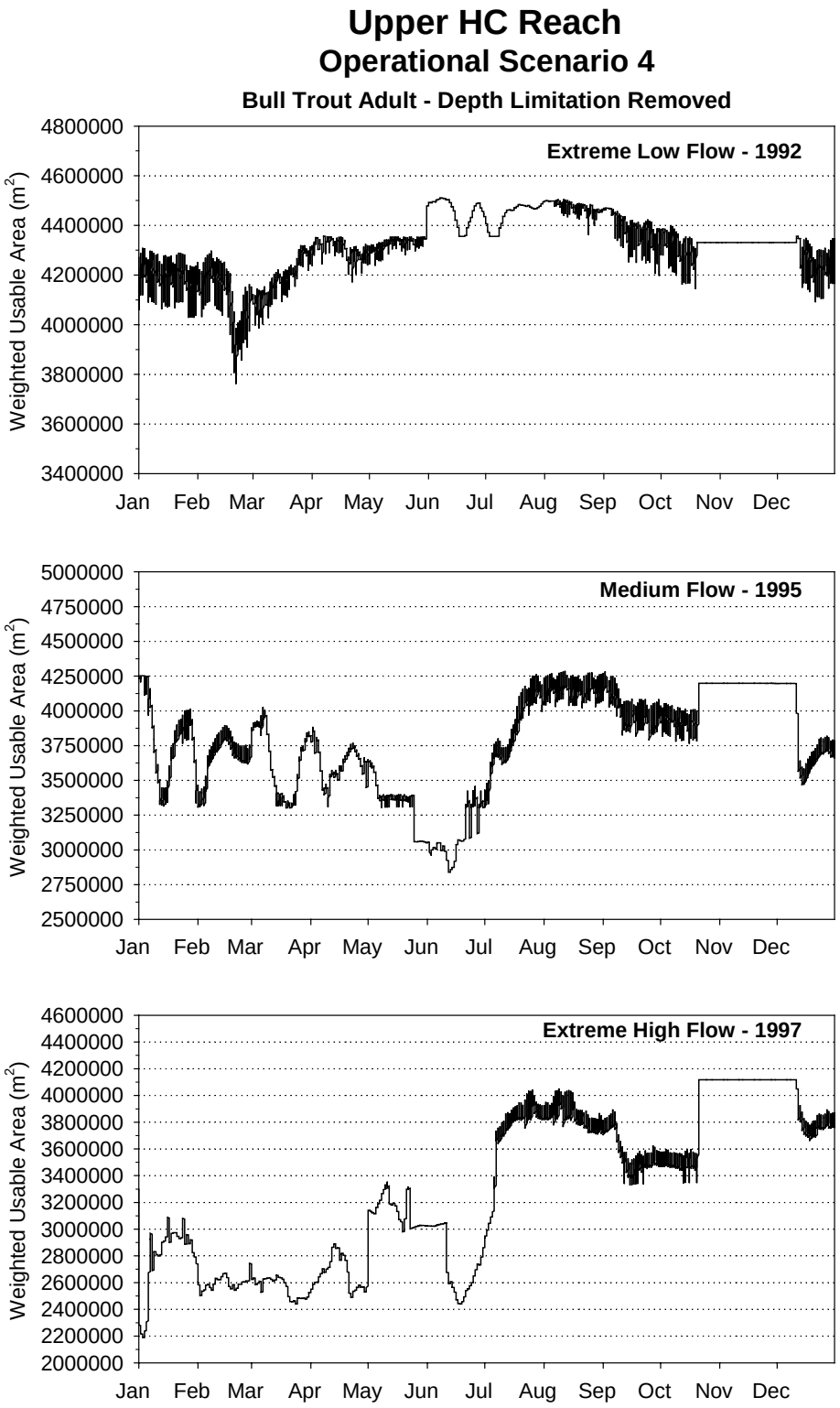


Figure 219. Total weighted usable area (WUA) under Operational Scenario 4 for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

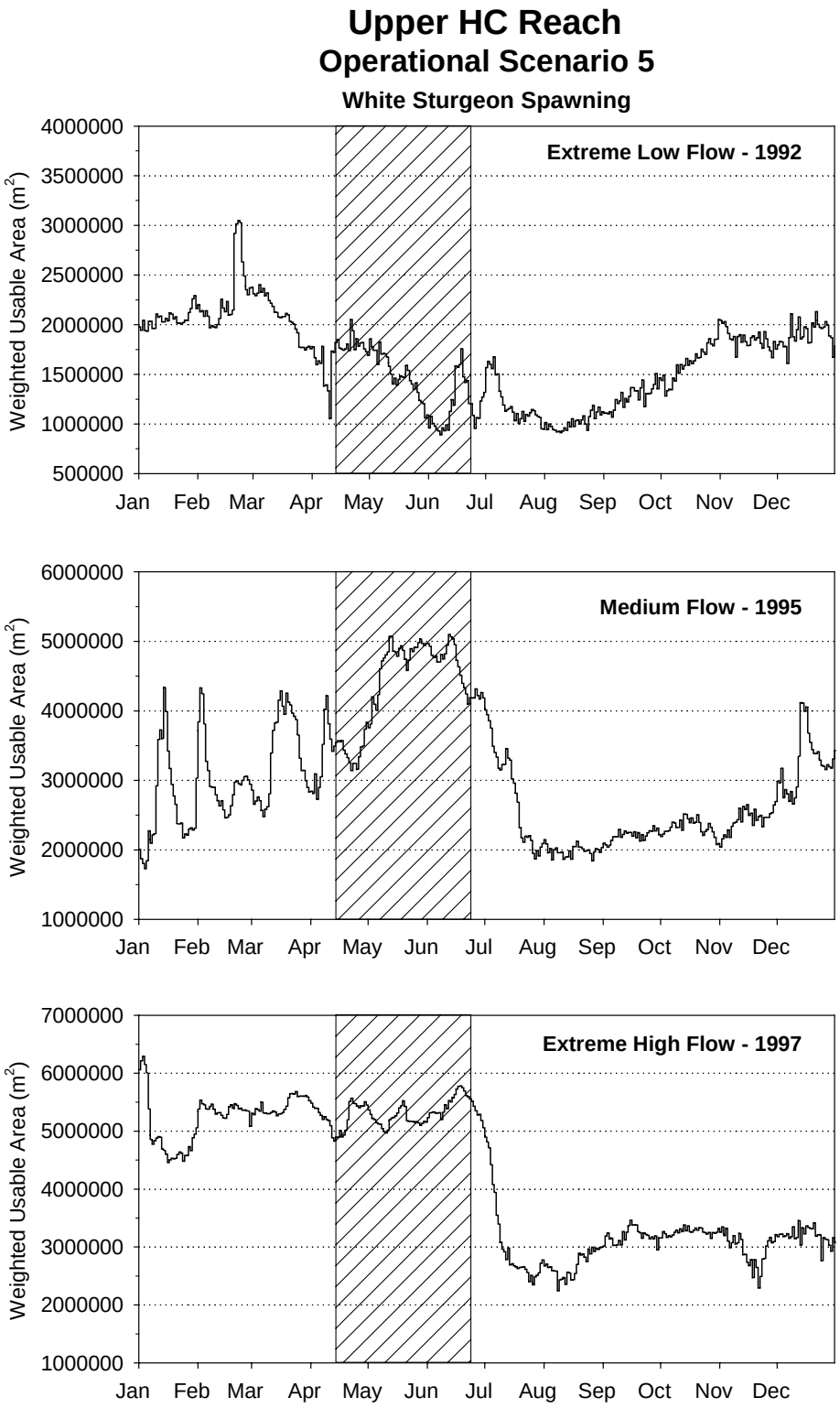


Figure 220. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

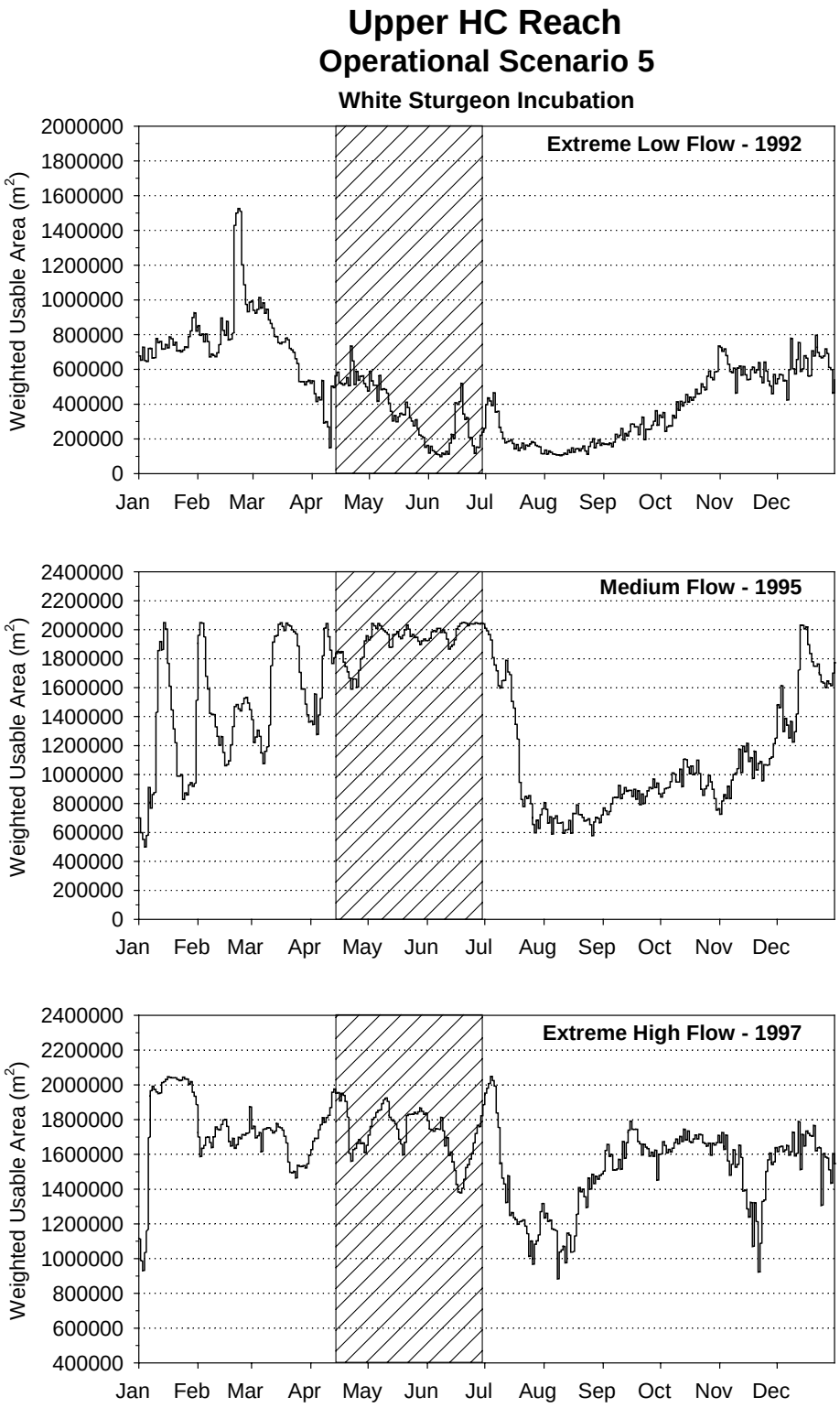


Figure 221. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

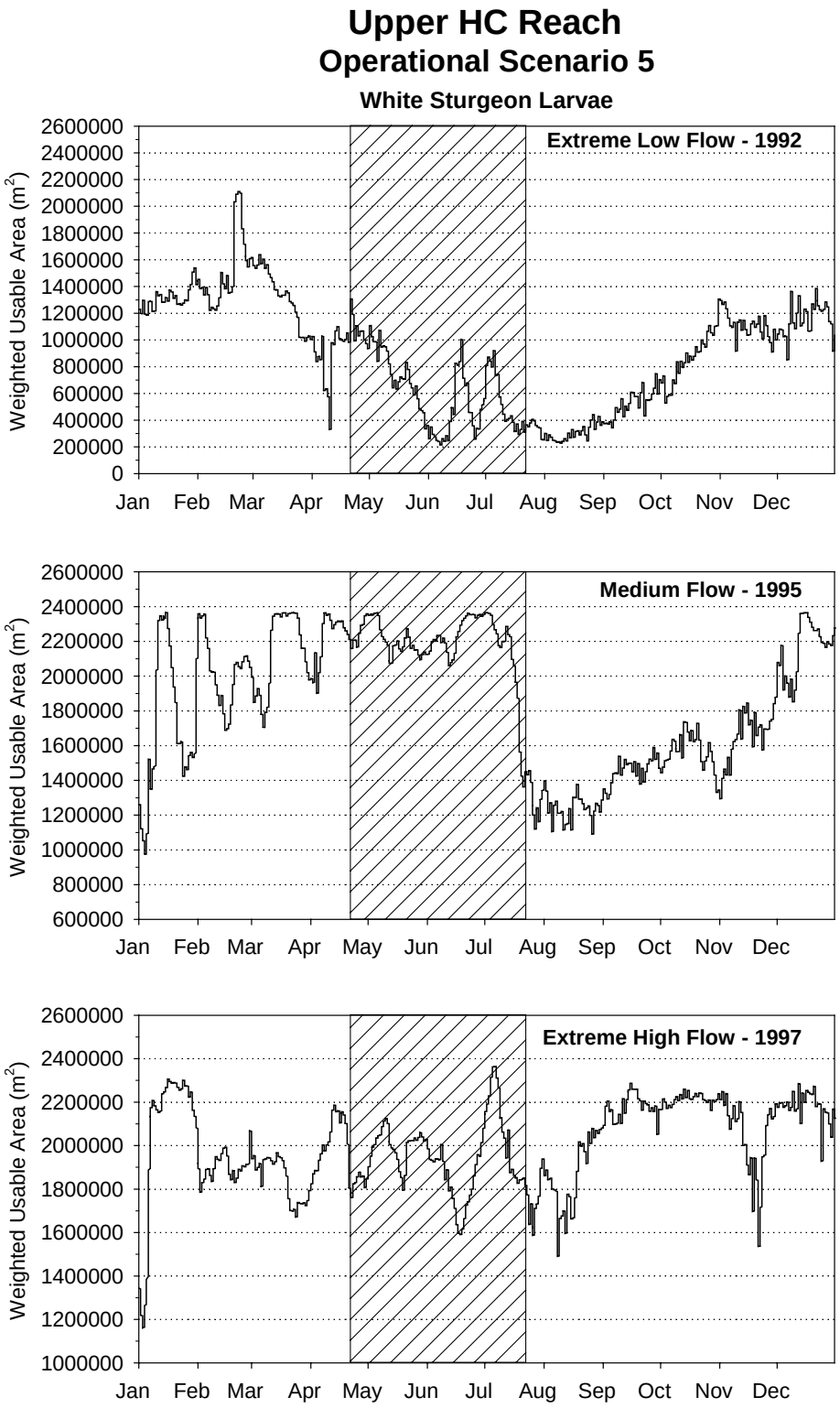


Figure 222. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

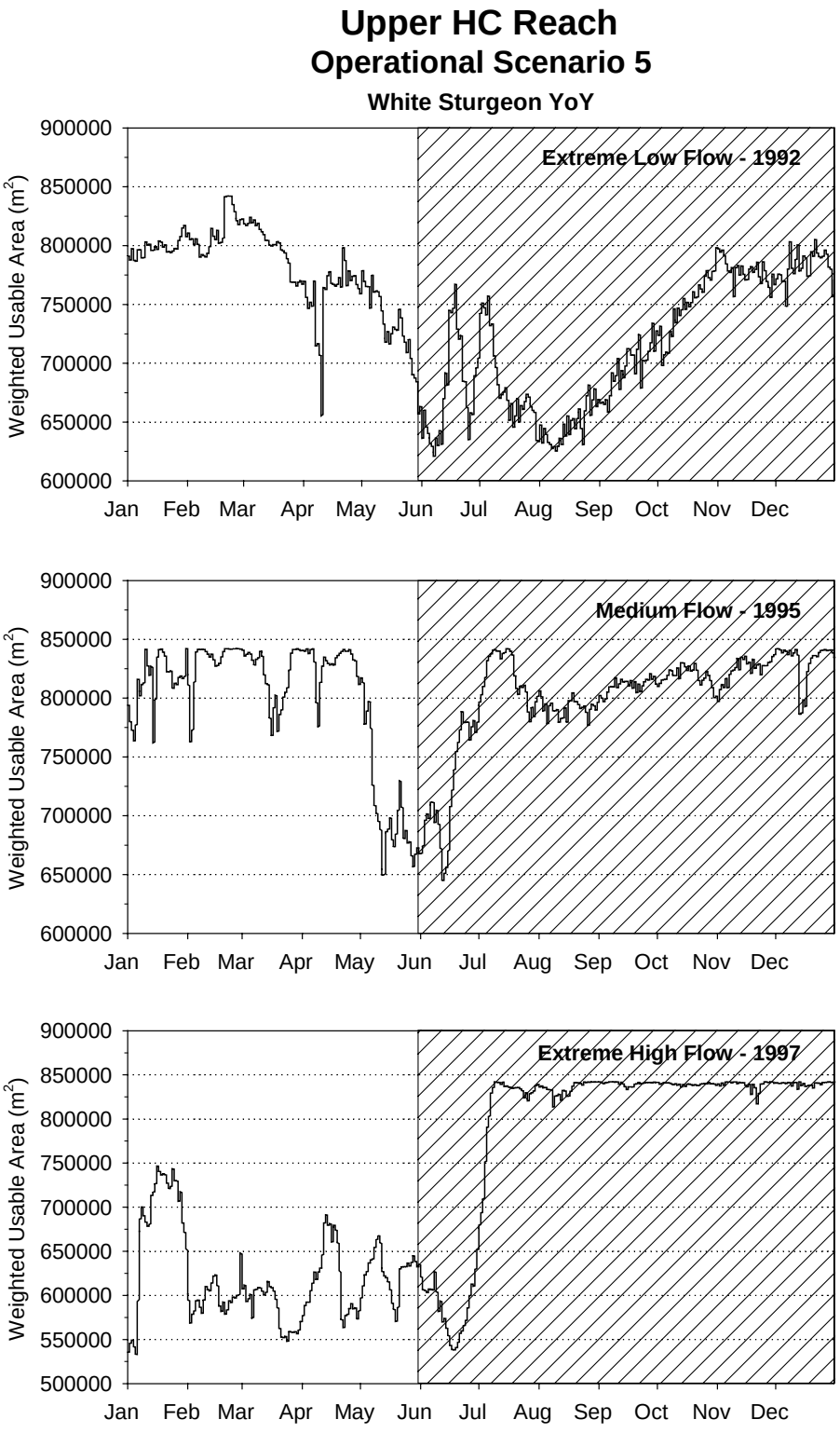


Figure 223. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

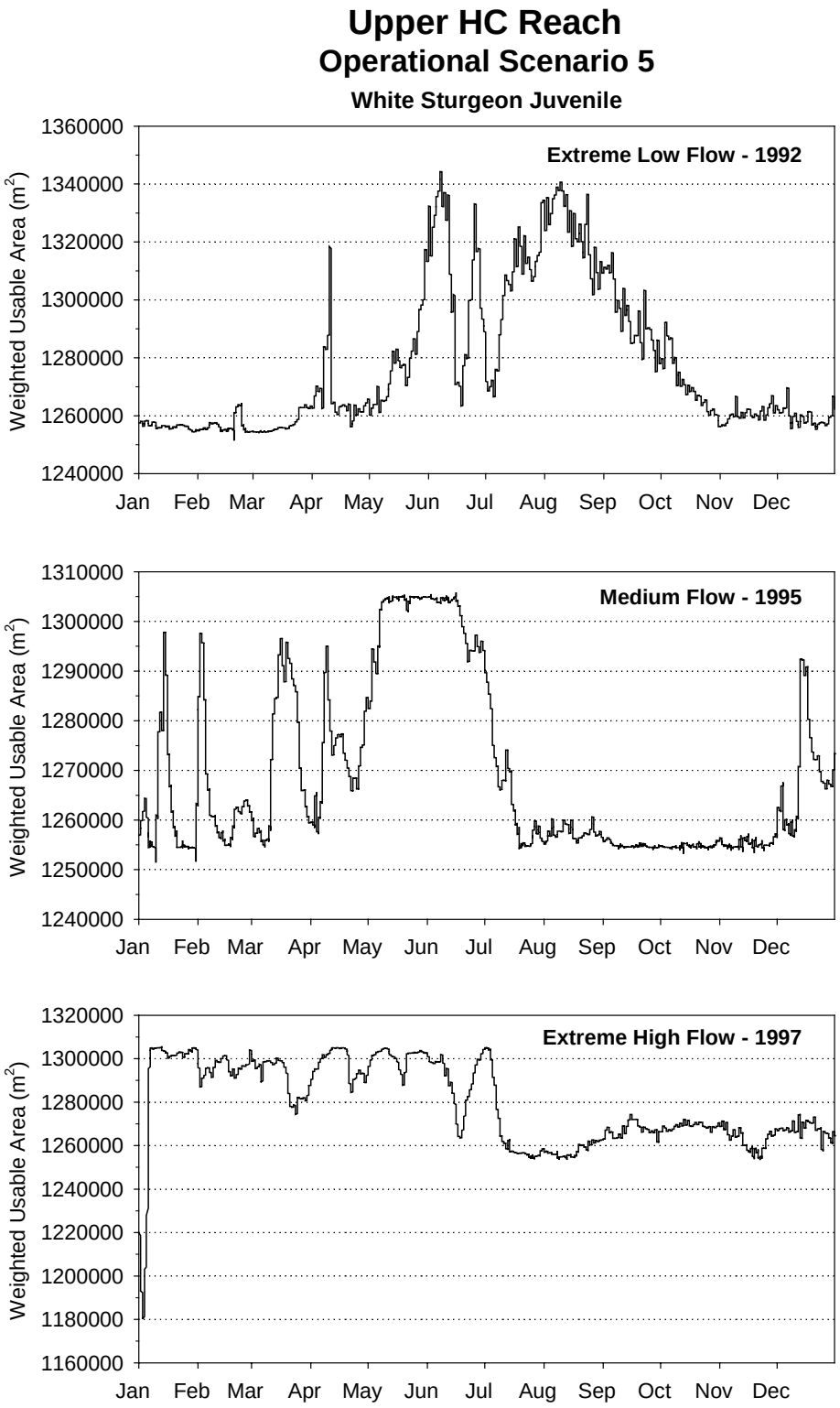


Figure 224. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

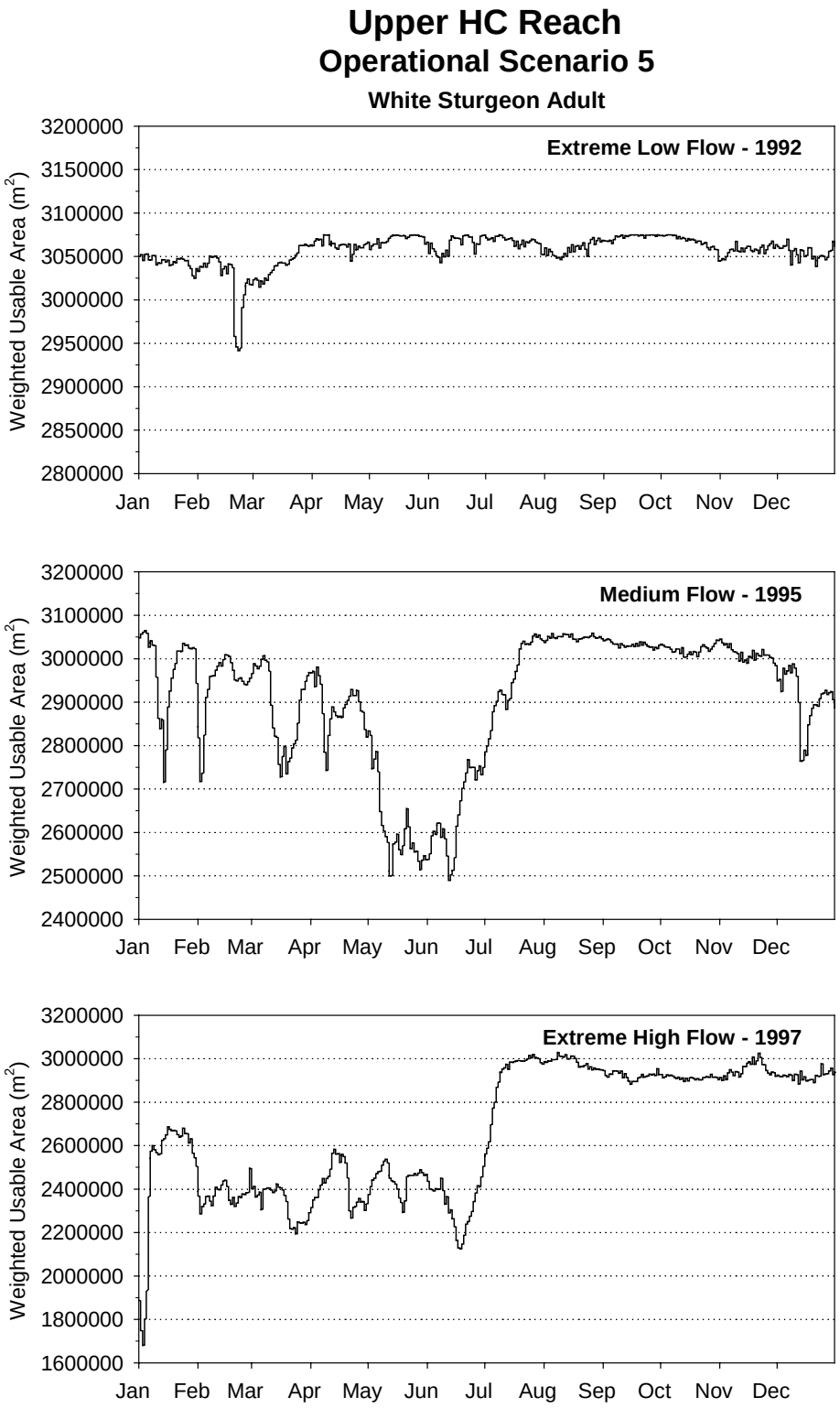


Figure 225. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

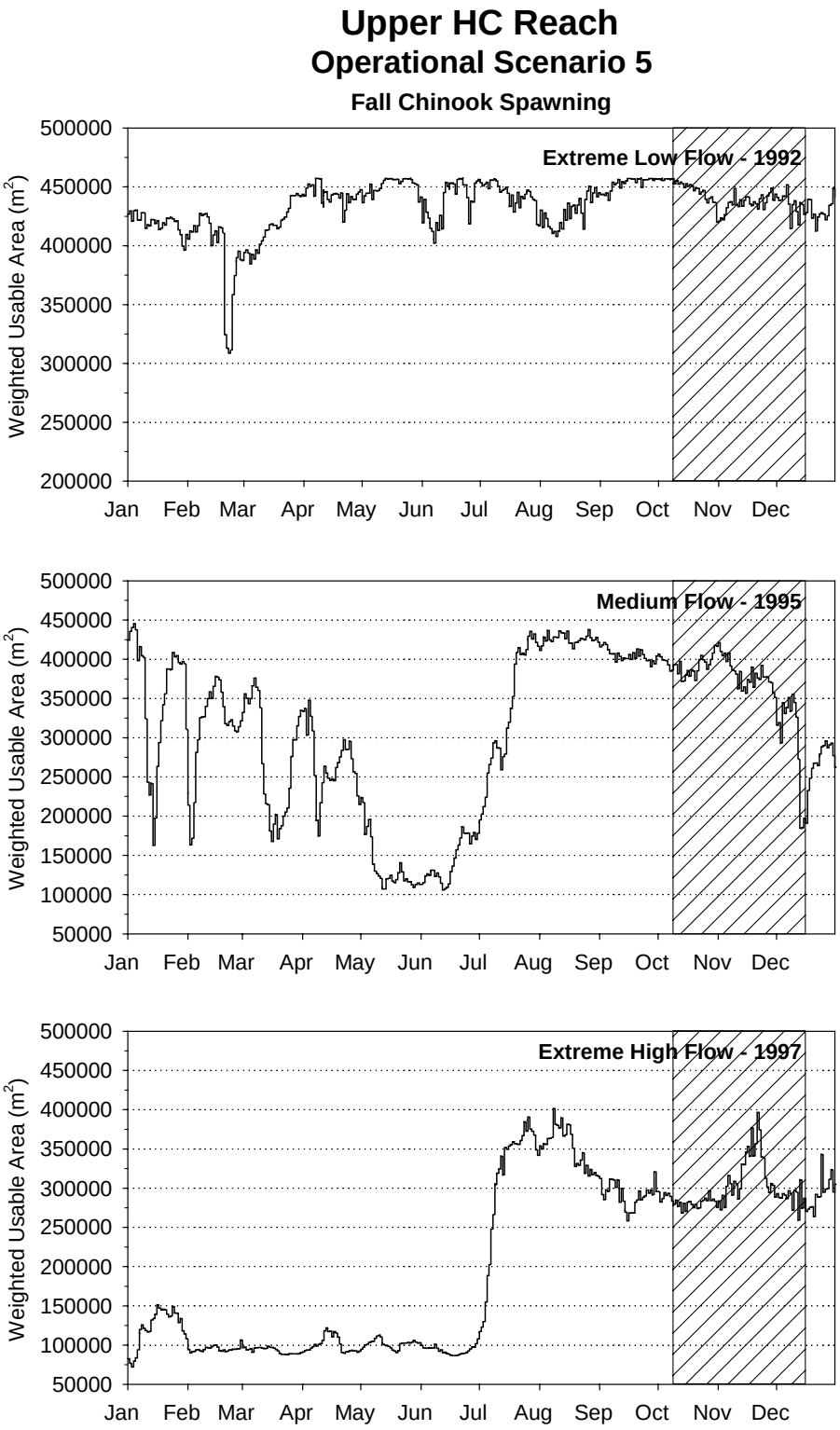


Figure 226. Total weighted usable area (WUA) under Operational Scenario 5 for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

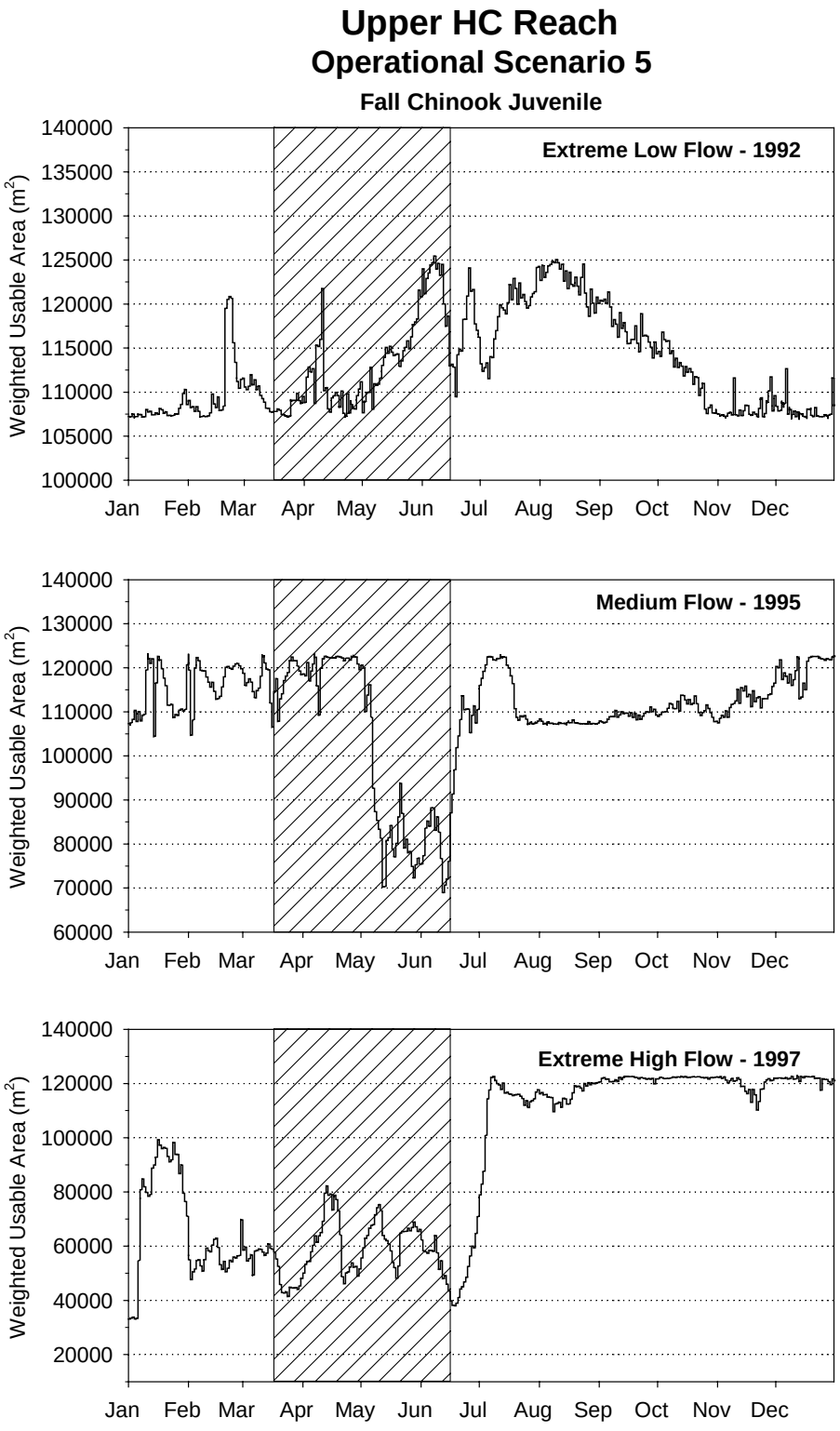


Figure 227. Total weighted usable area (WUA) under Operational Scenario 5 for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

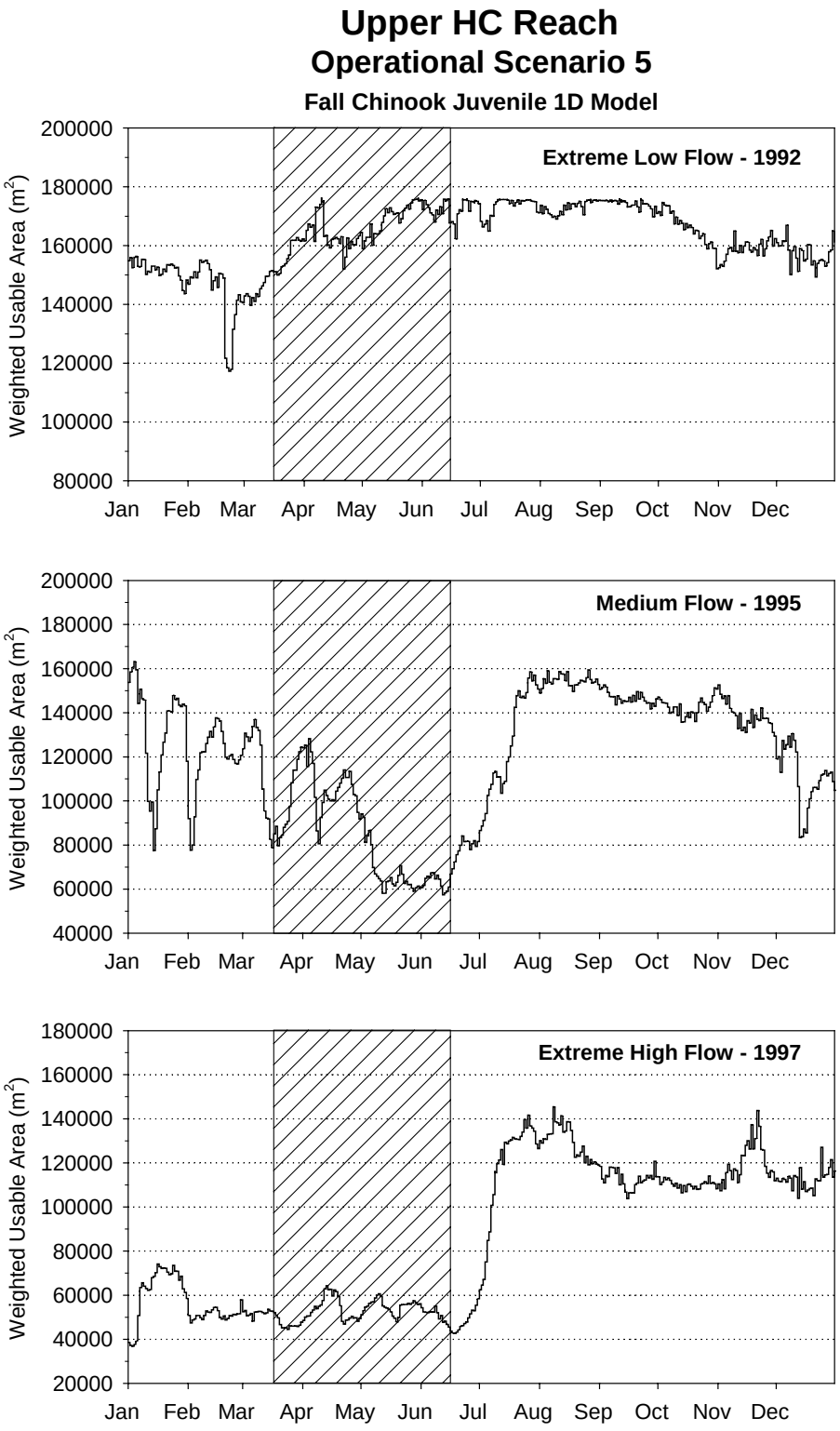


Figure 228. Total weighted usable area (WUA) under Operational Scenario 5 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

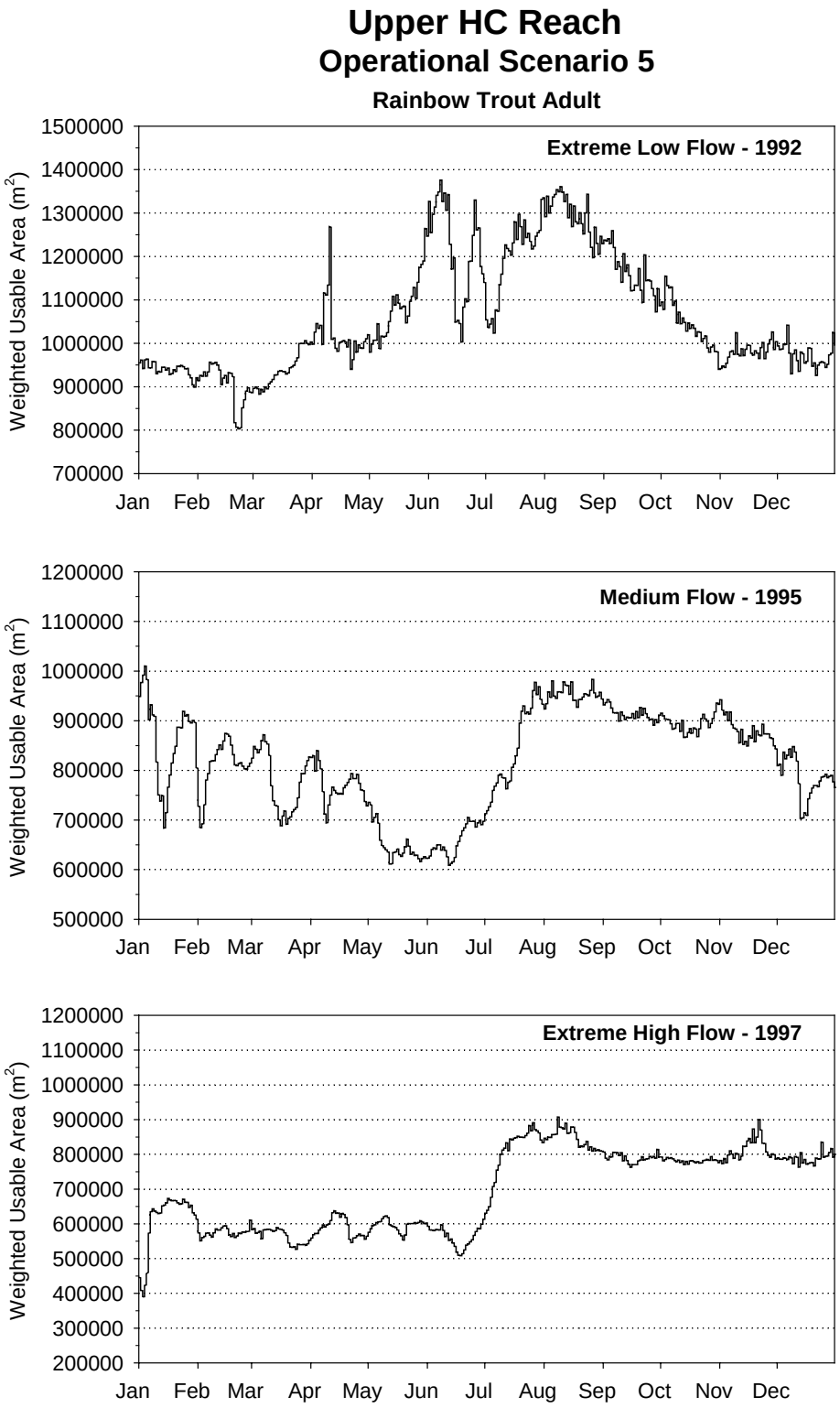


Figure 229. Total weighted usable area (WUA) under Operational Scenario 5 for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

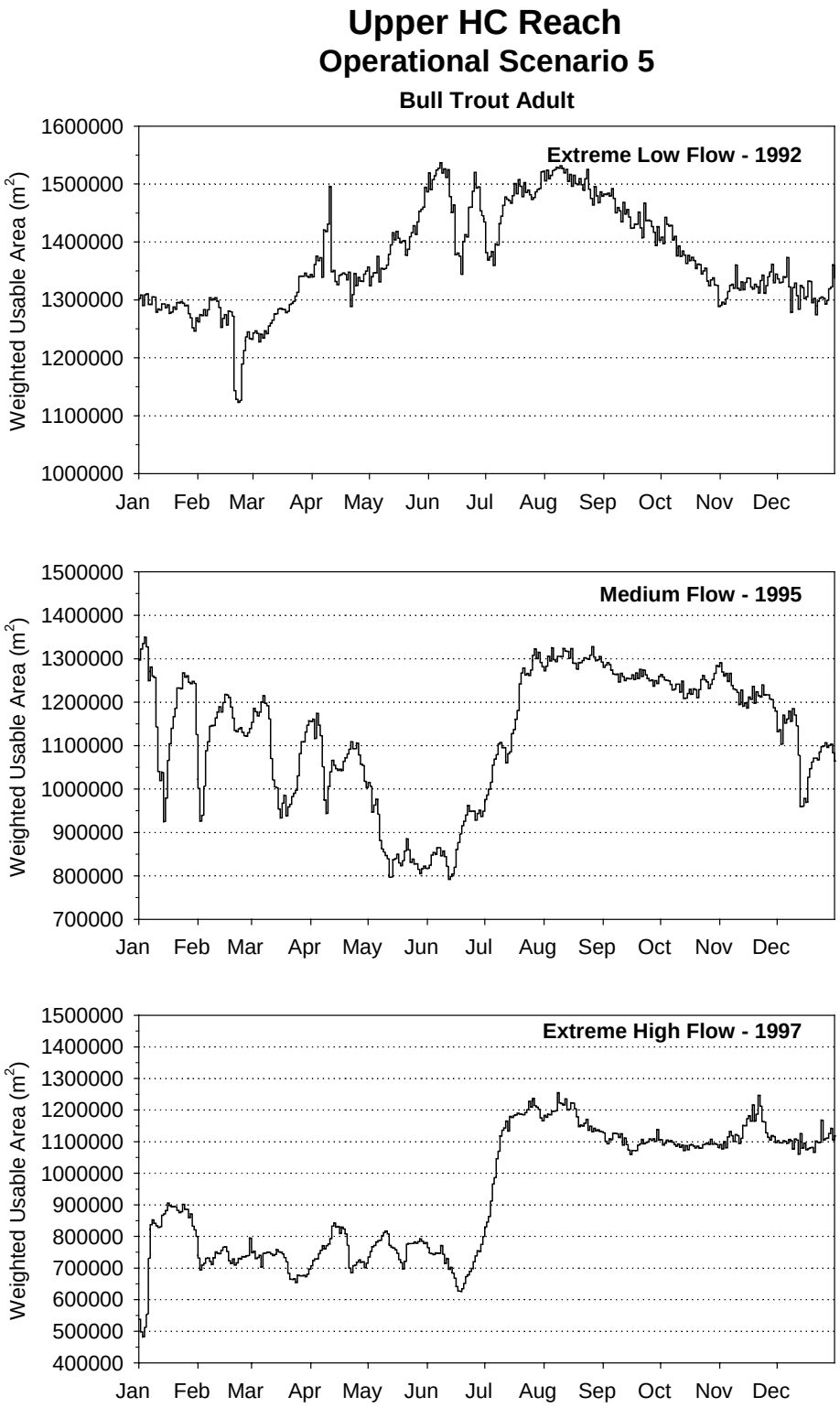


Figure 230. Total weighted usable area (WUA) under Operational Scenario 5 for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

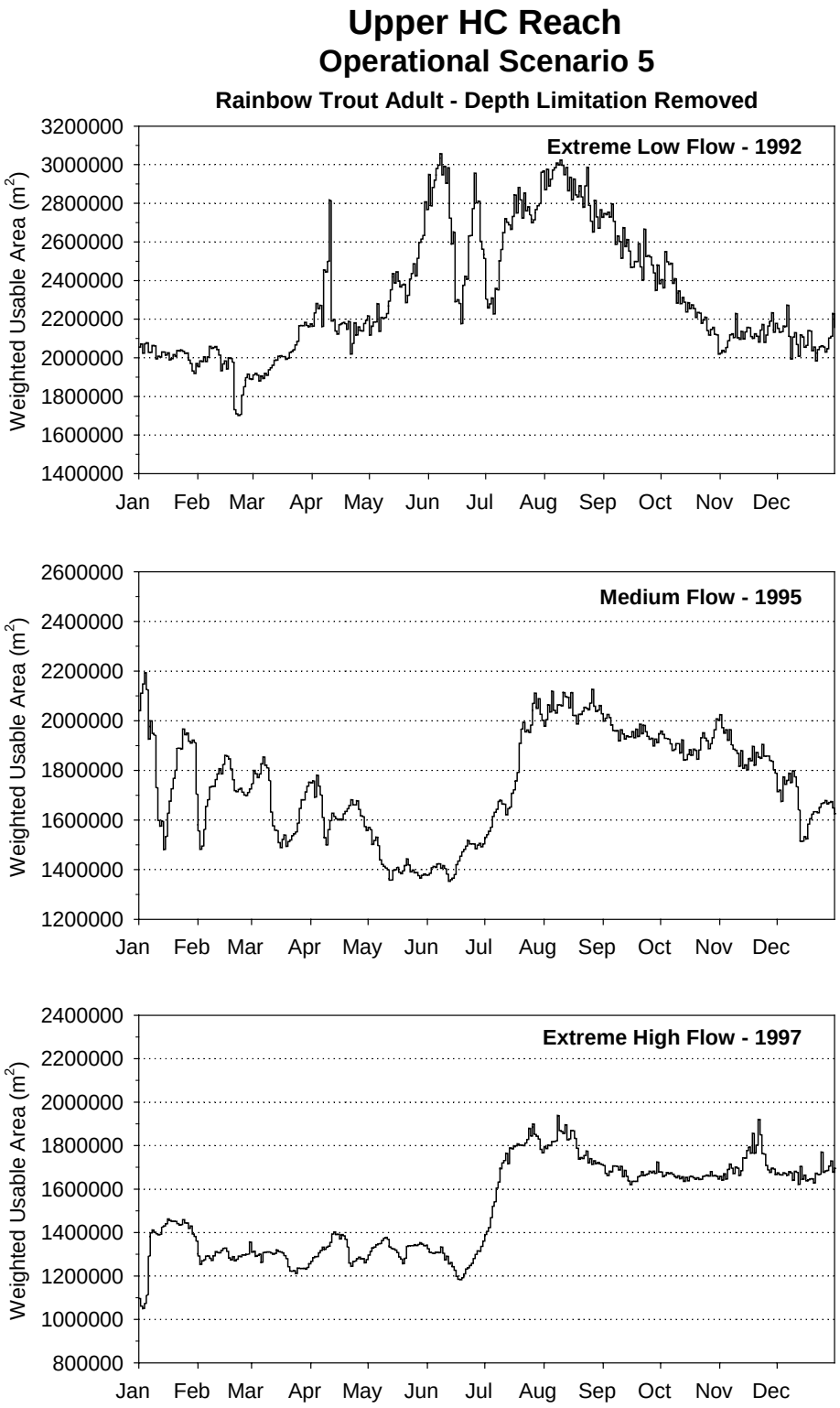


Figure 231. Total weighted usable area (WUA) under Operational Scenario 5 for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

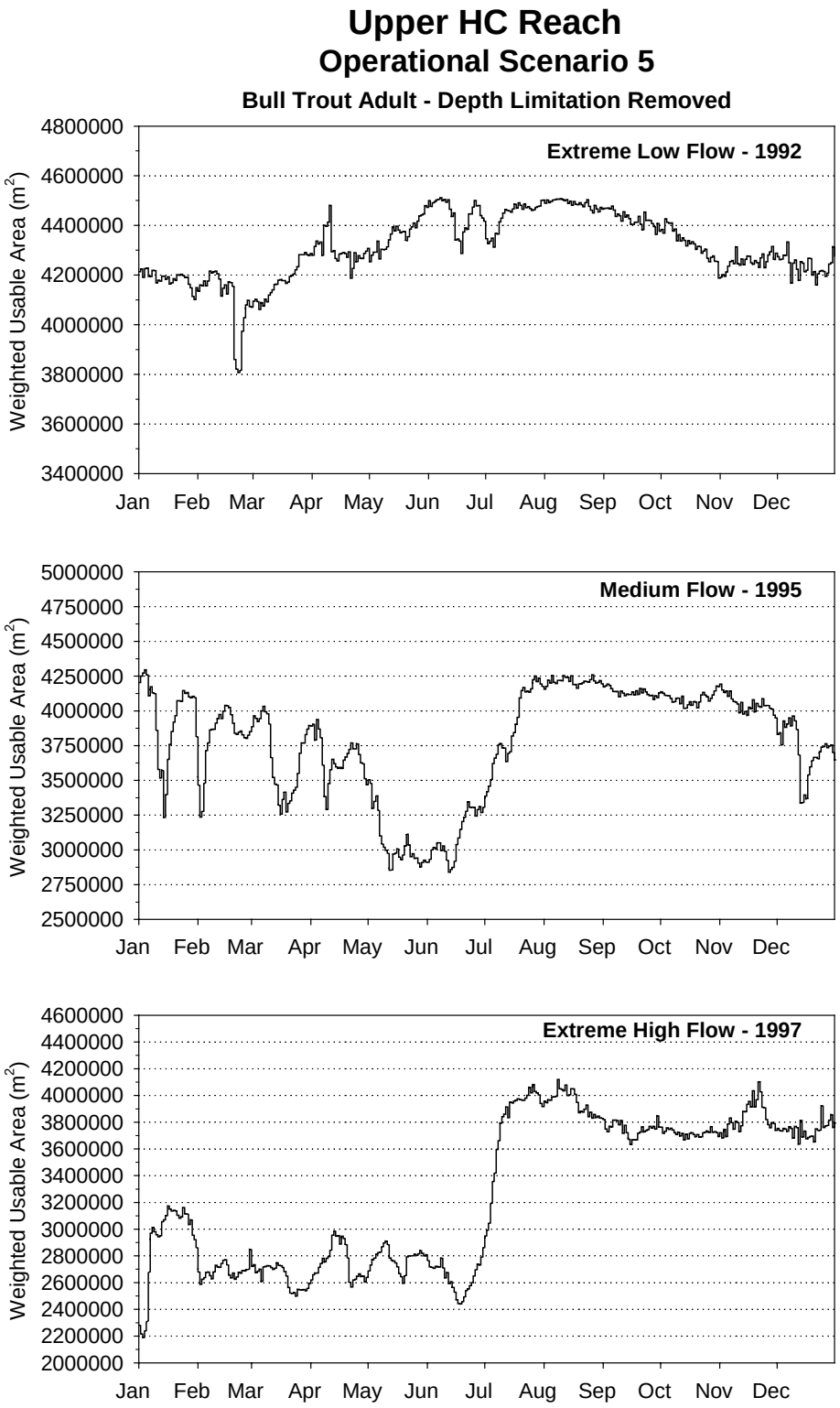


Figure 232. Total weighted usable area (WUA) under Operational Scenario 5 for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

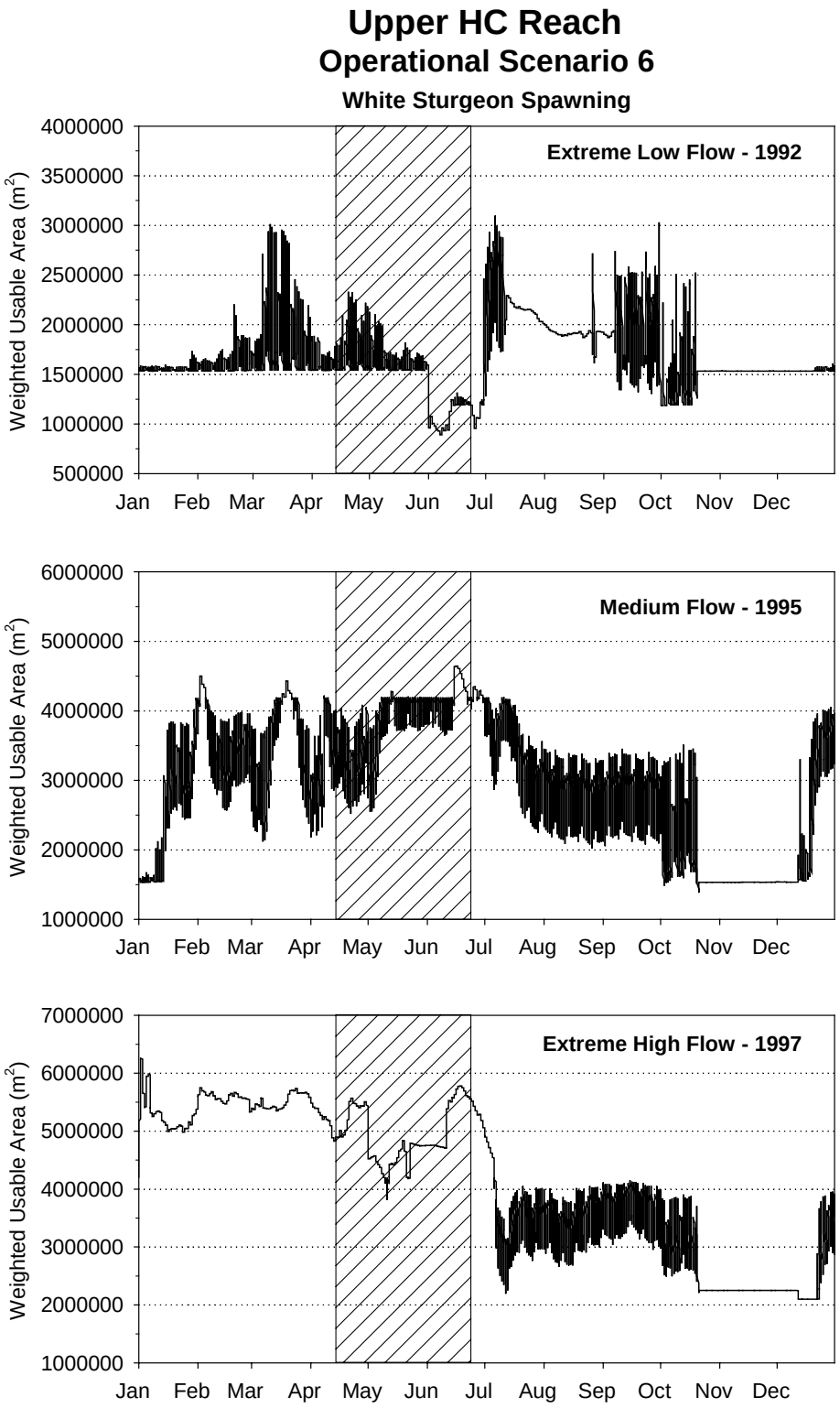


Figure 233. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

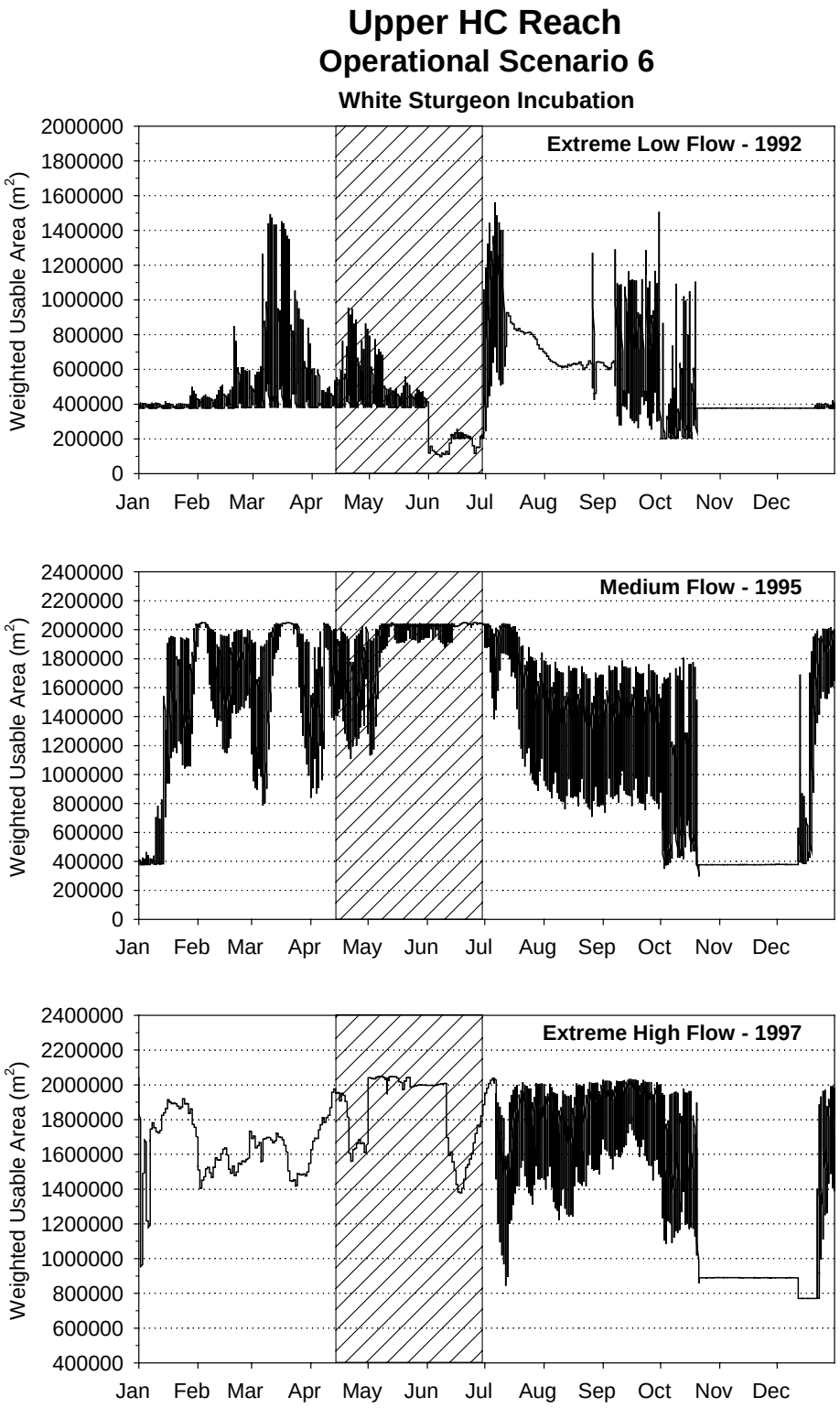


Figure 234. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

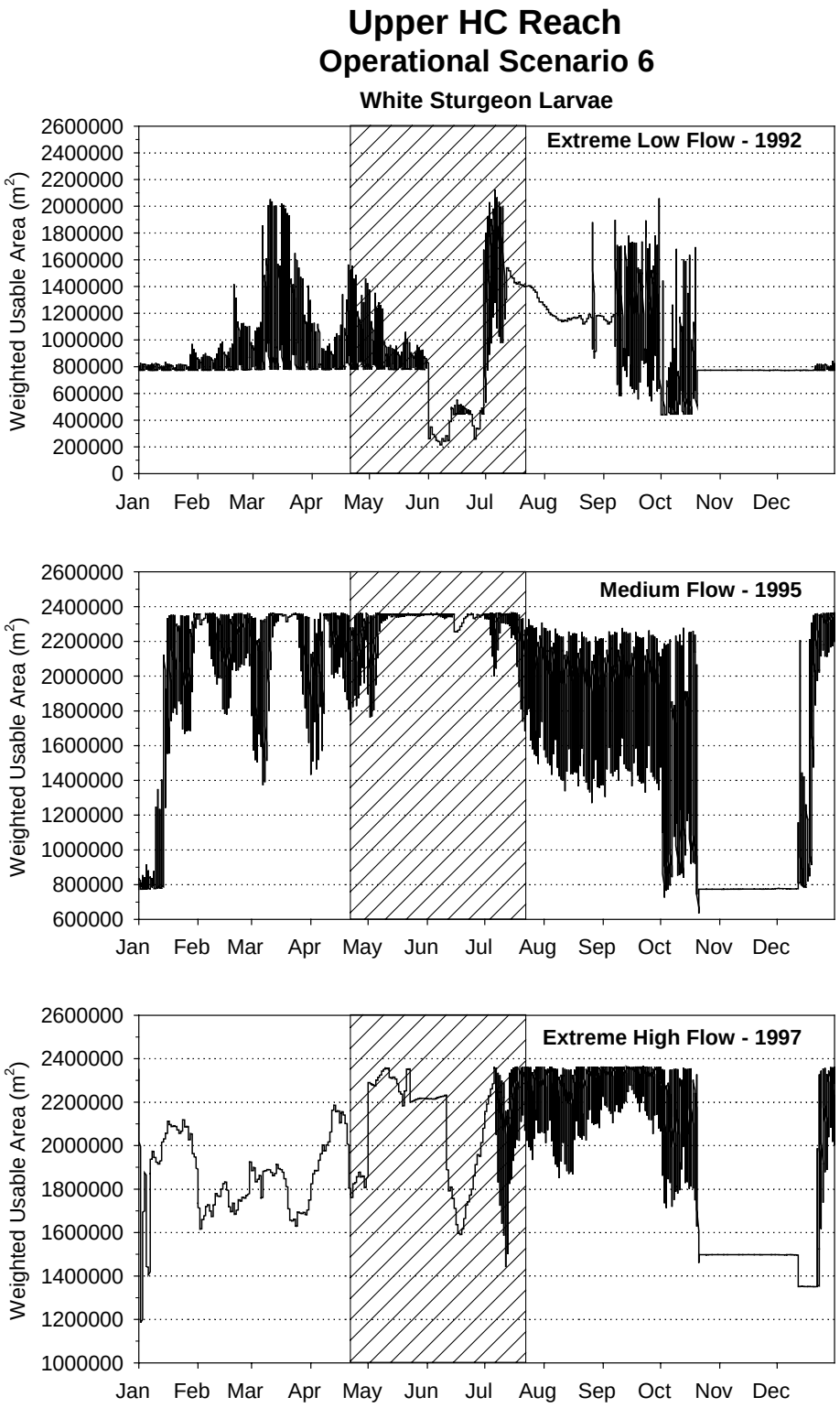


Figure 235. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

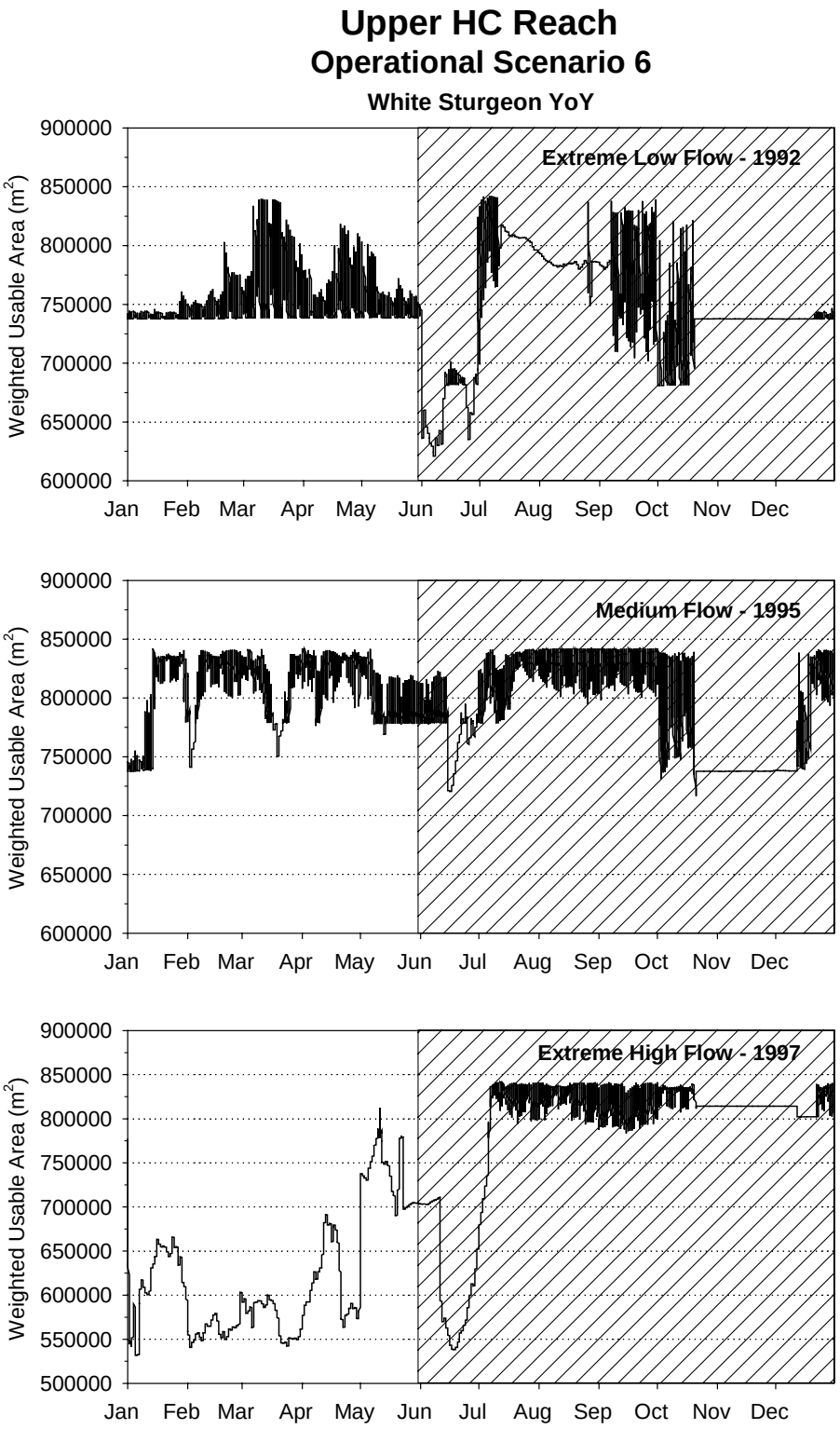


Figure 236. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

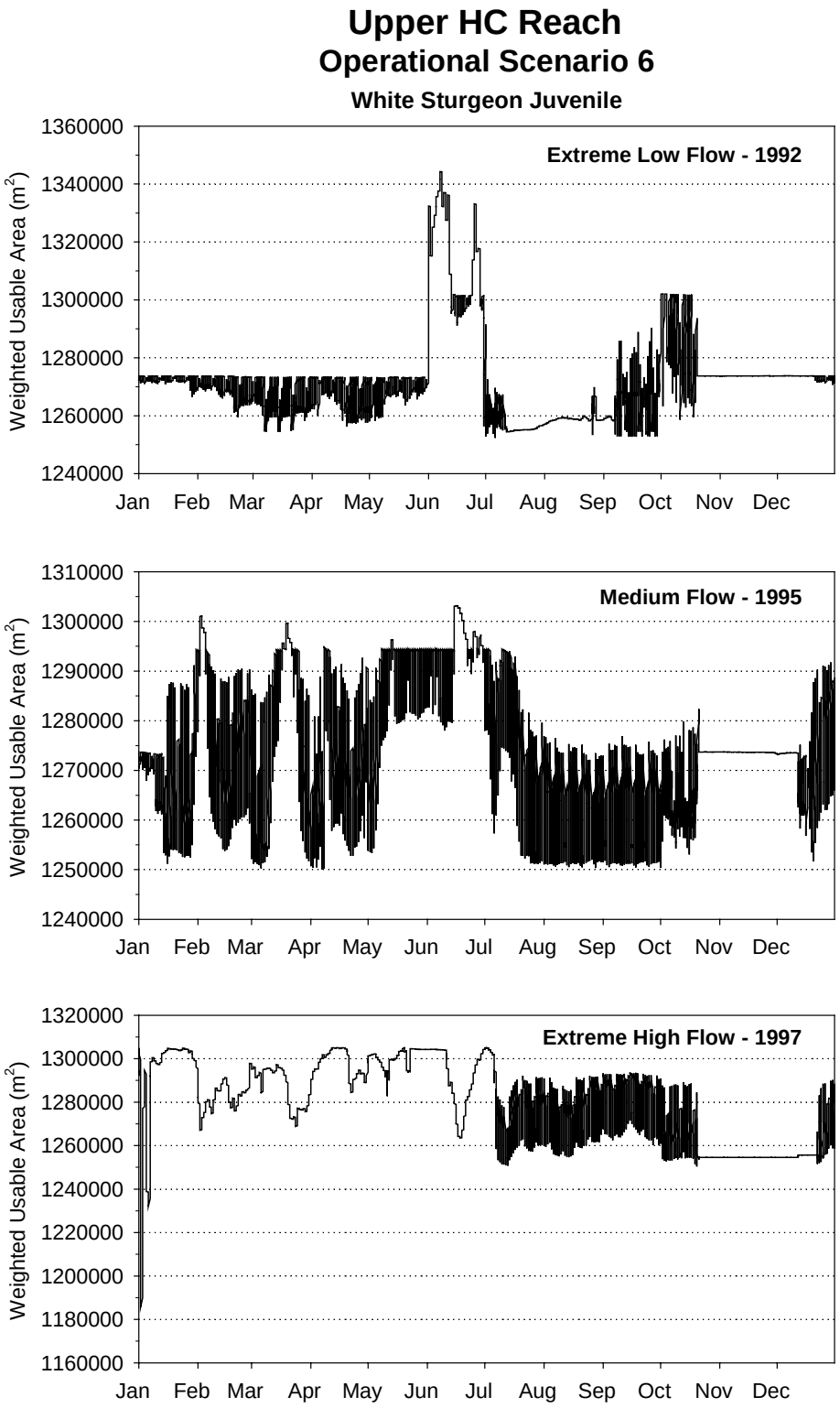


Figure 237. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

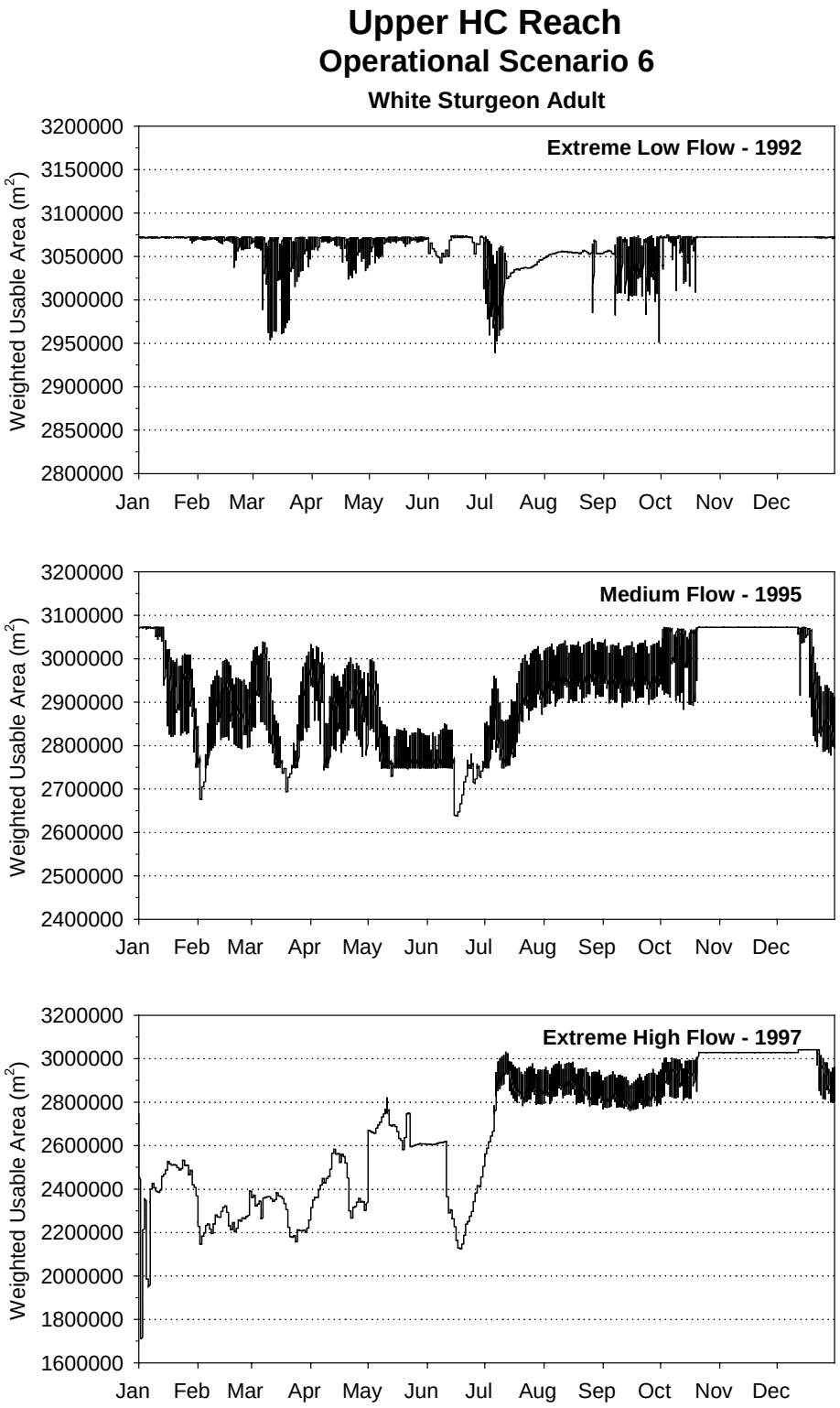


Figure 238. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

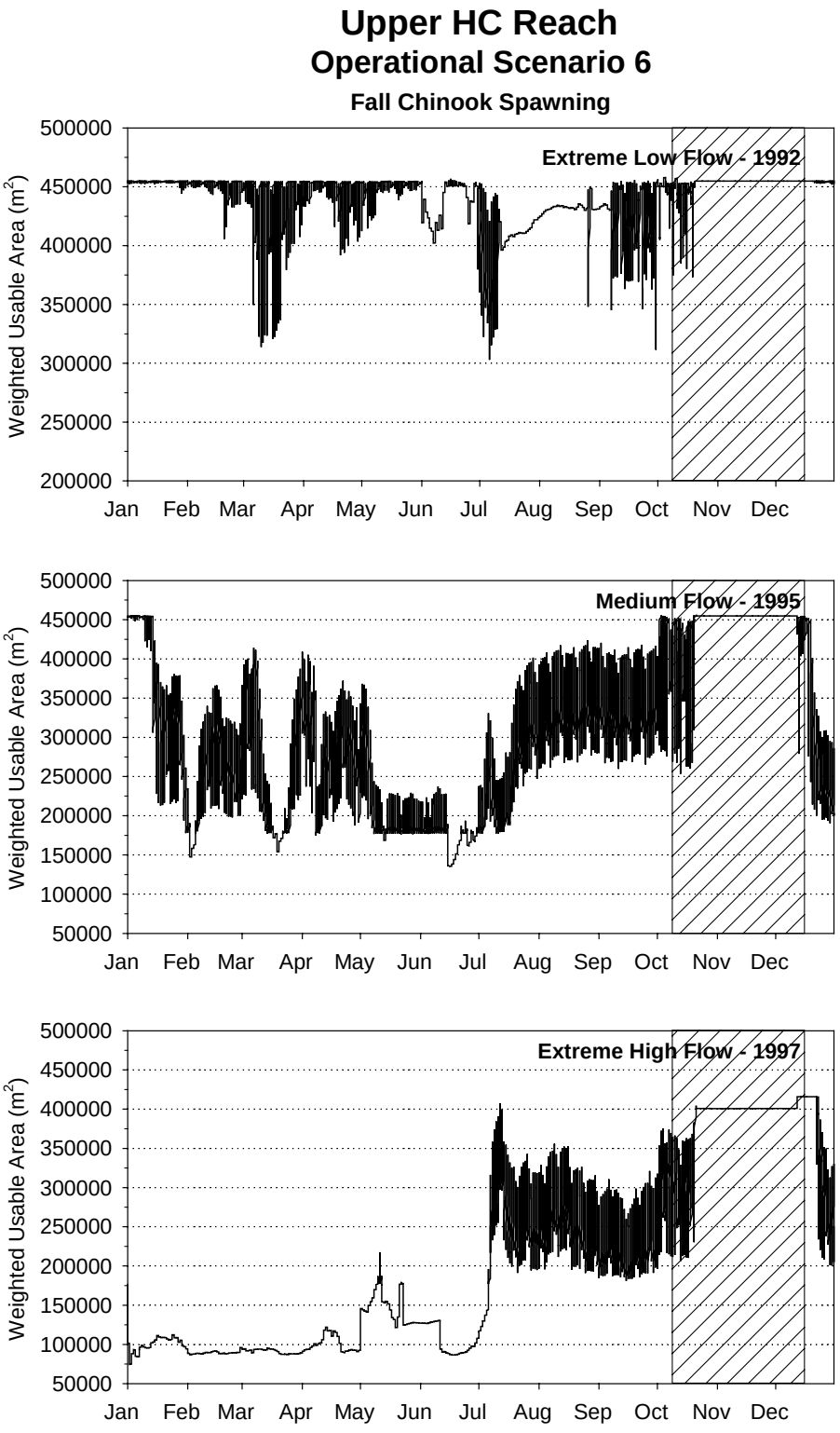


Figure 239. Total weighted usable area (WUA) under Operational Scenario 6 for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

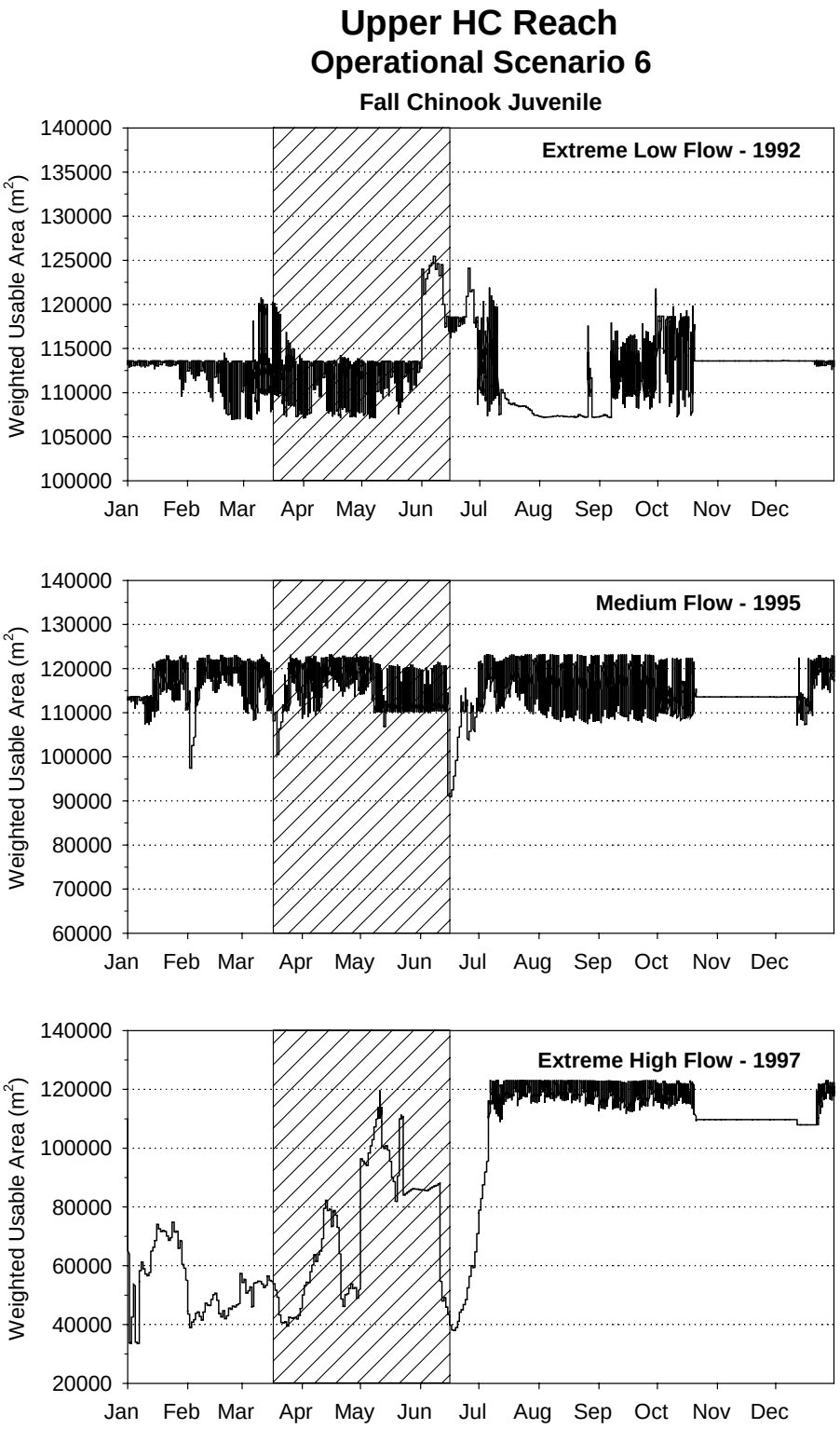


Figure 240. Total weighted usable area (WUA) under Operational Scenario 6 for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

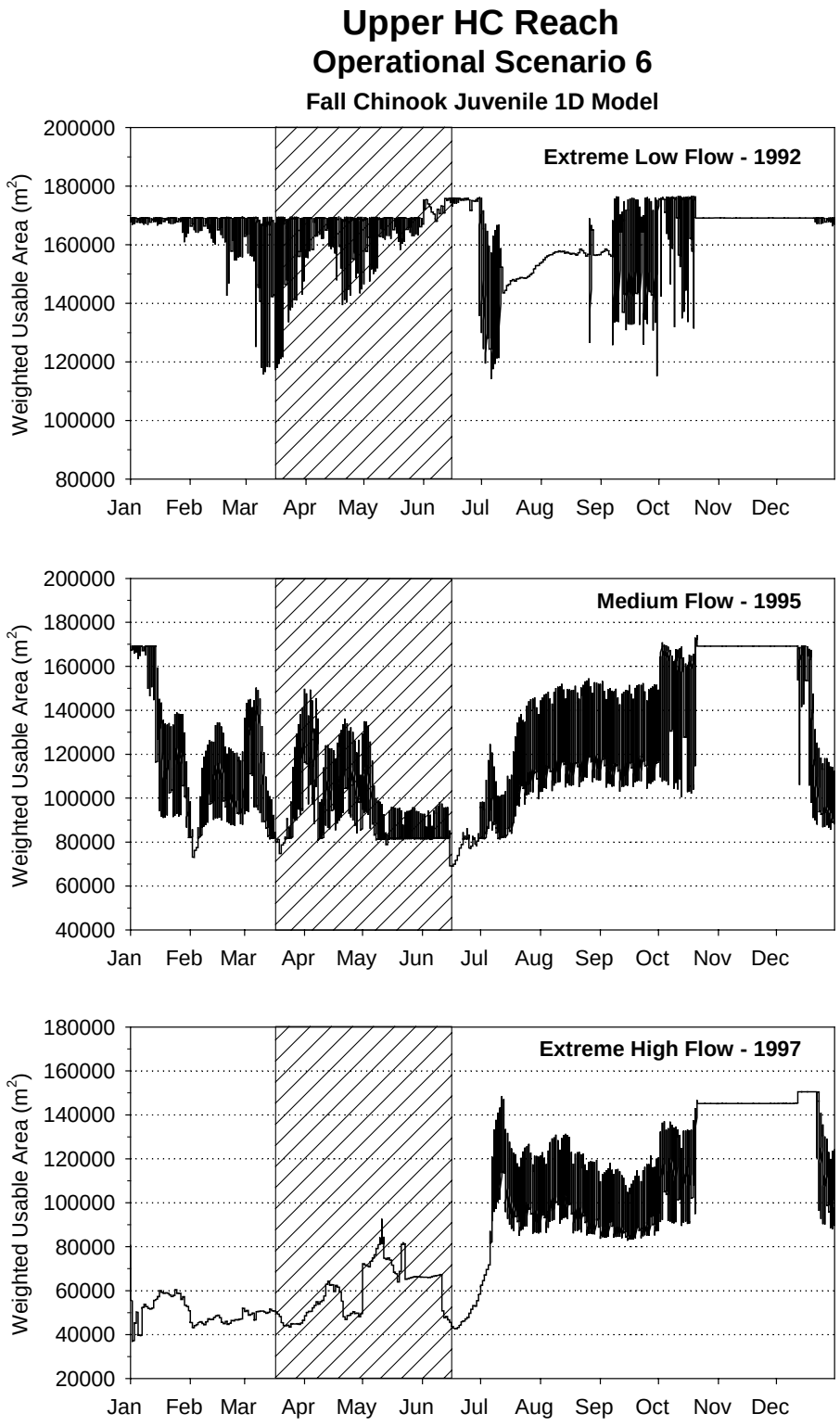


Figure 241. Total weighted usable area (WUA) under Operational Scenario 6 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

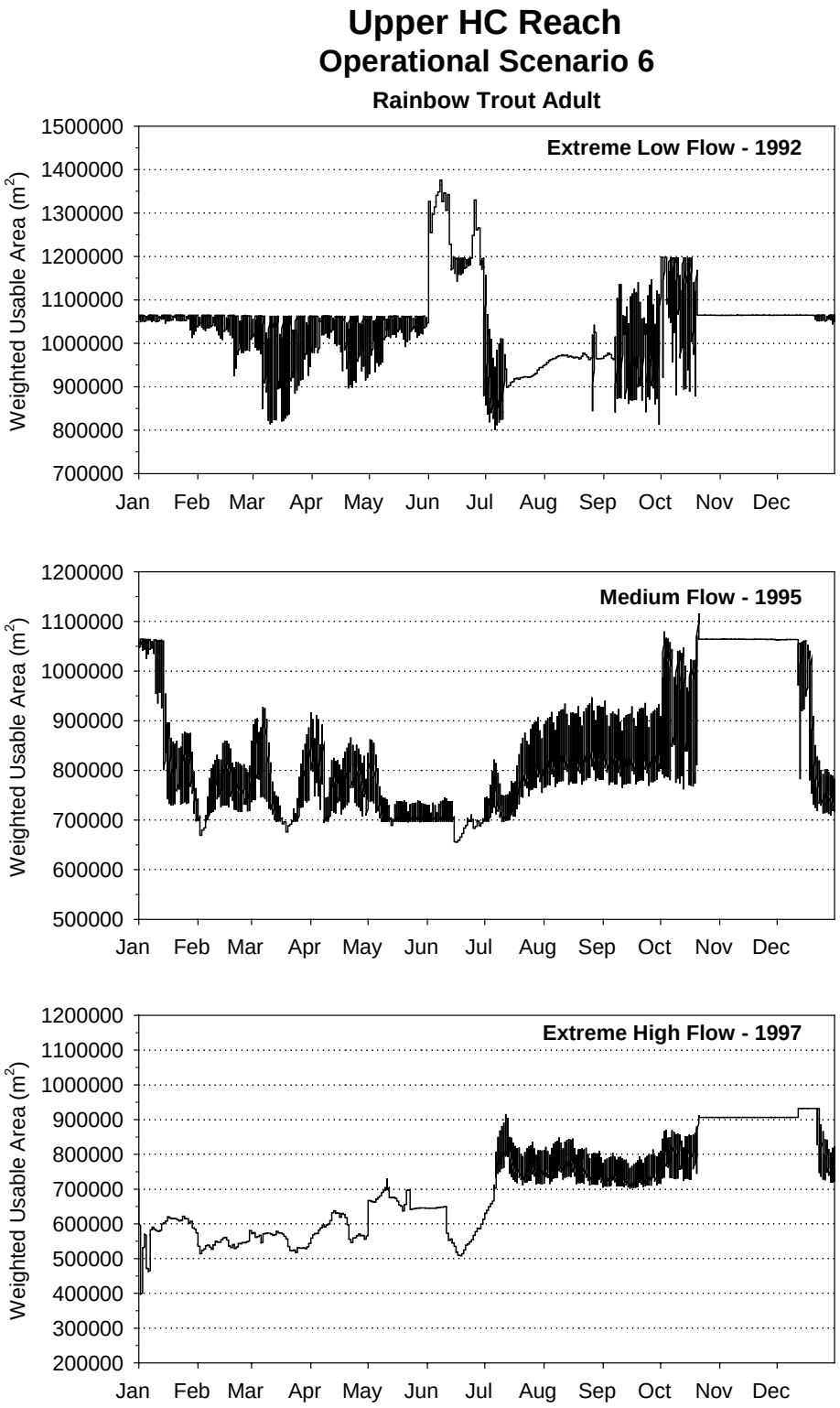


Figure 242. Total weighted usable area (WUA) under Operational Scenario 6 for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

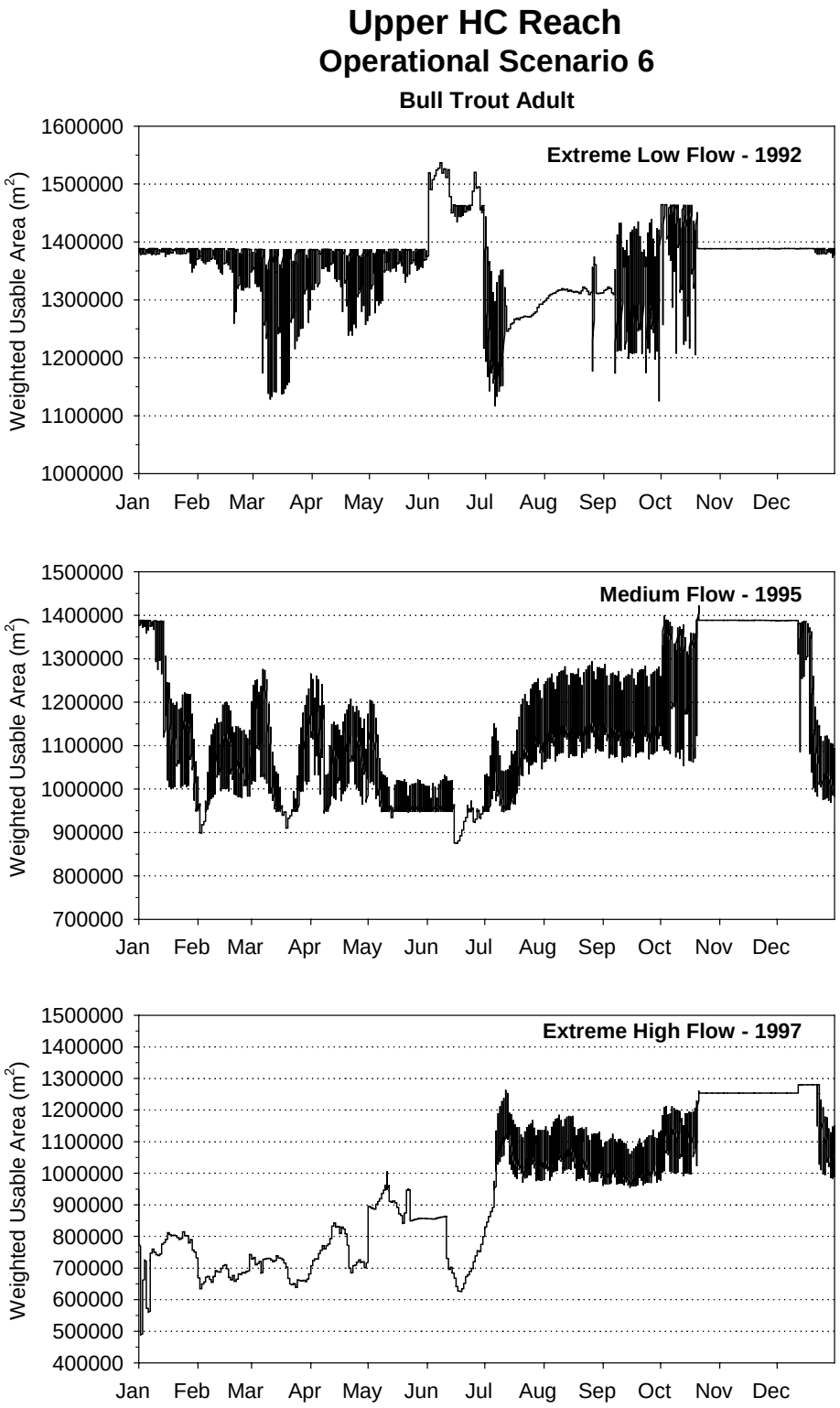


Figure 243. Total weighted usable area (WUA) under Operational Scenario 6 for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

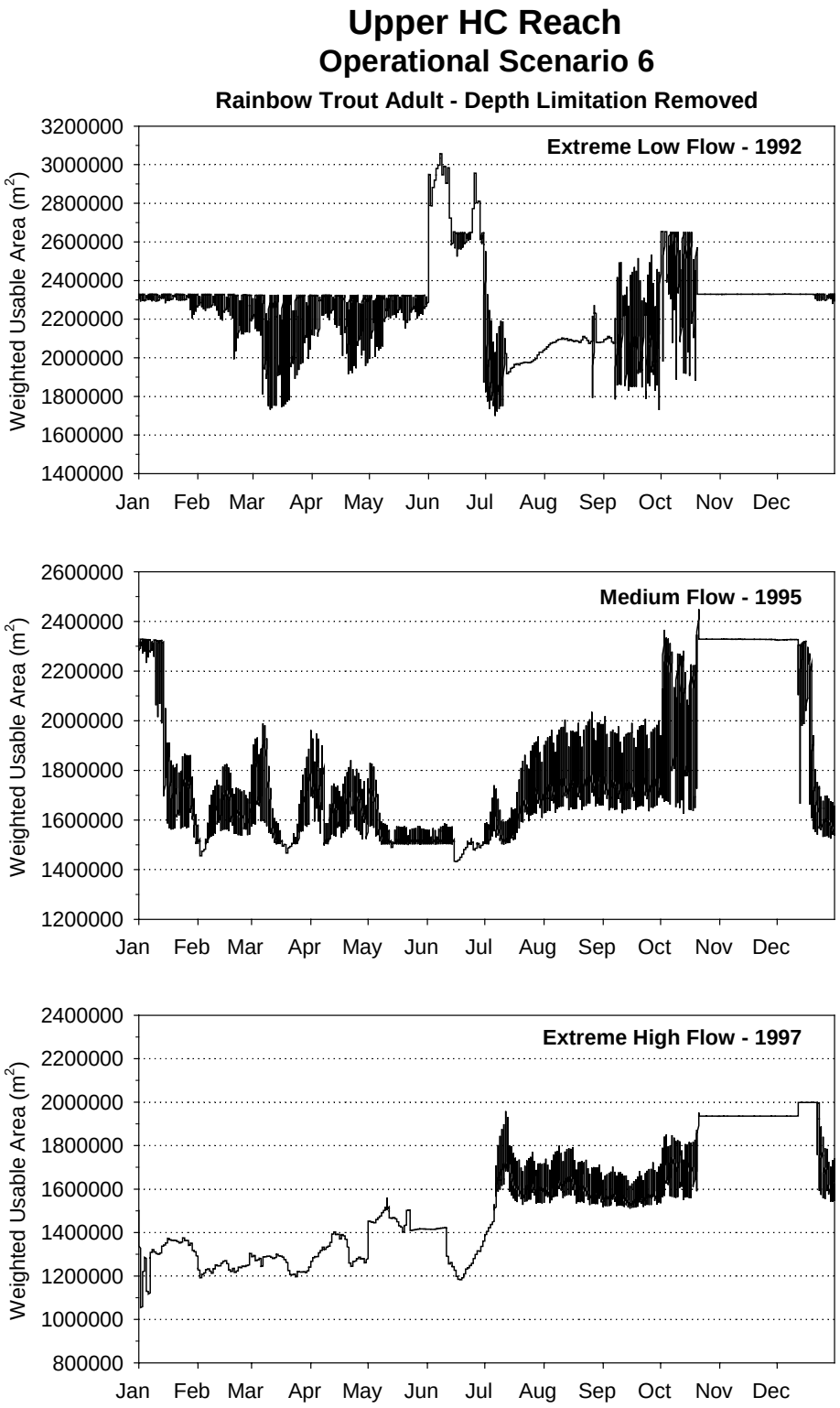


Figure 244. Total weighted usable area (WUA) under Operational Scenario 6 for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

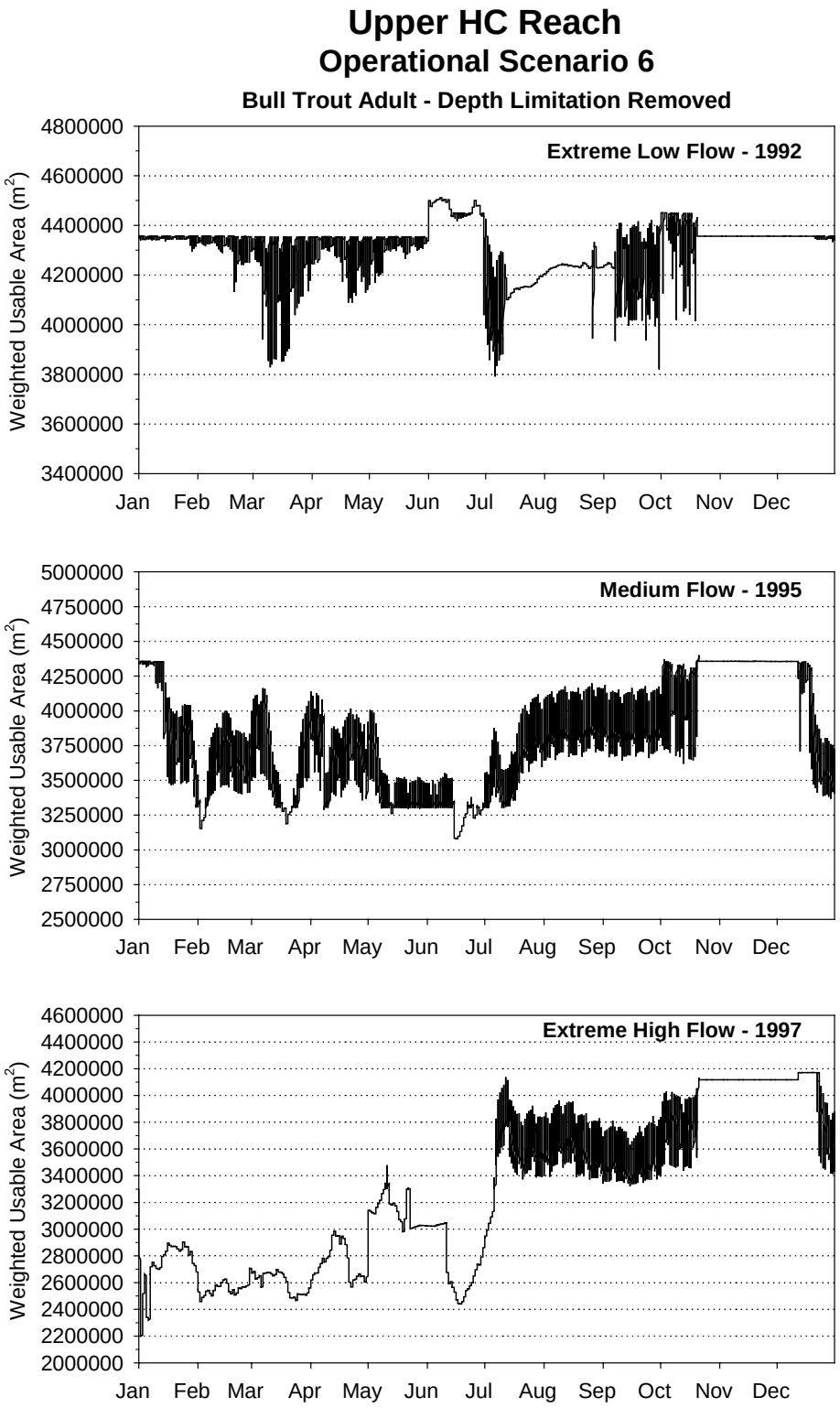


Figure 245. Total weighted usable area (WUA) under Operational Scenario 6 for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

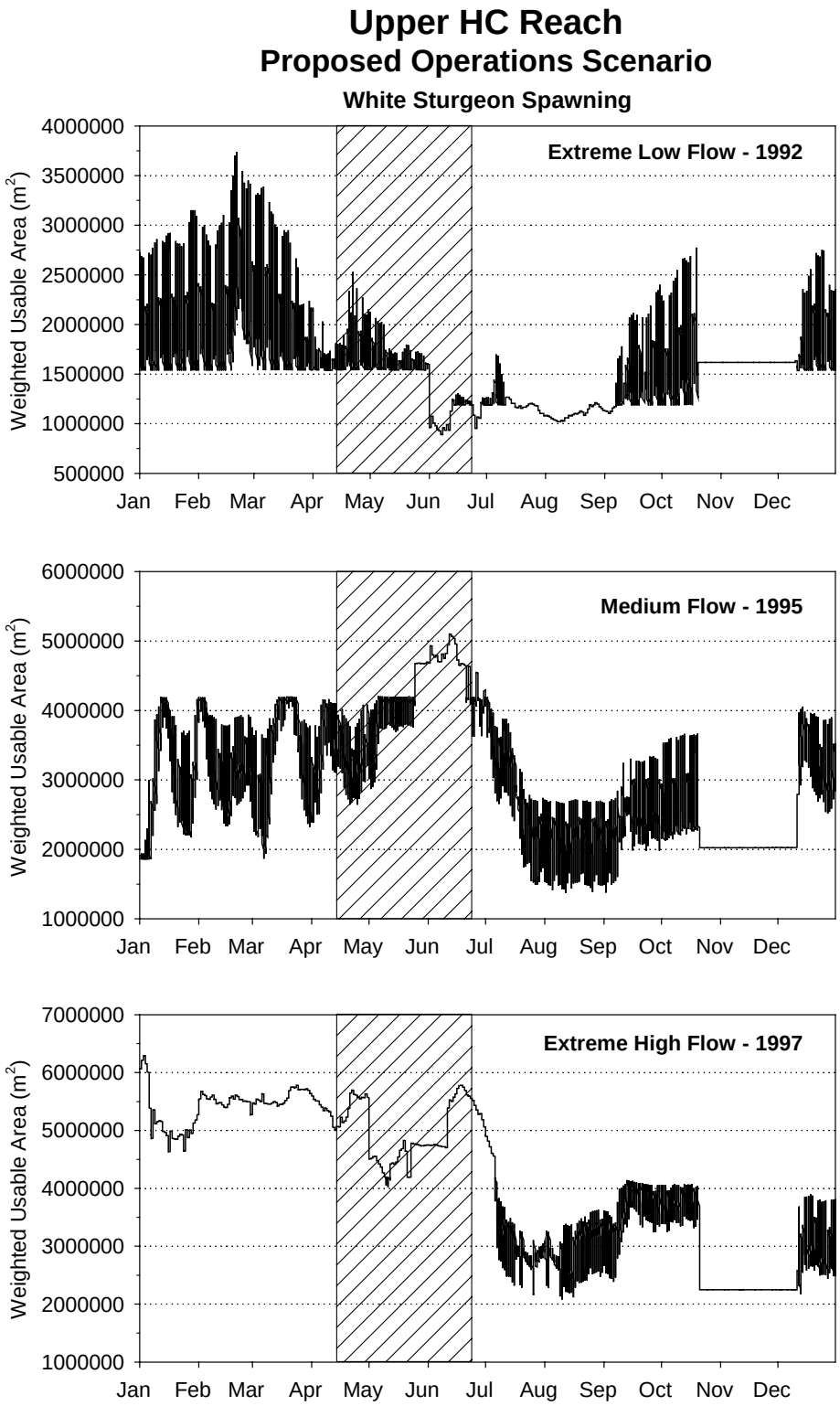


Figure 246. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

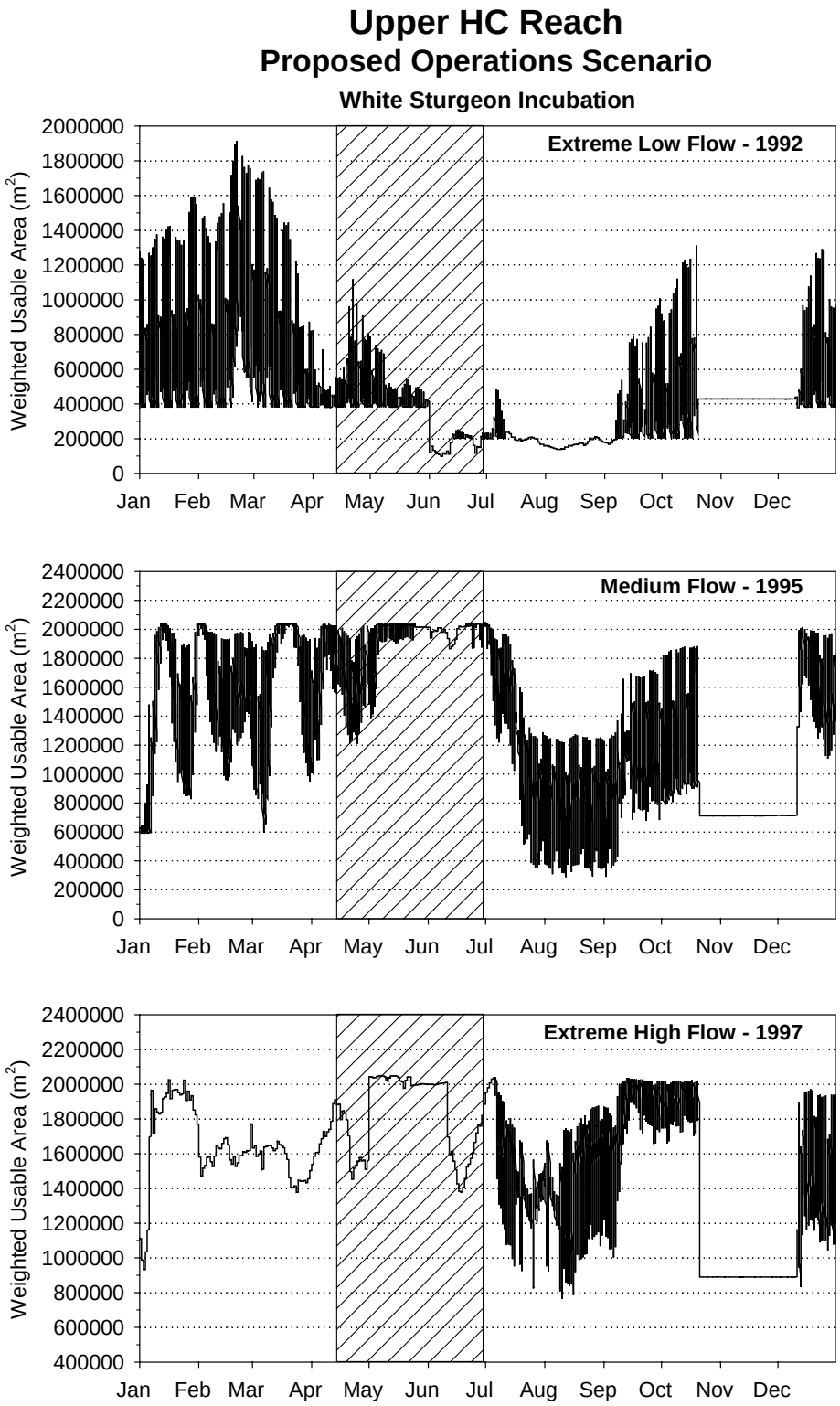


Figure 247. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon incubation life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

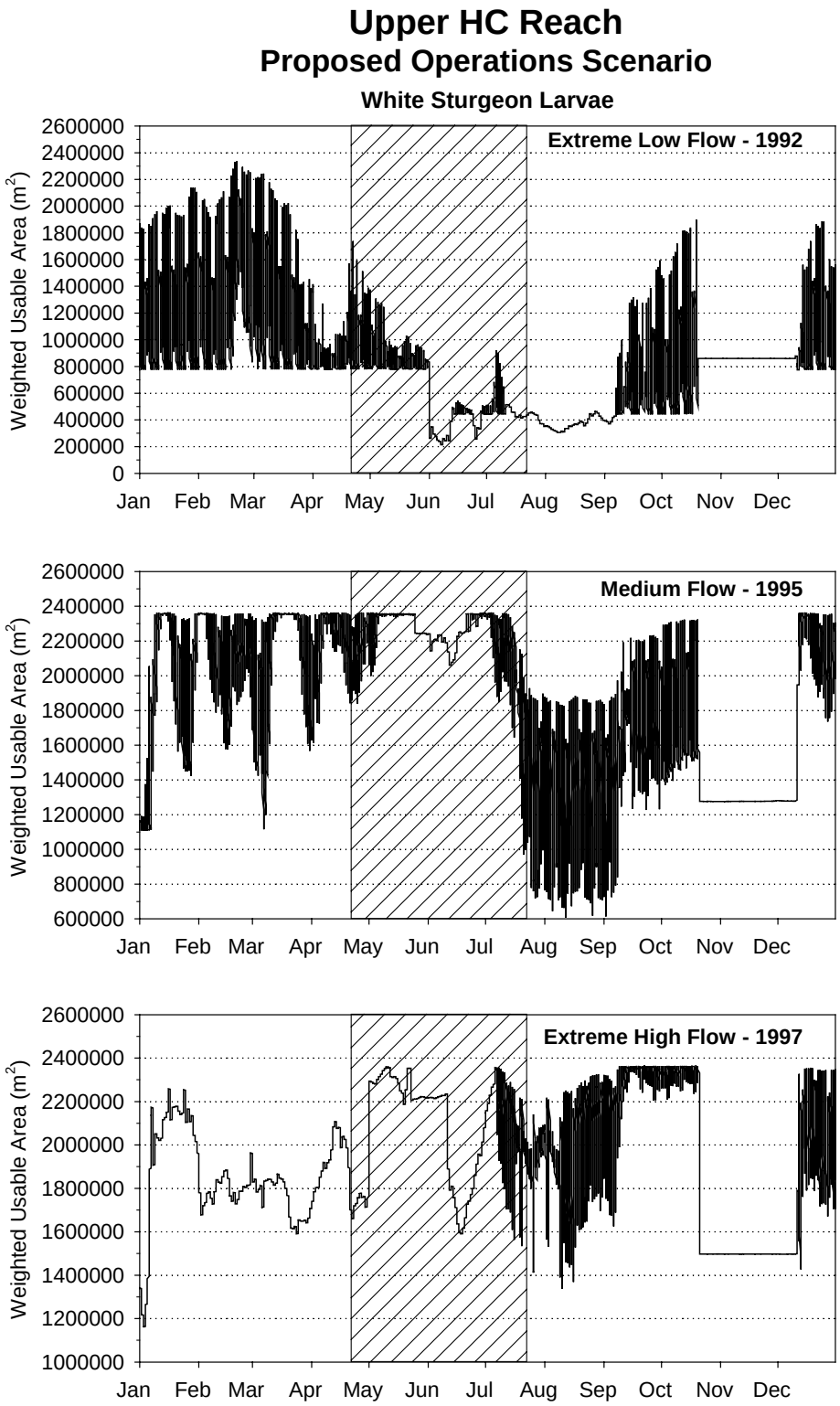


Figure 248. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon larvae life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

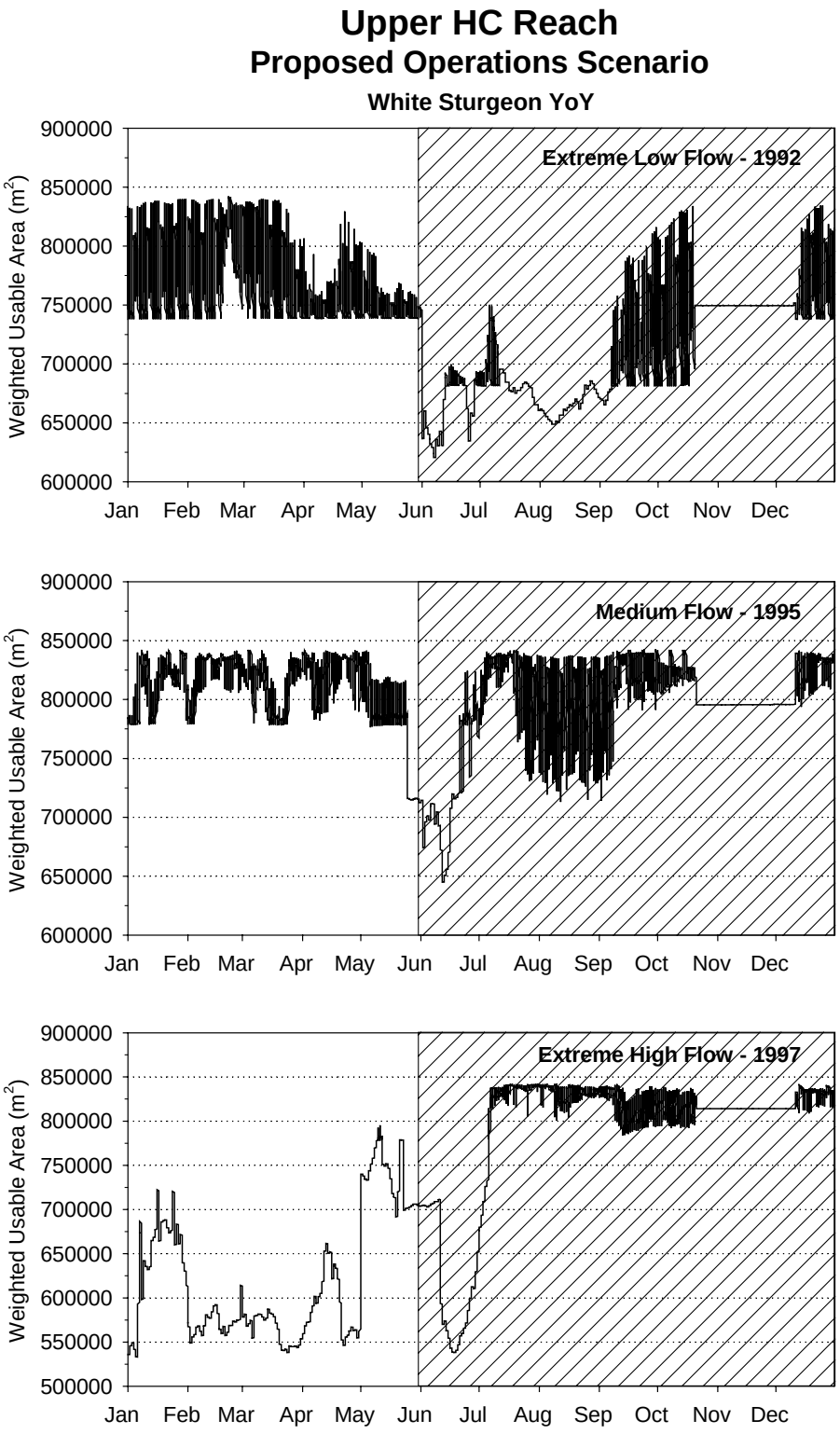


Figure 249. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon YoY life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

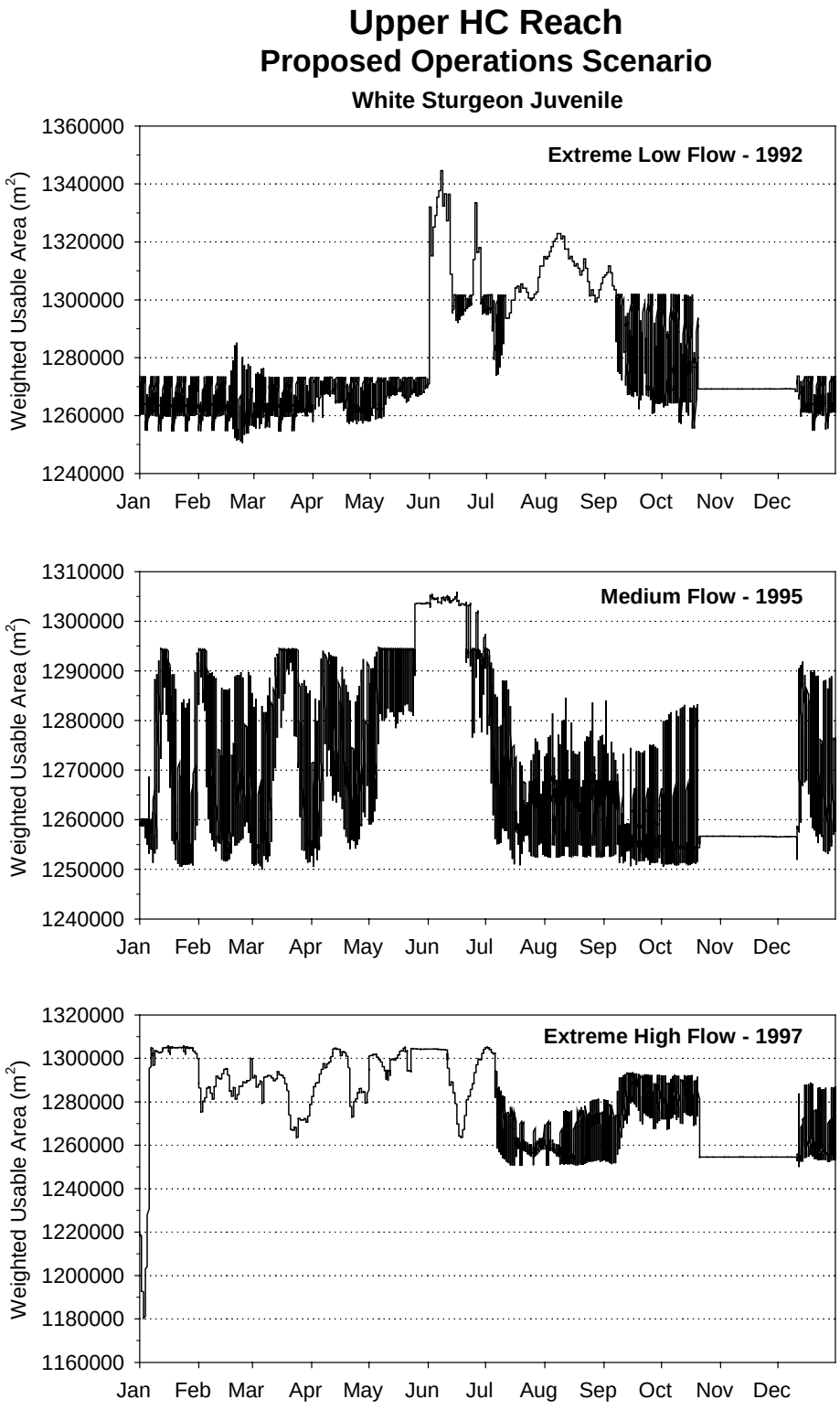


Figure 250. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

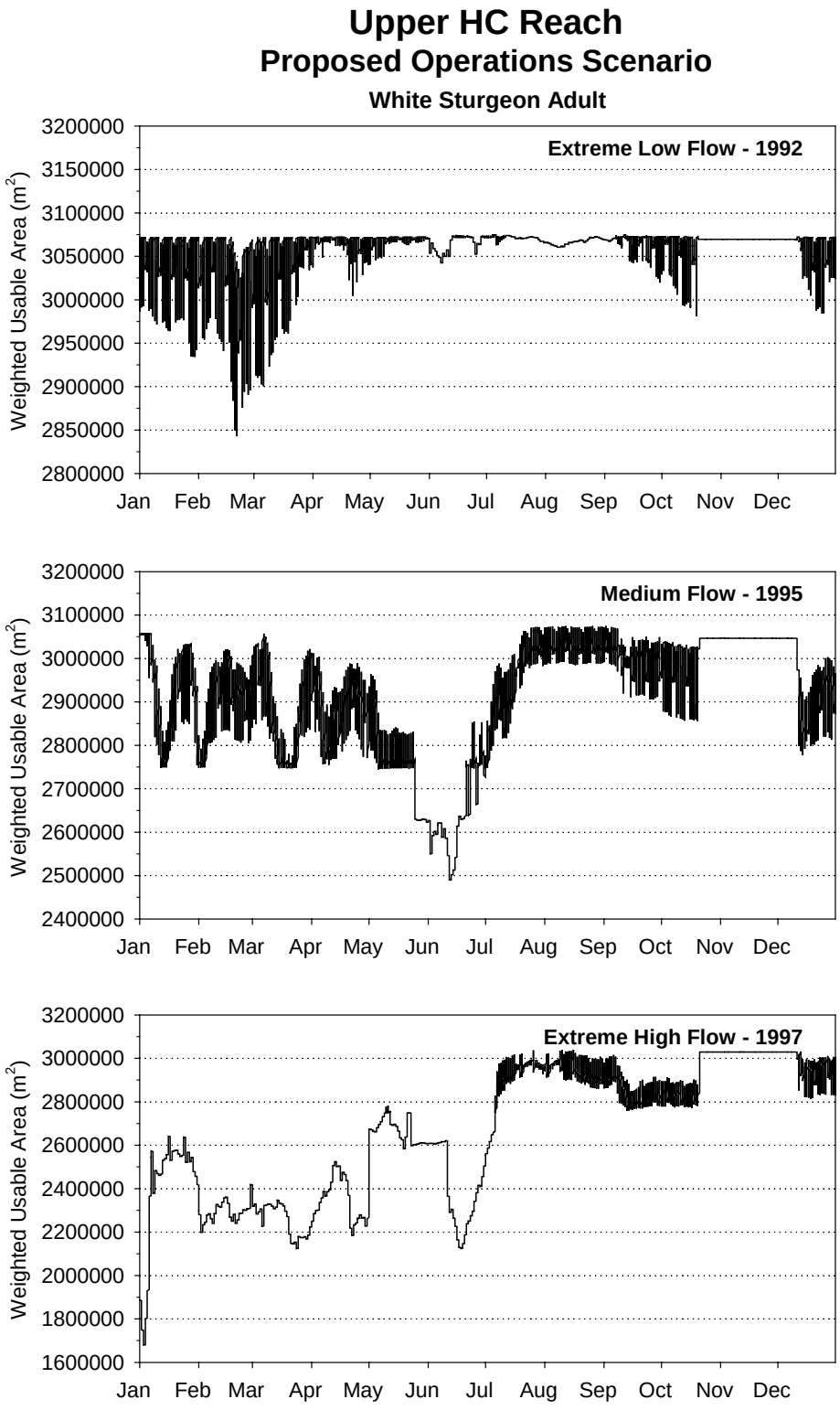


Figure 251. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

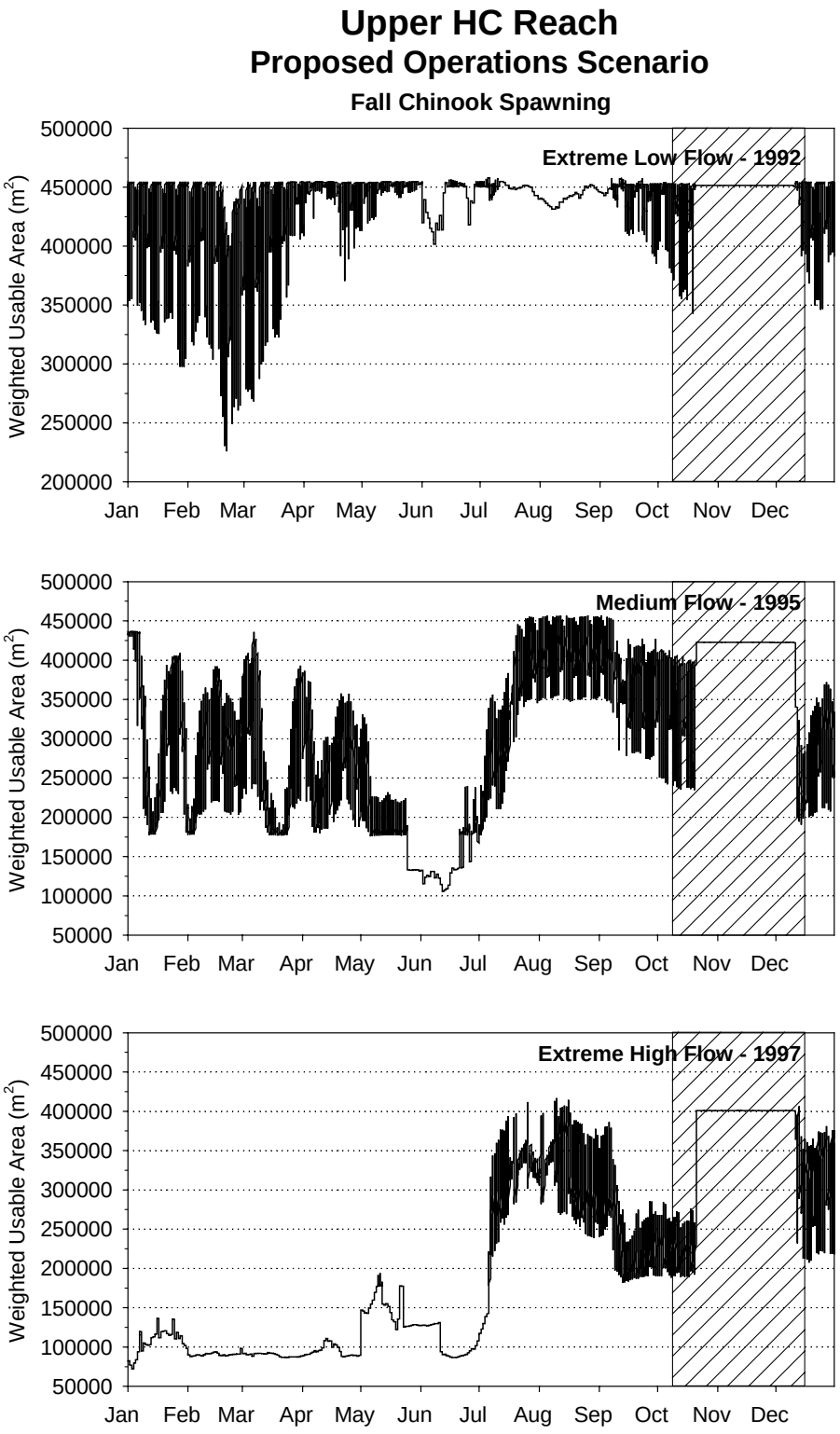


Figure 252. Total weighted usable area (WUA) under Proposed Operations Scenario for the fall Chinook spawning life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

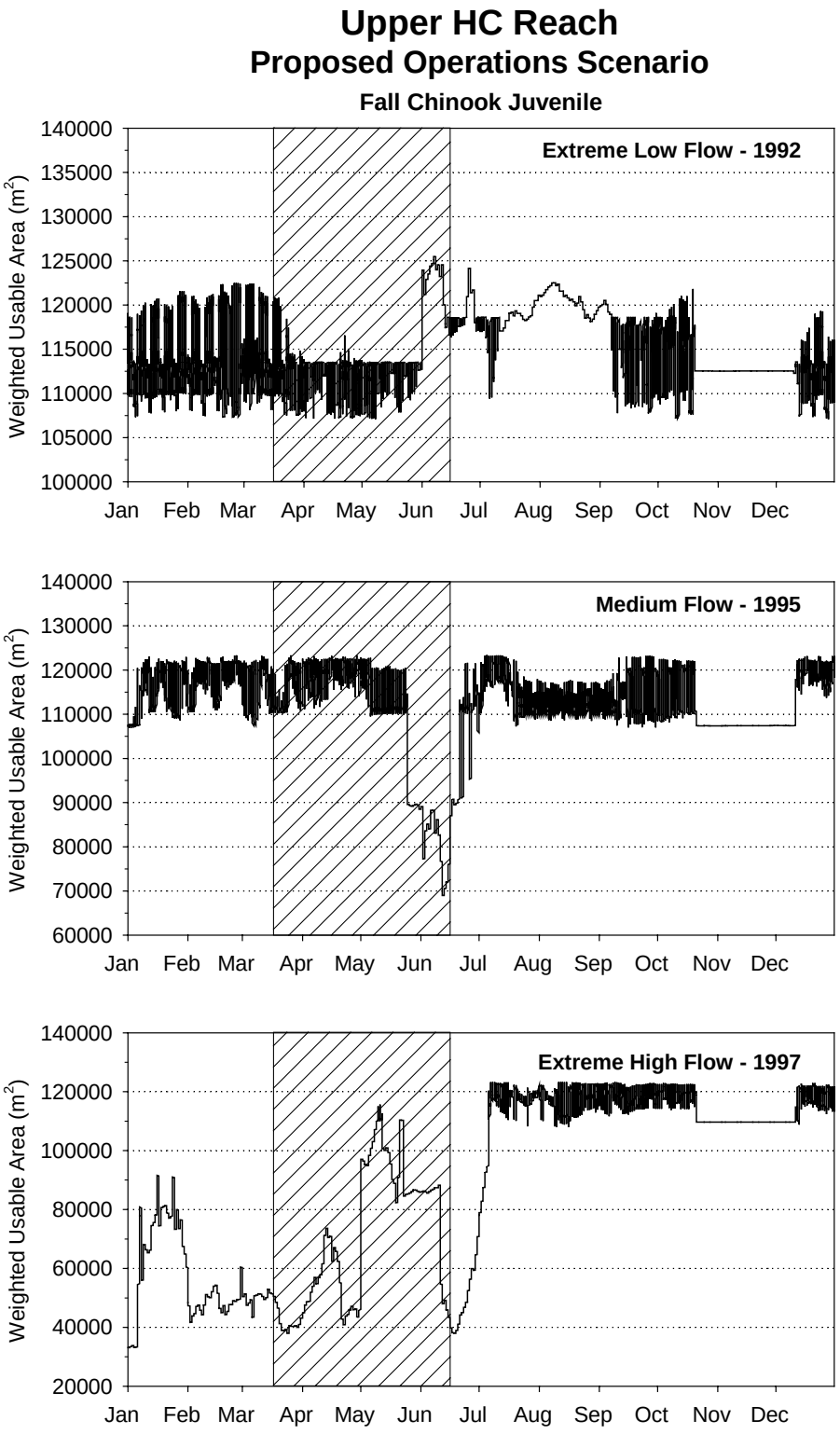


Figure 253. Total weighted usable area (WUA) under Proposed Operations Scenario for the fall Chinook juvenile life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

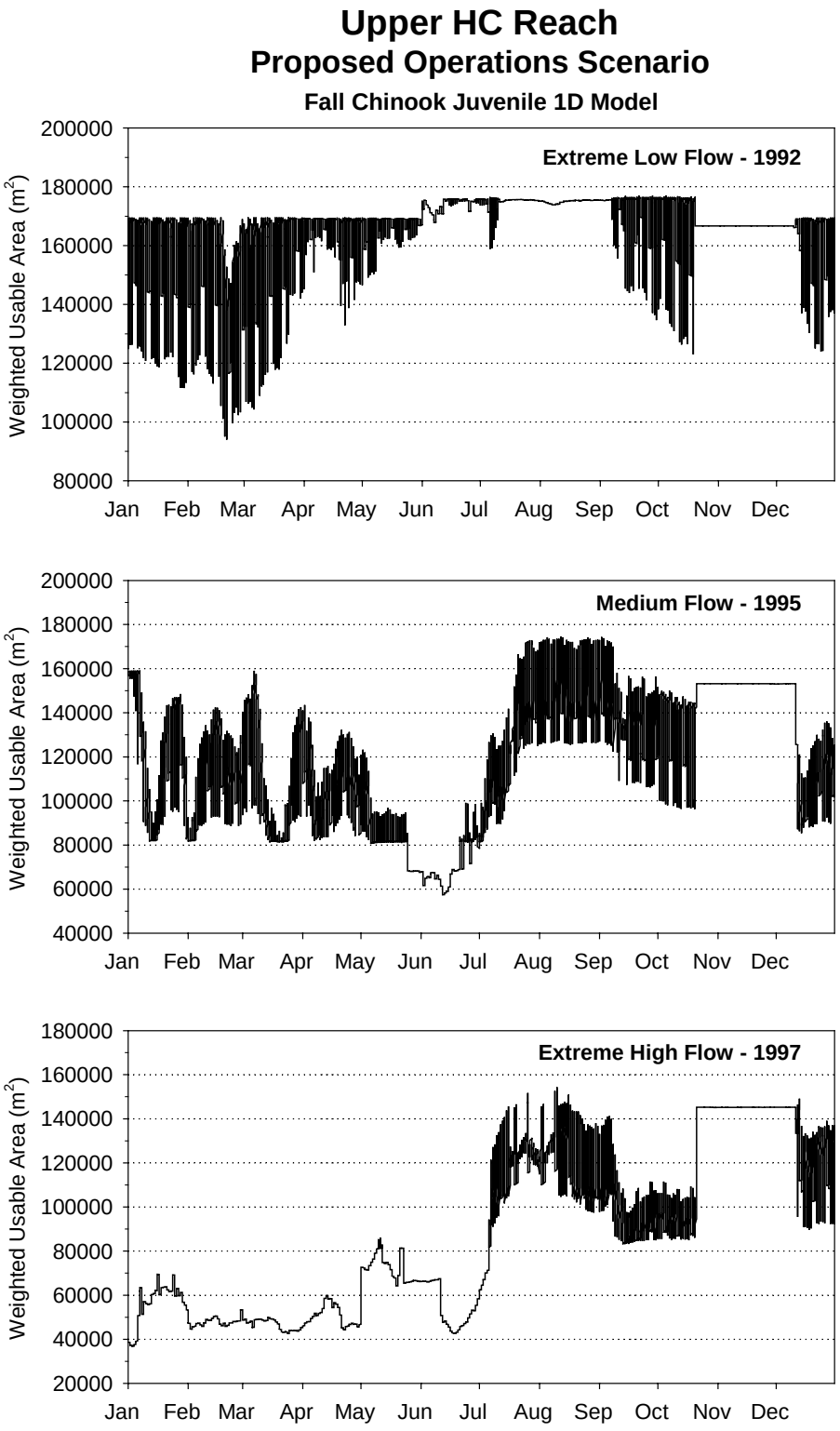


Figure 254. Total weighted usable area (WUA) under Proposed Operations Scenario for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

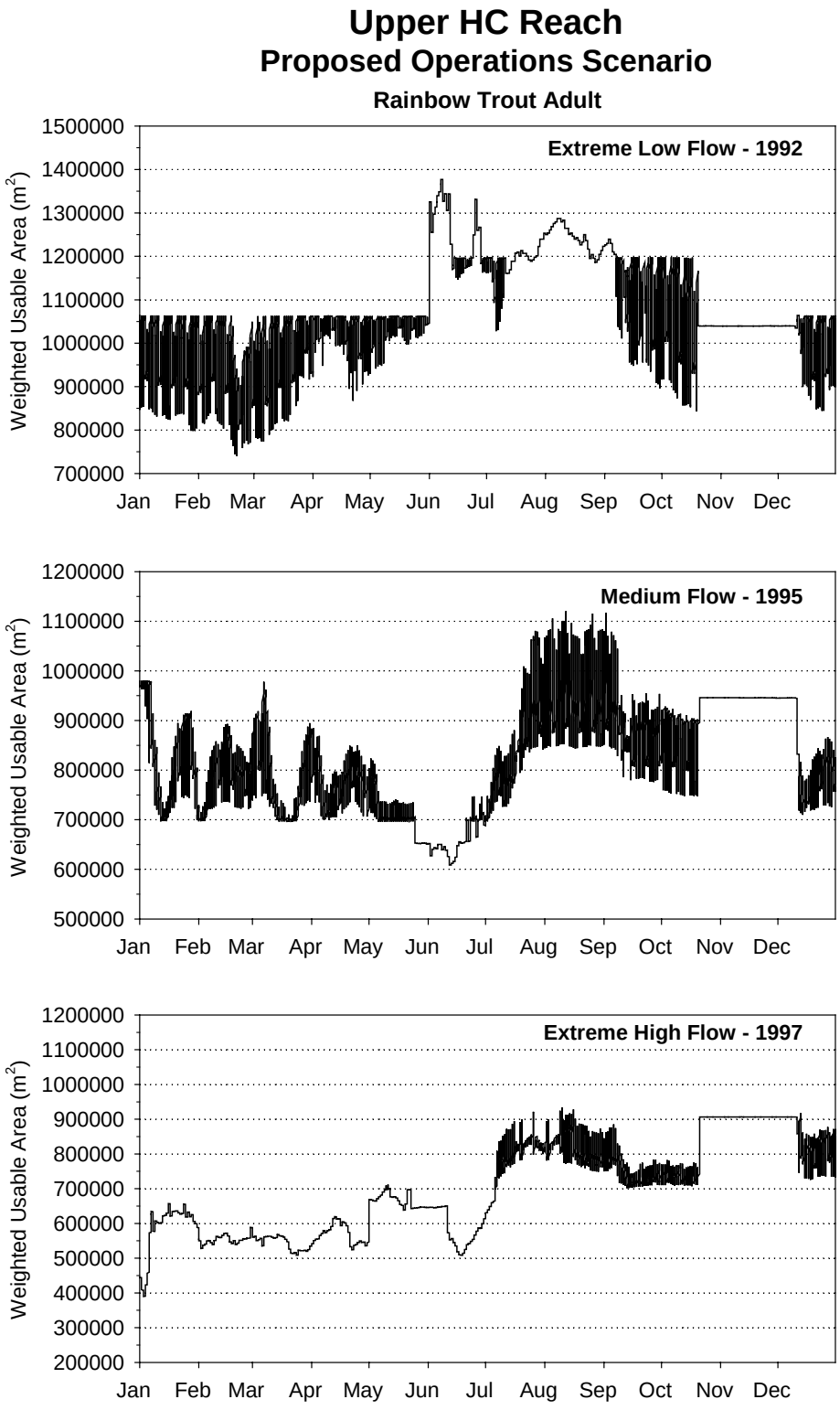


Figure 255. Total weighted usable area (WUA) under Proposed Operations Scenario for the rainbow trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

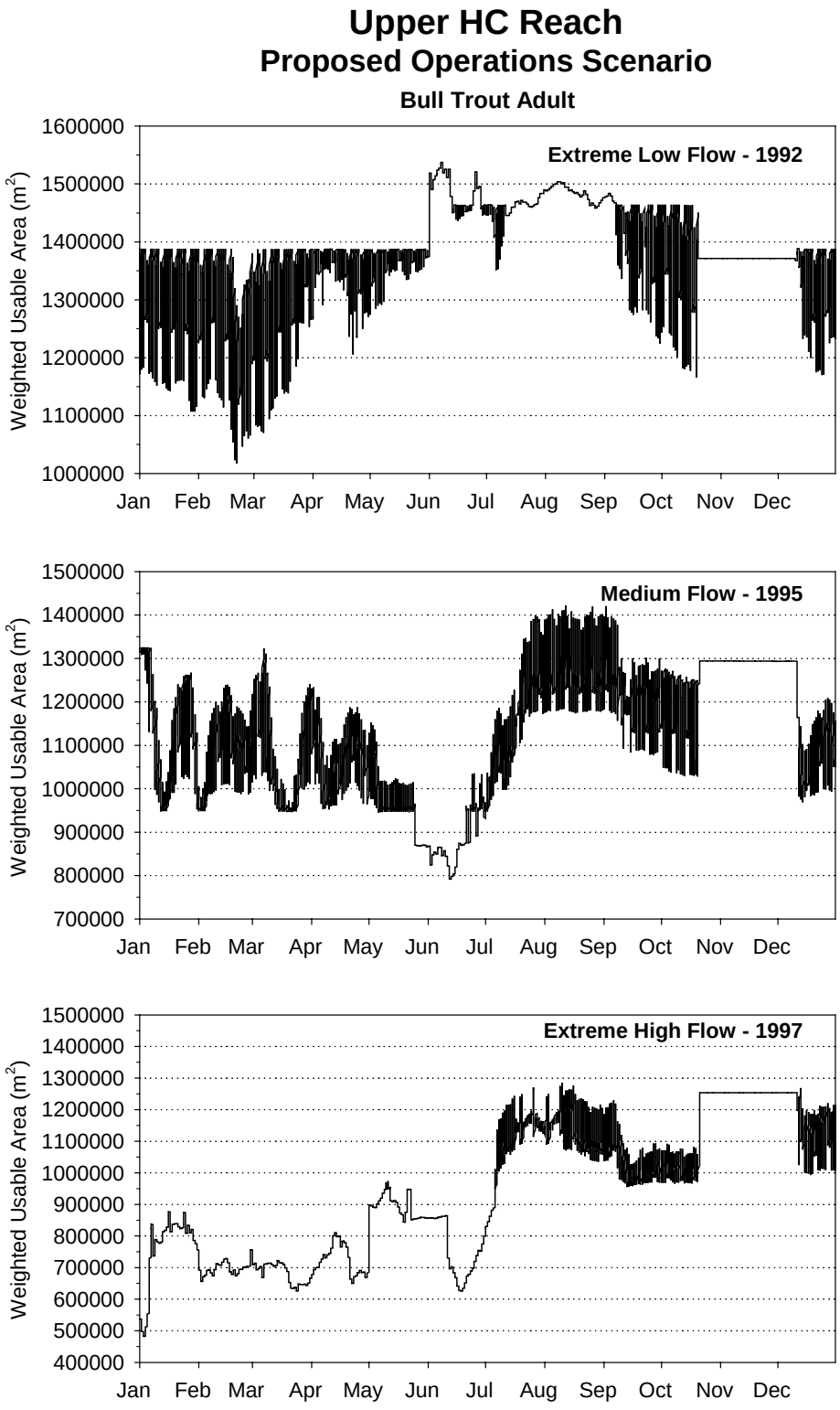


Figure 256. Total weighted usable area (WUA) under Proposed Operations Scenario for the bull trout adult life stage in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

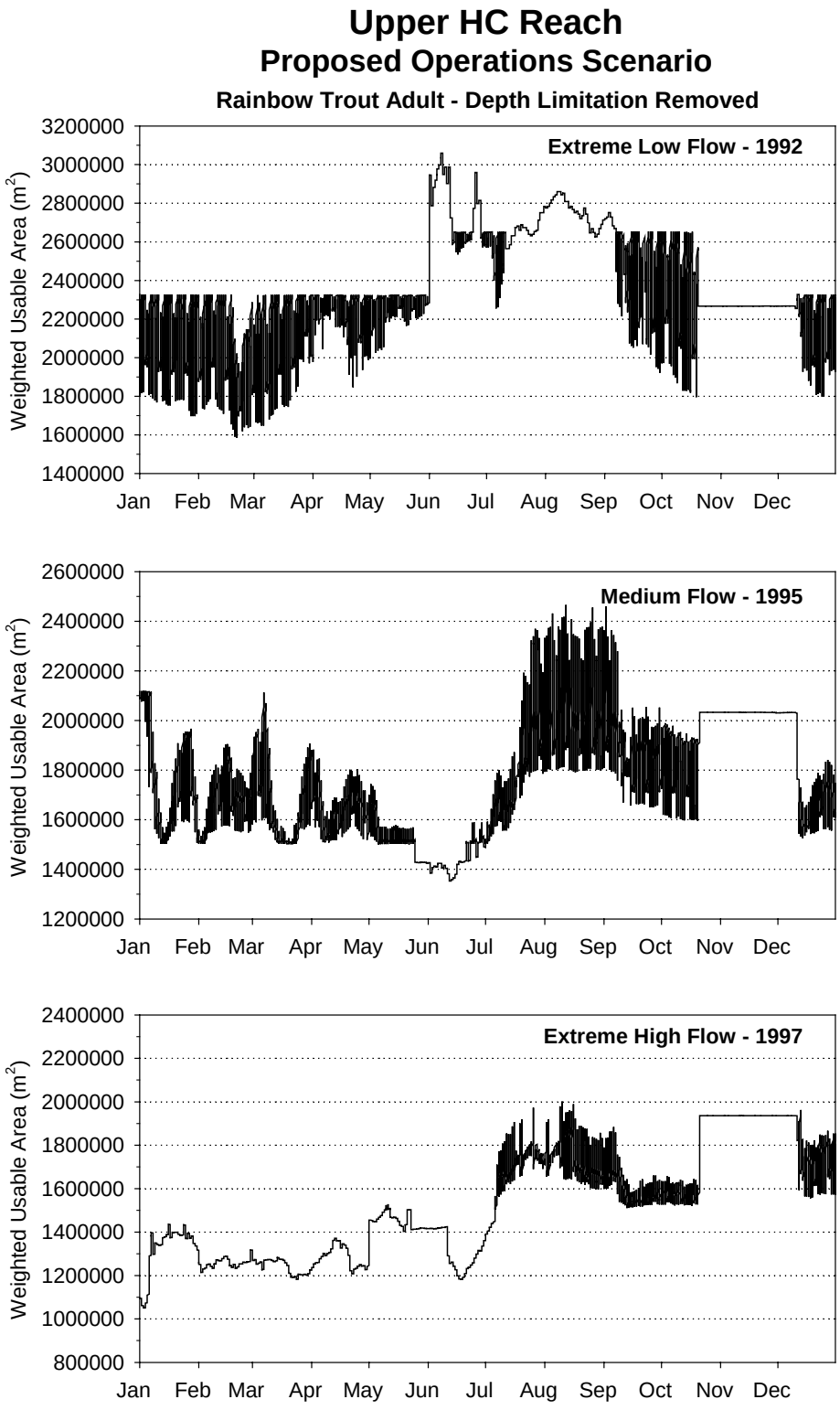


Figure 257. Total weighted usable area (WUA) under Proposed Operations Scenario for the rainbow trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

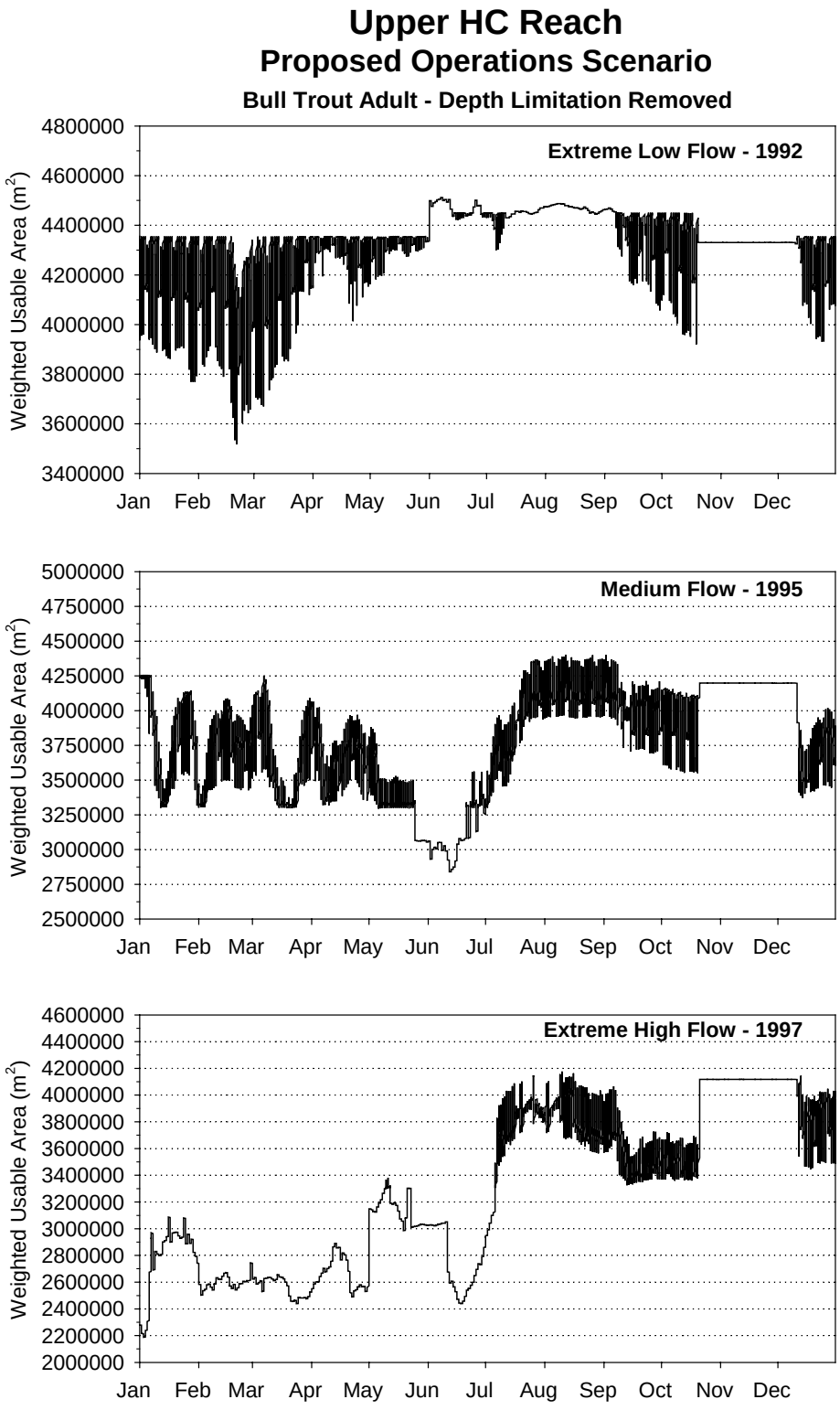


Figure 258. Total weighted usable area (WUA) under Proposed Operations Scenario for the bull trout adult life stage (depth limitation removed) in the upper HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

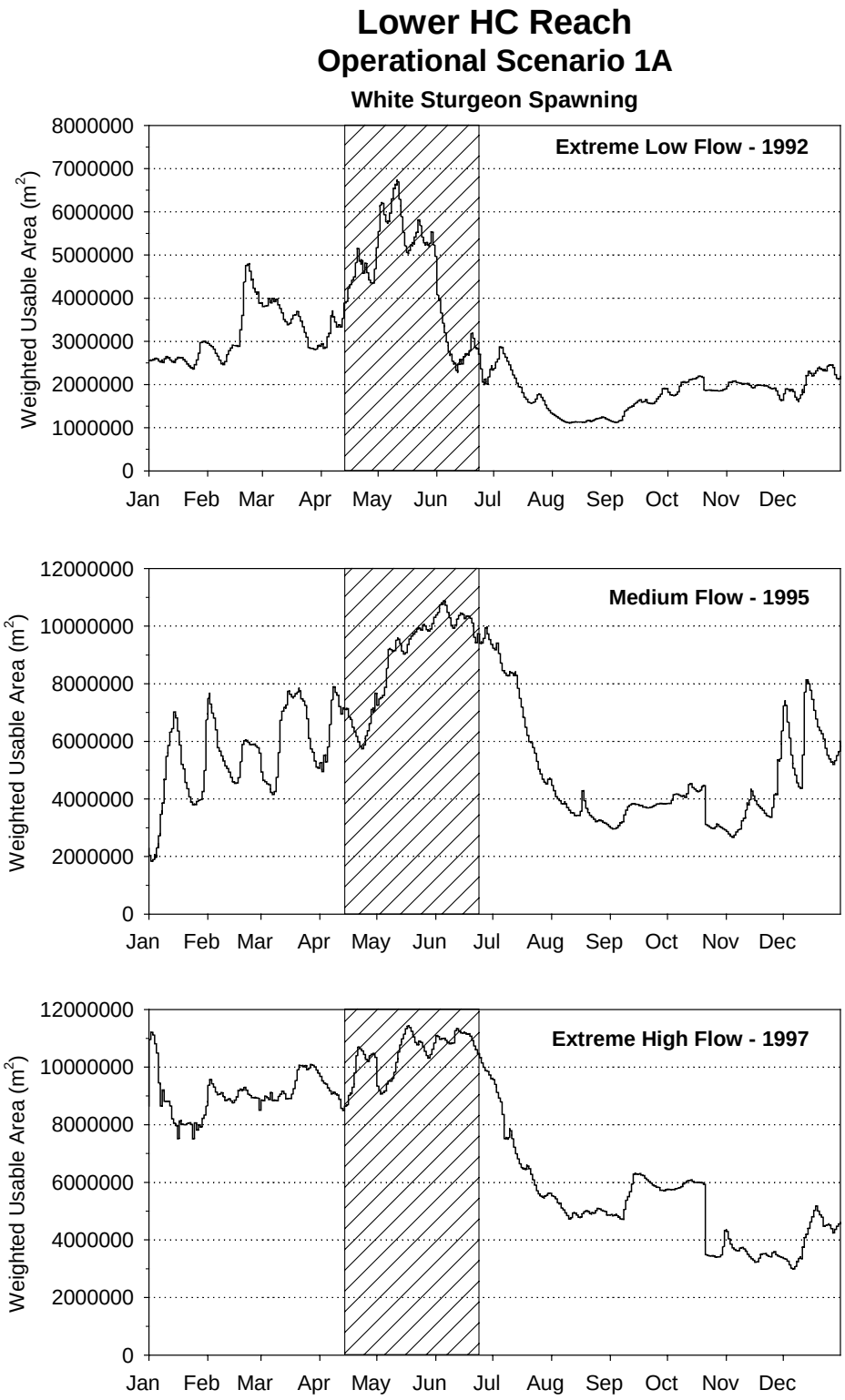


Figure 259. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

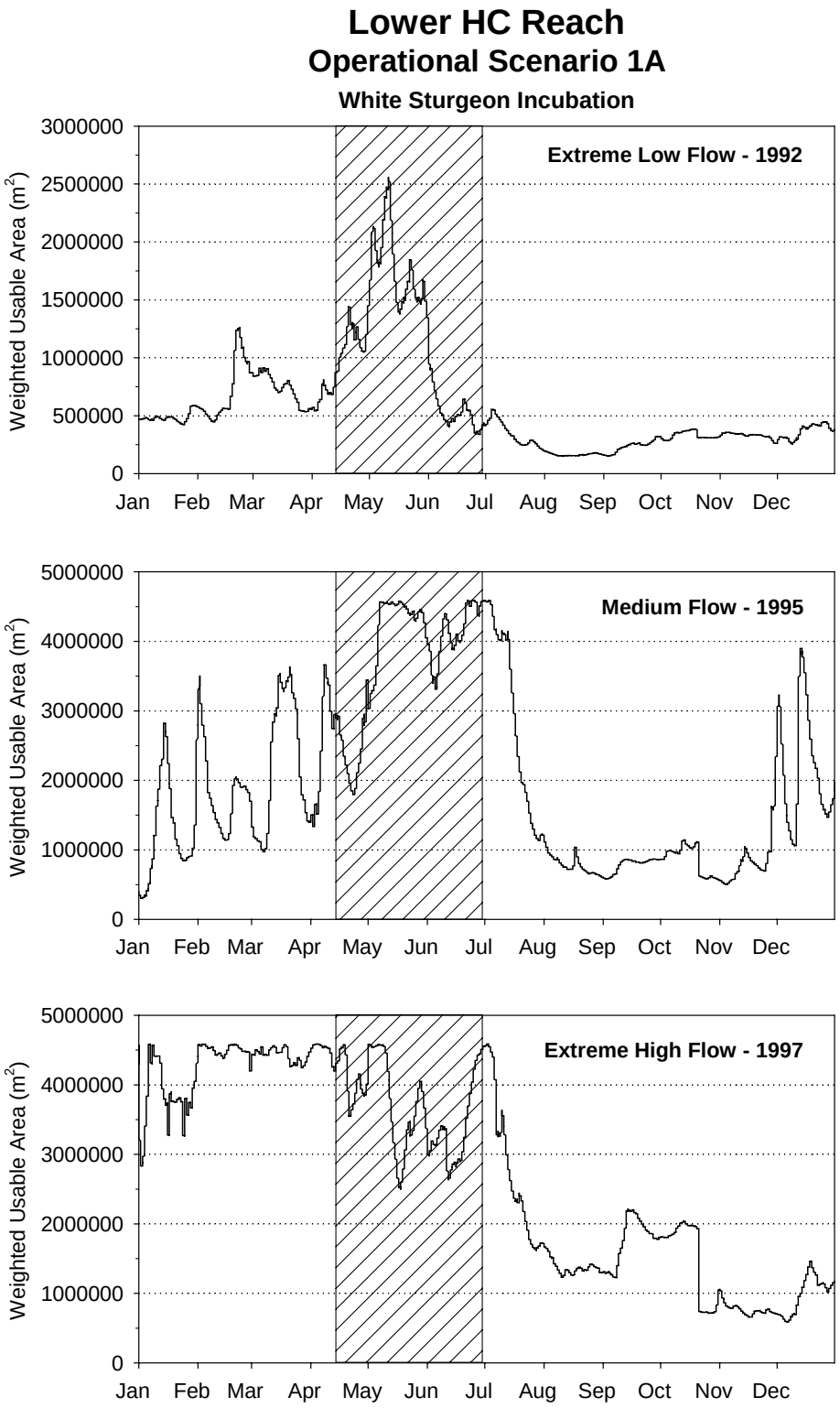


Figure 260. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

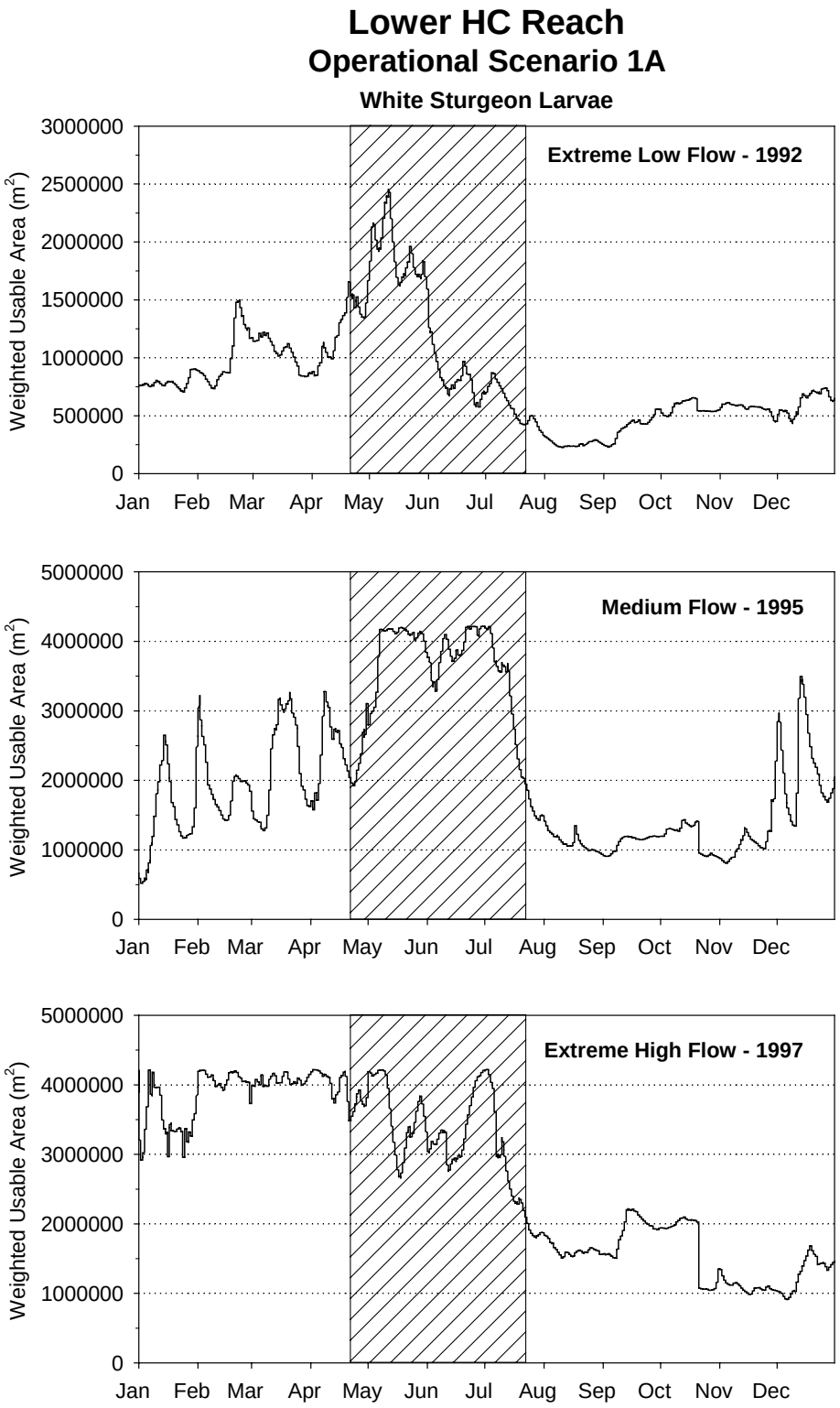


Figure 261. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

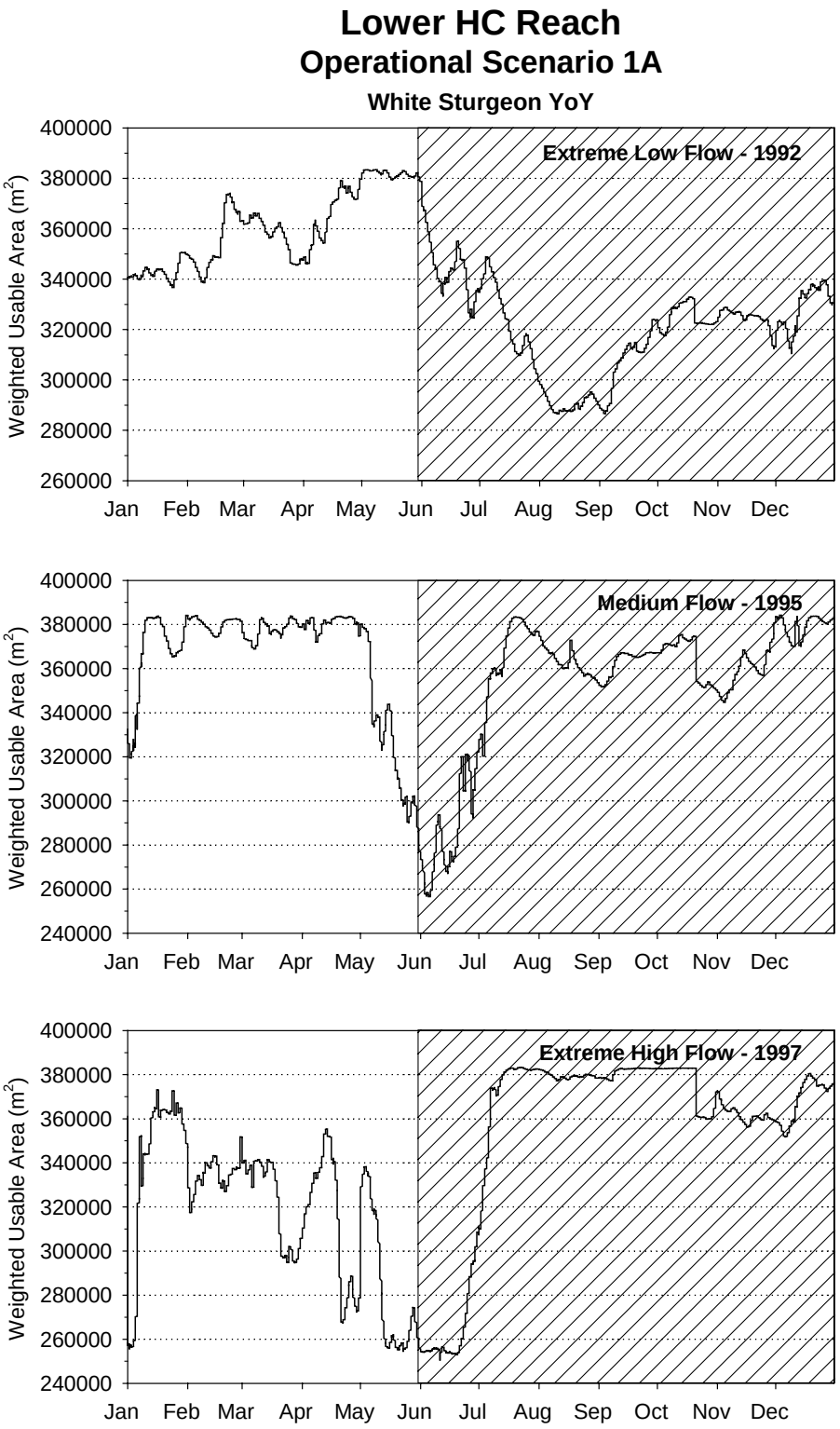


Figure 262. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

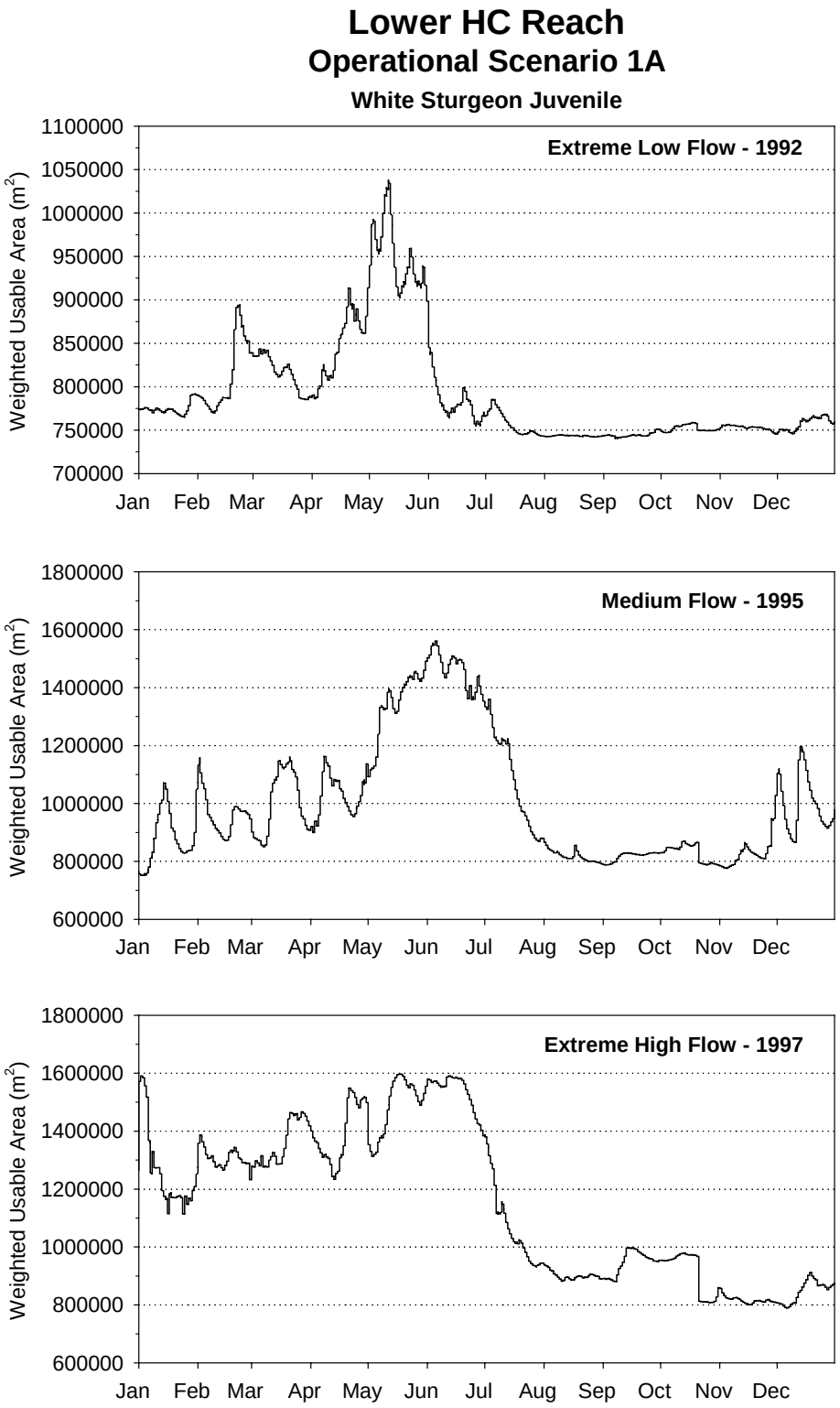


Figure 263. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

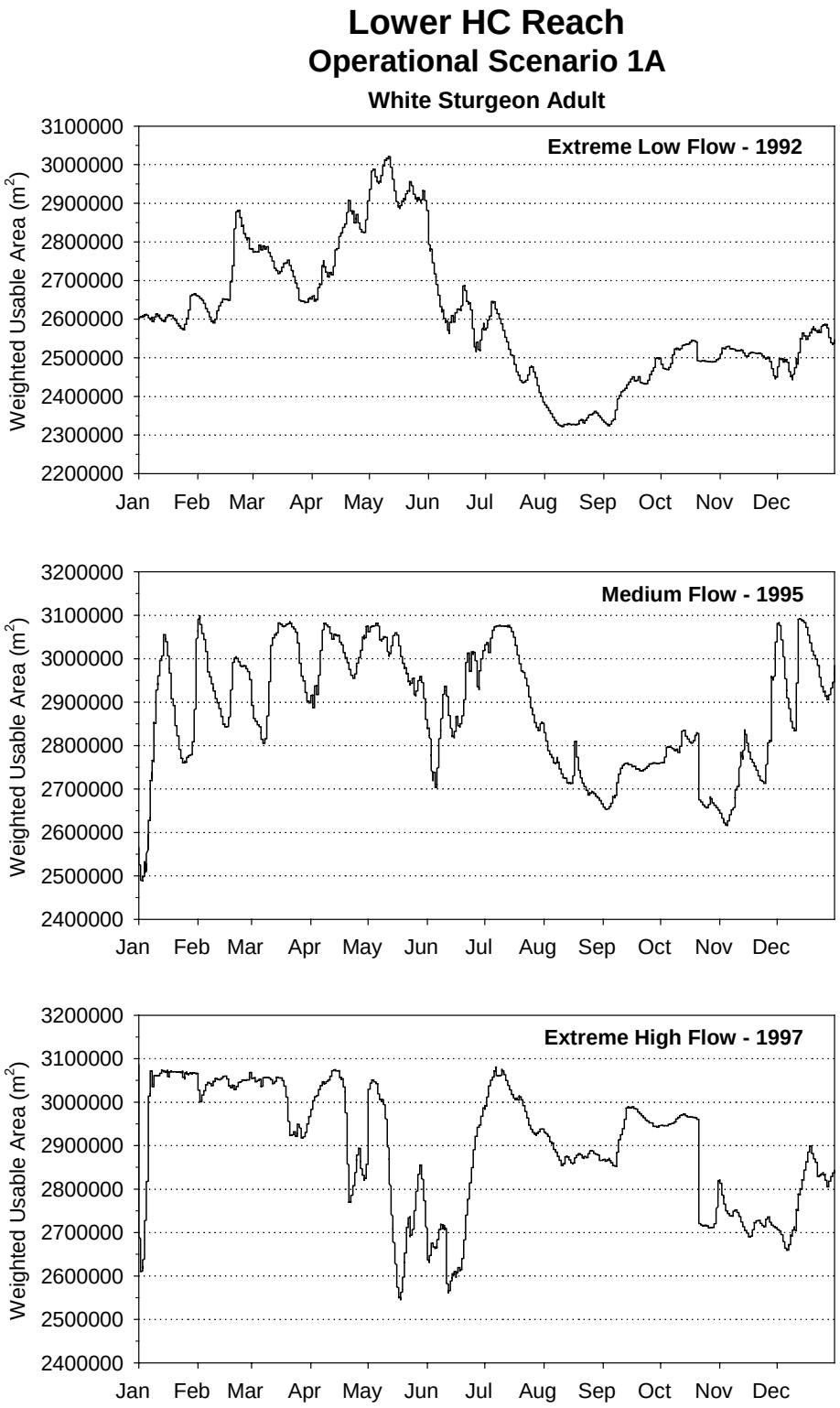


Figure 264. Total weighted usable area (WUA) under Operational Scenario 1A for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

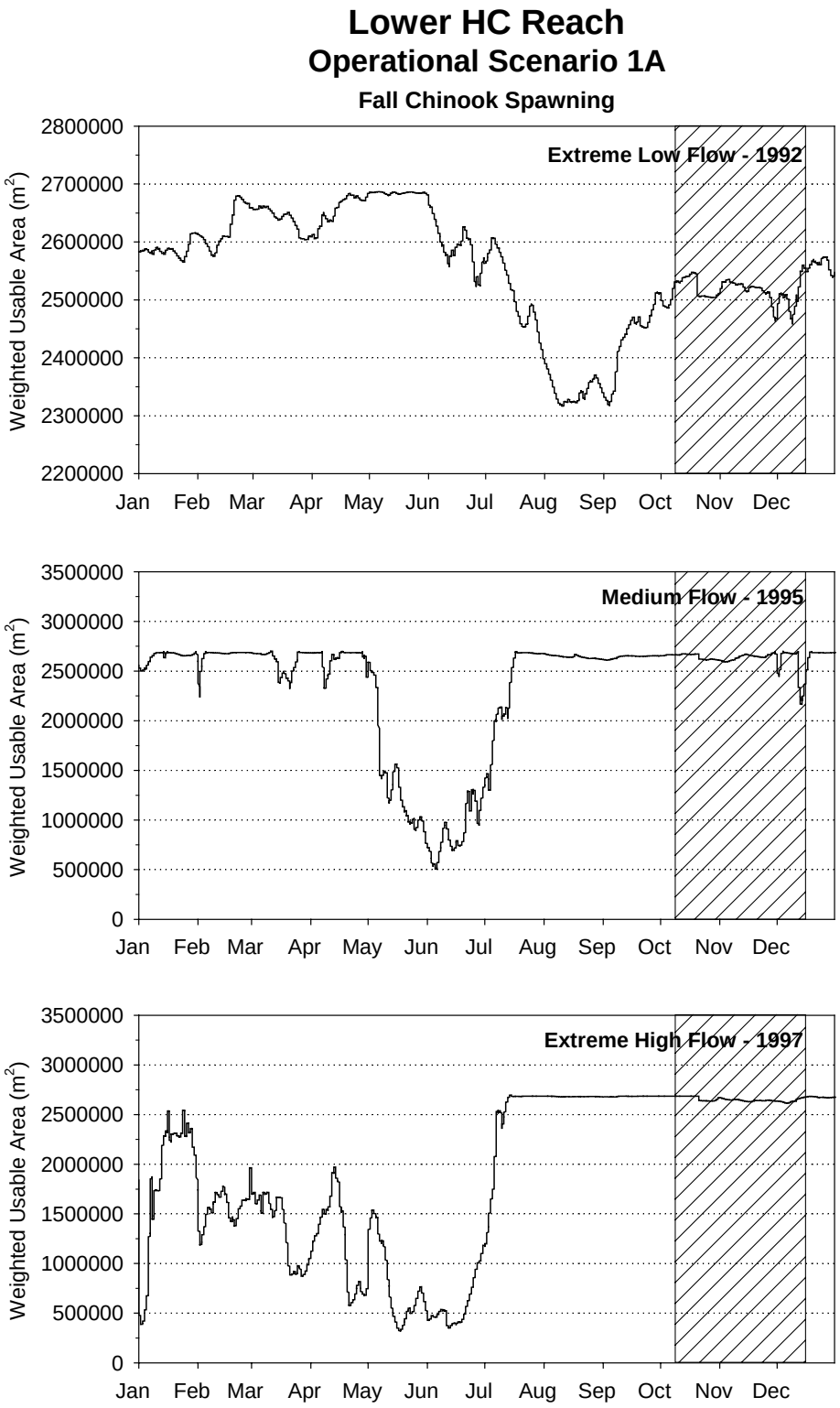


Figure 265. Total weighted usable area (WUA) under Operational Scenario 1A for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

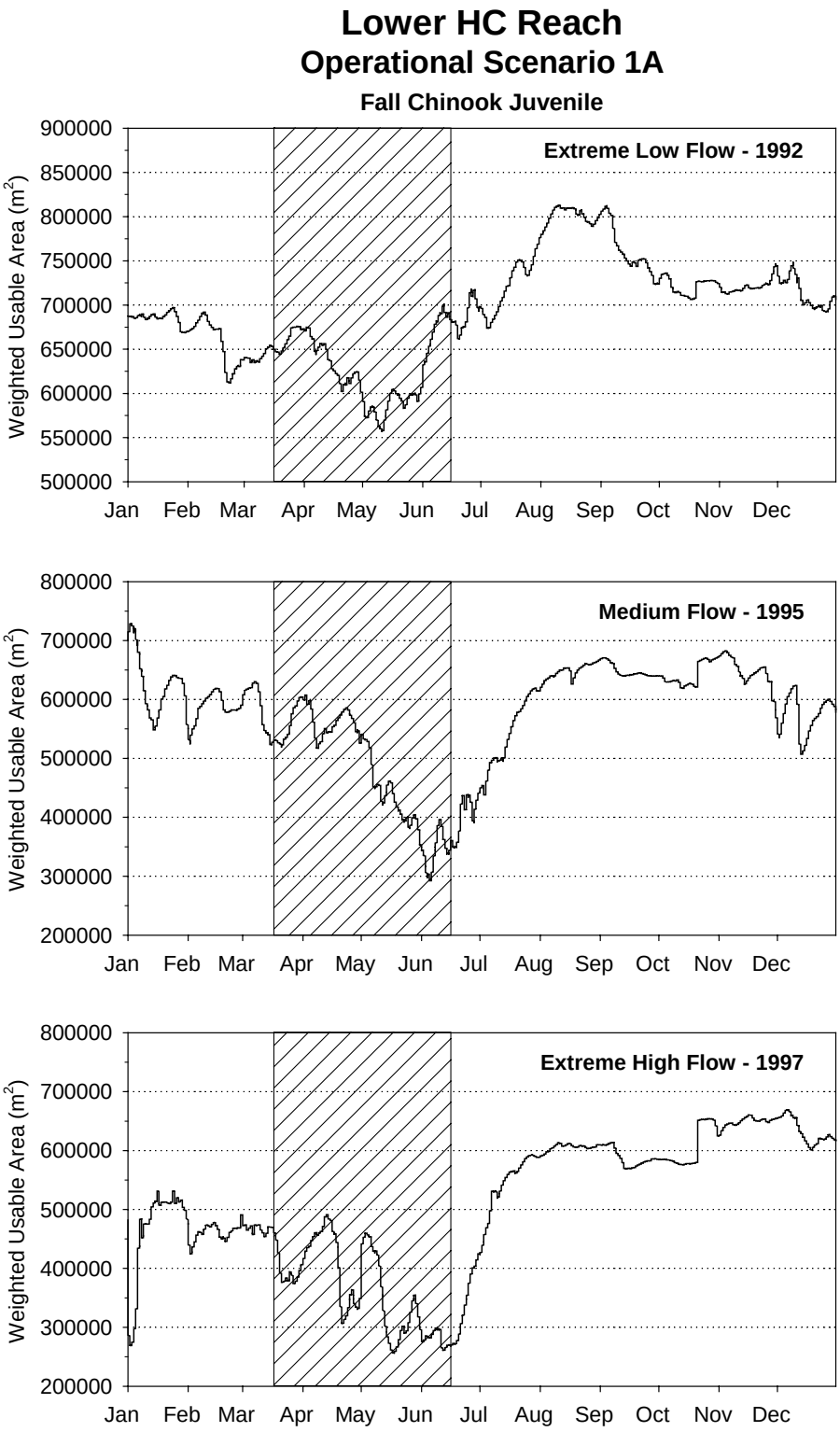


Figure 266. Total weighted usable area (WUA) under Operational Scenario 1A for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

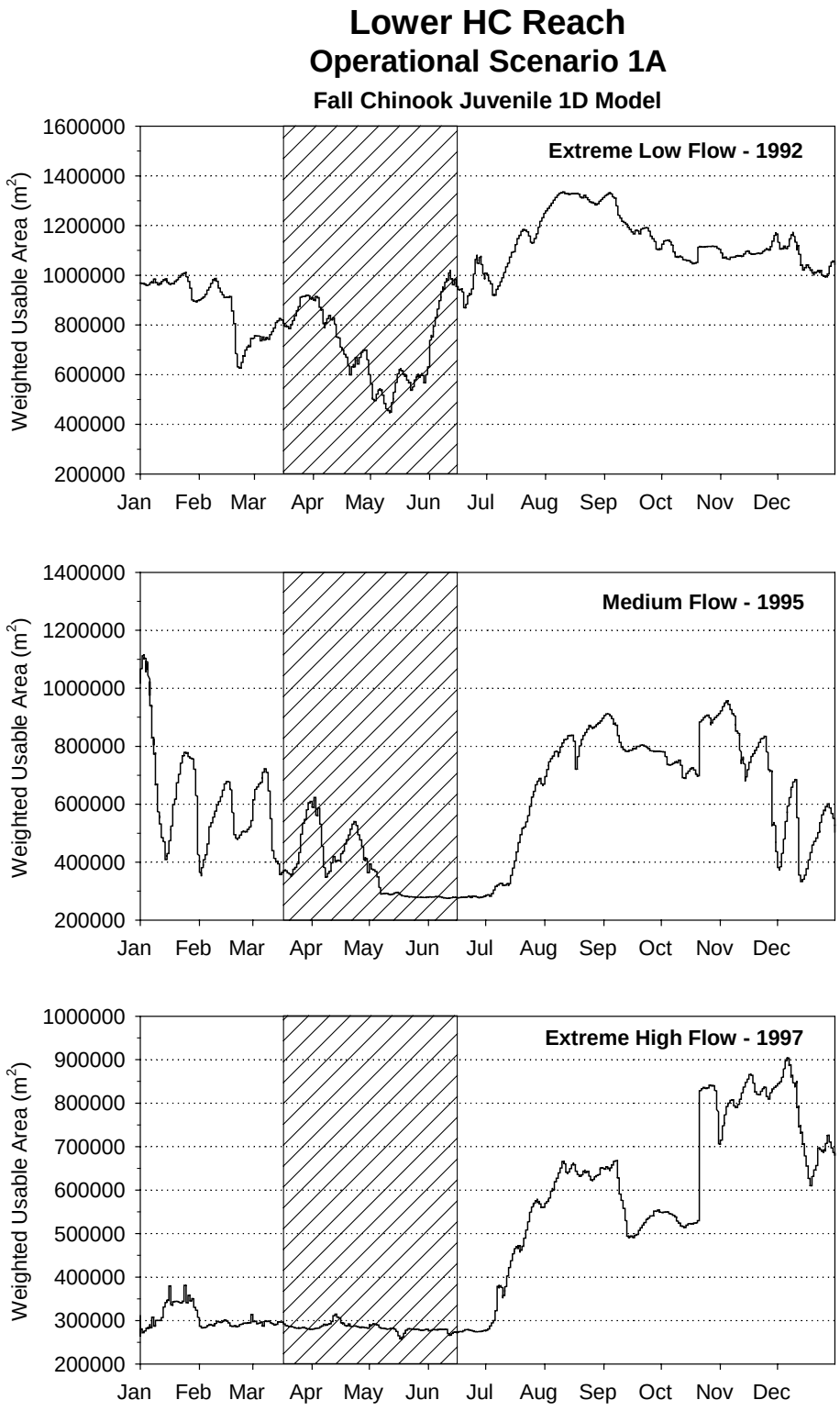


Figure 267. Total weighted usable area (WUA) under Operational Scenario 1A for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

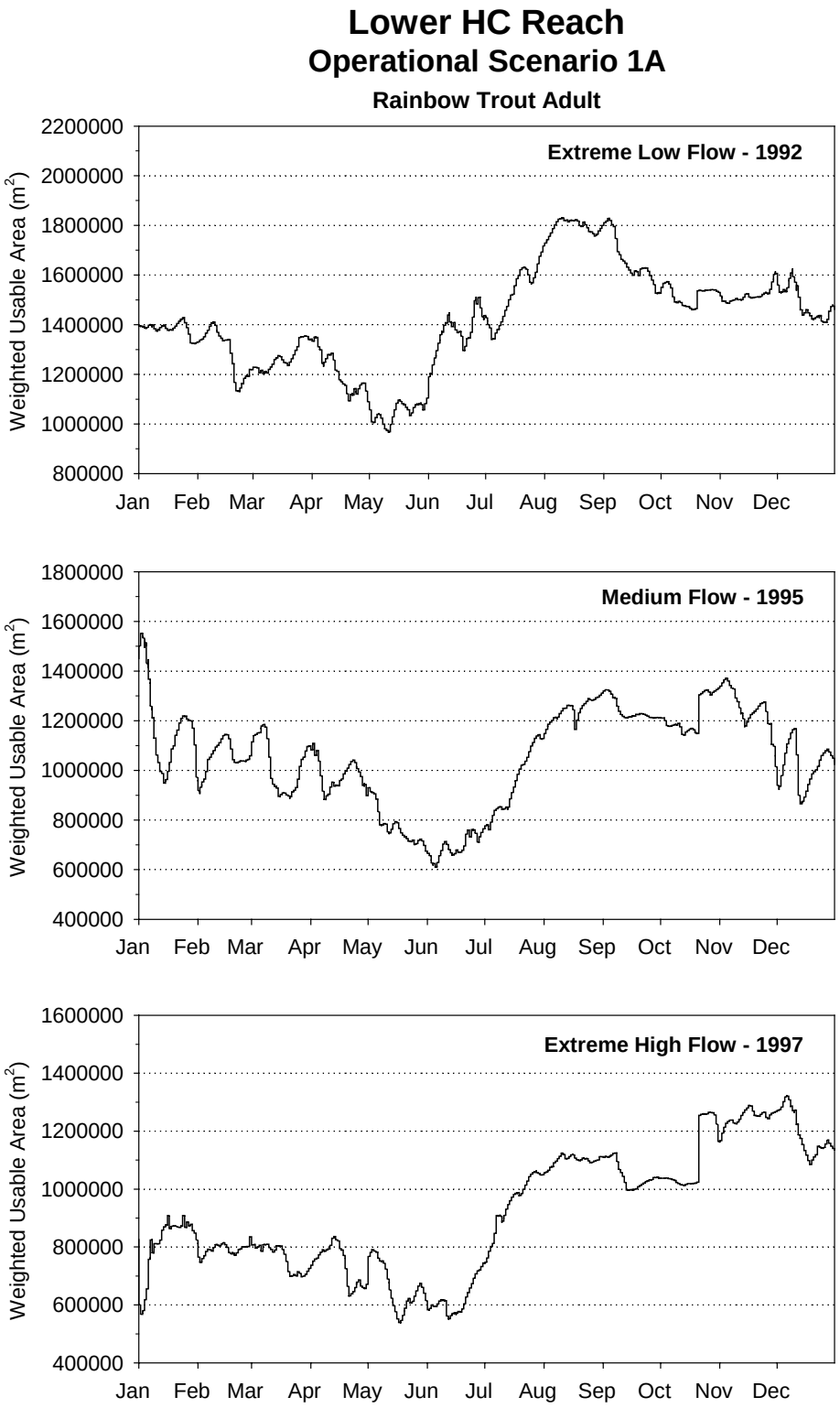


Figure 268. Total weighted usable area (WUA) under Operational Scenario 1A for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

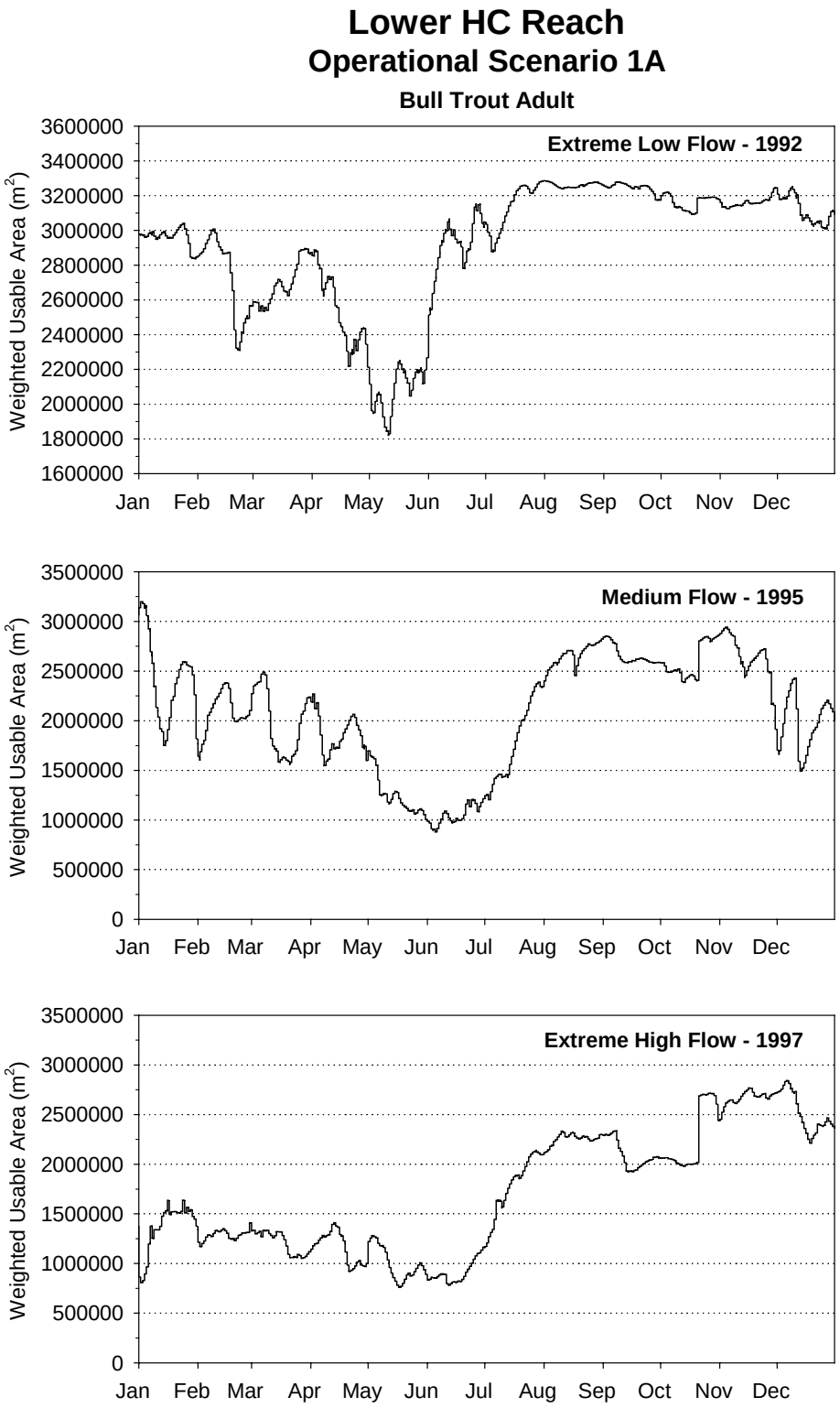


Figure 269. Total weighted usable area (WUA) under Operational Scenario 1A for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

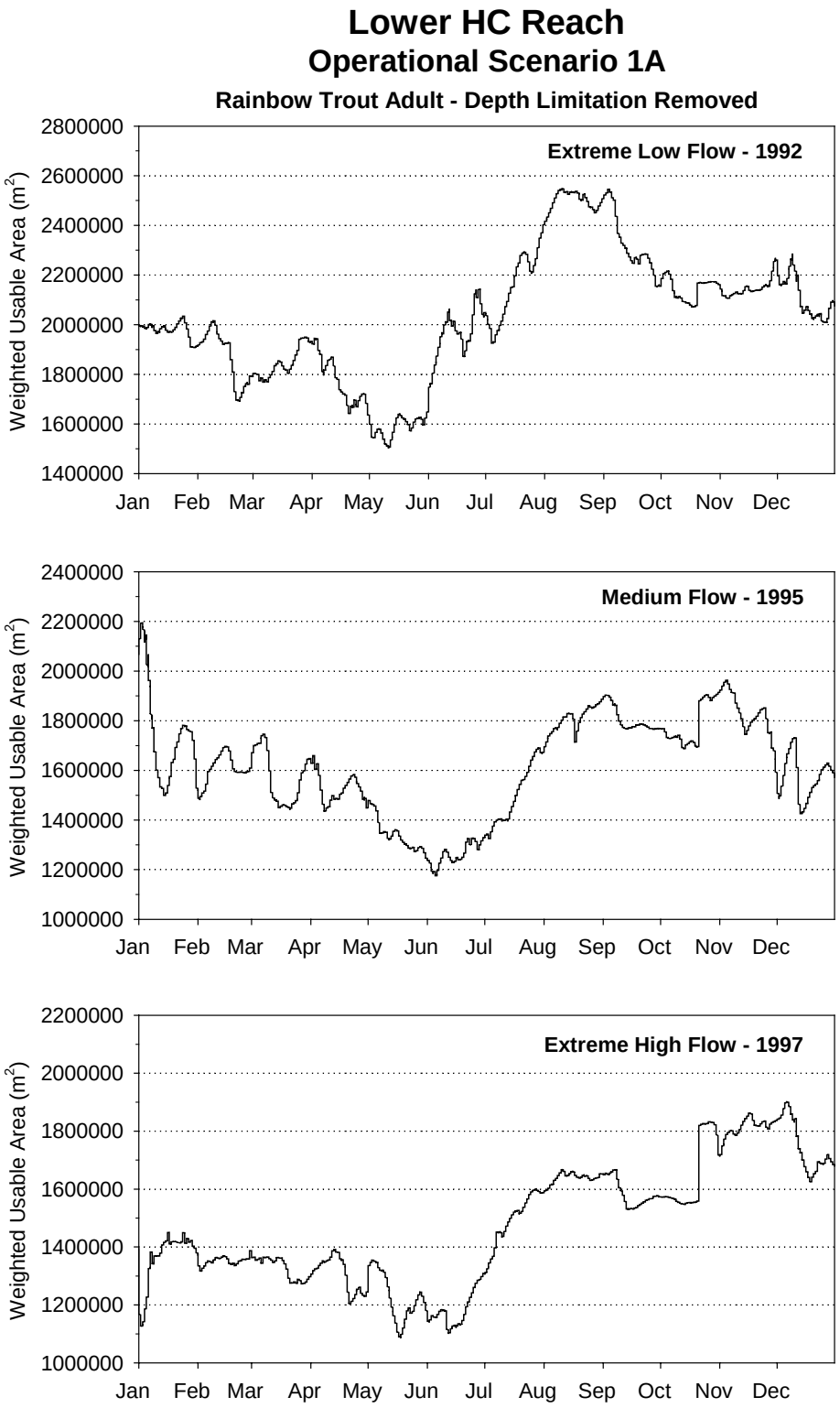


Figure 270. Total weighted usable area (WUA) under Operational Scenario 1A for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

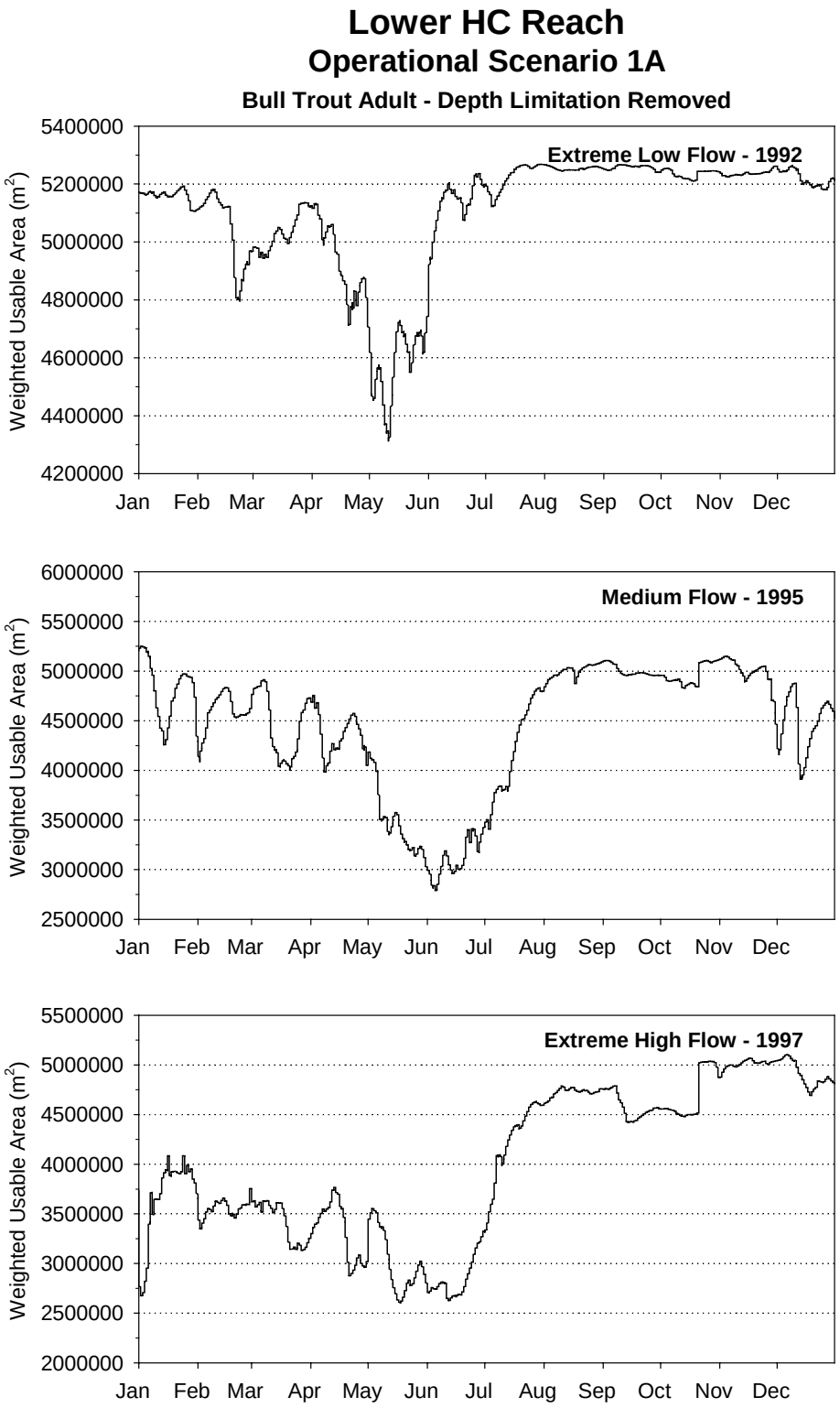


Figure 271. Total weighted usable area (WUA) under Operational Scenario 1A for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

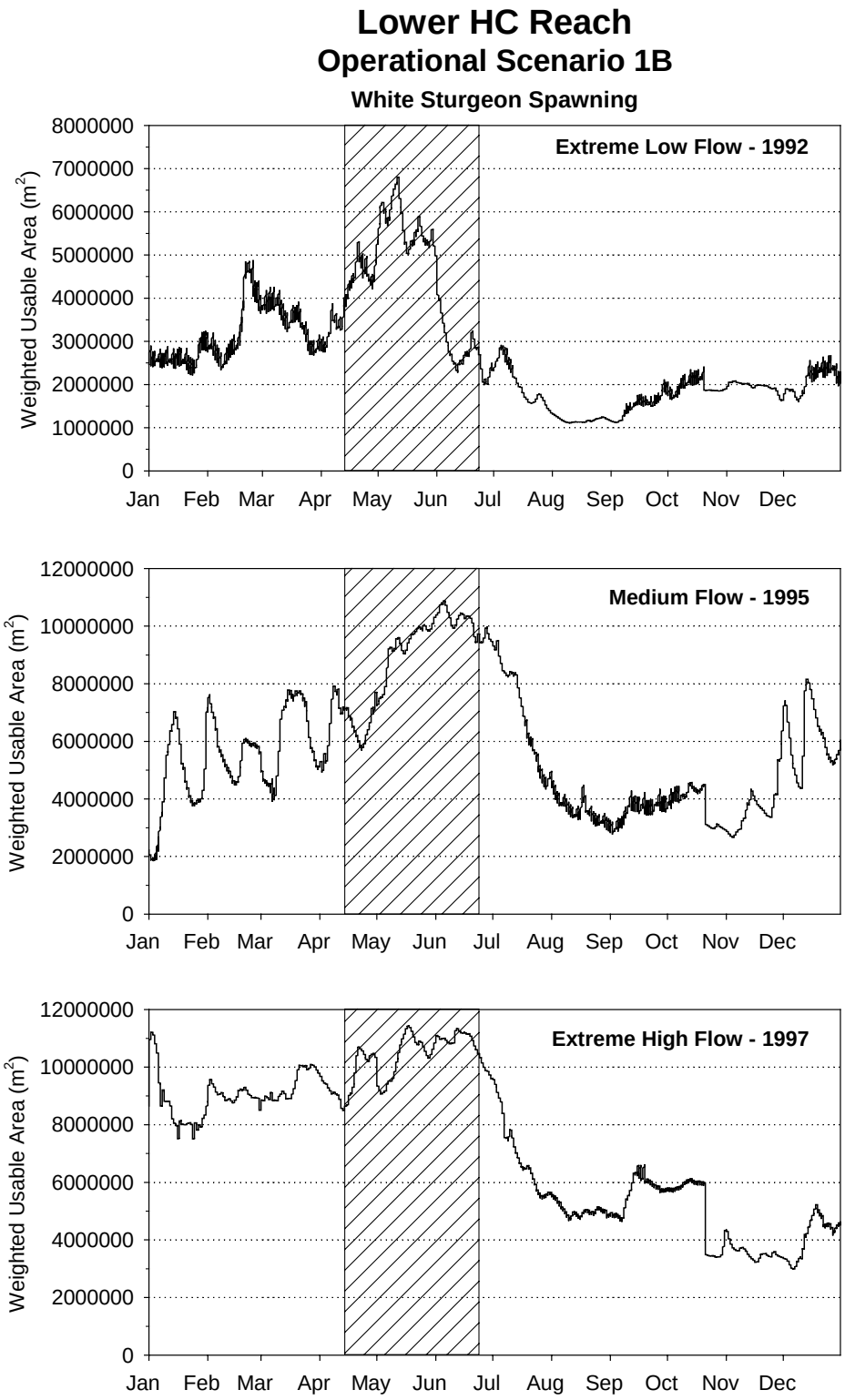


Figure 272. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

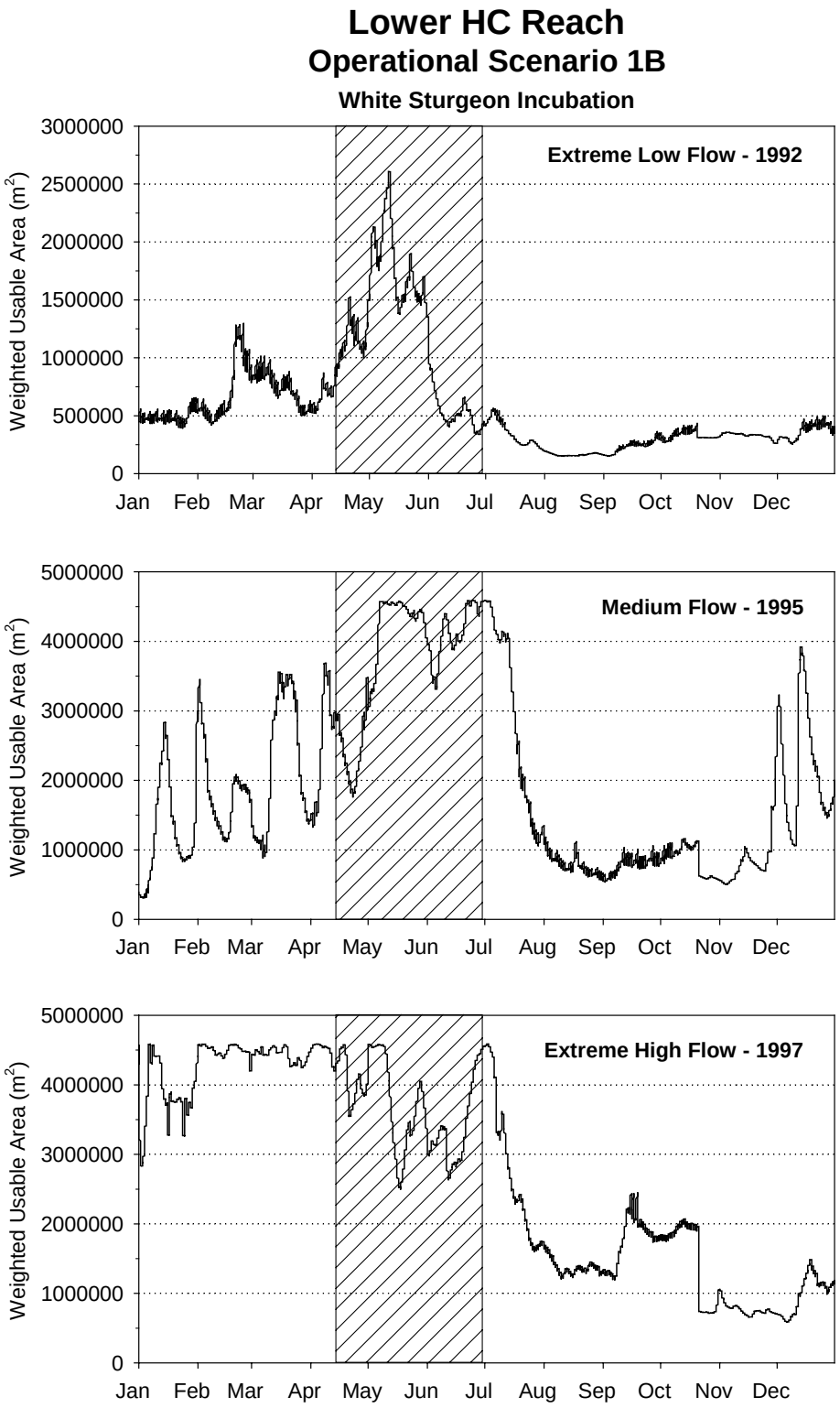


Figure 273. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

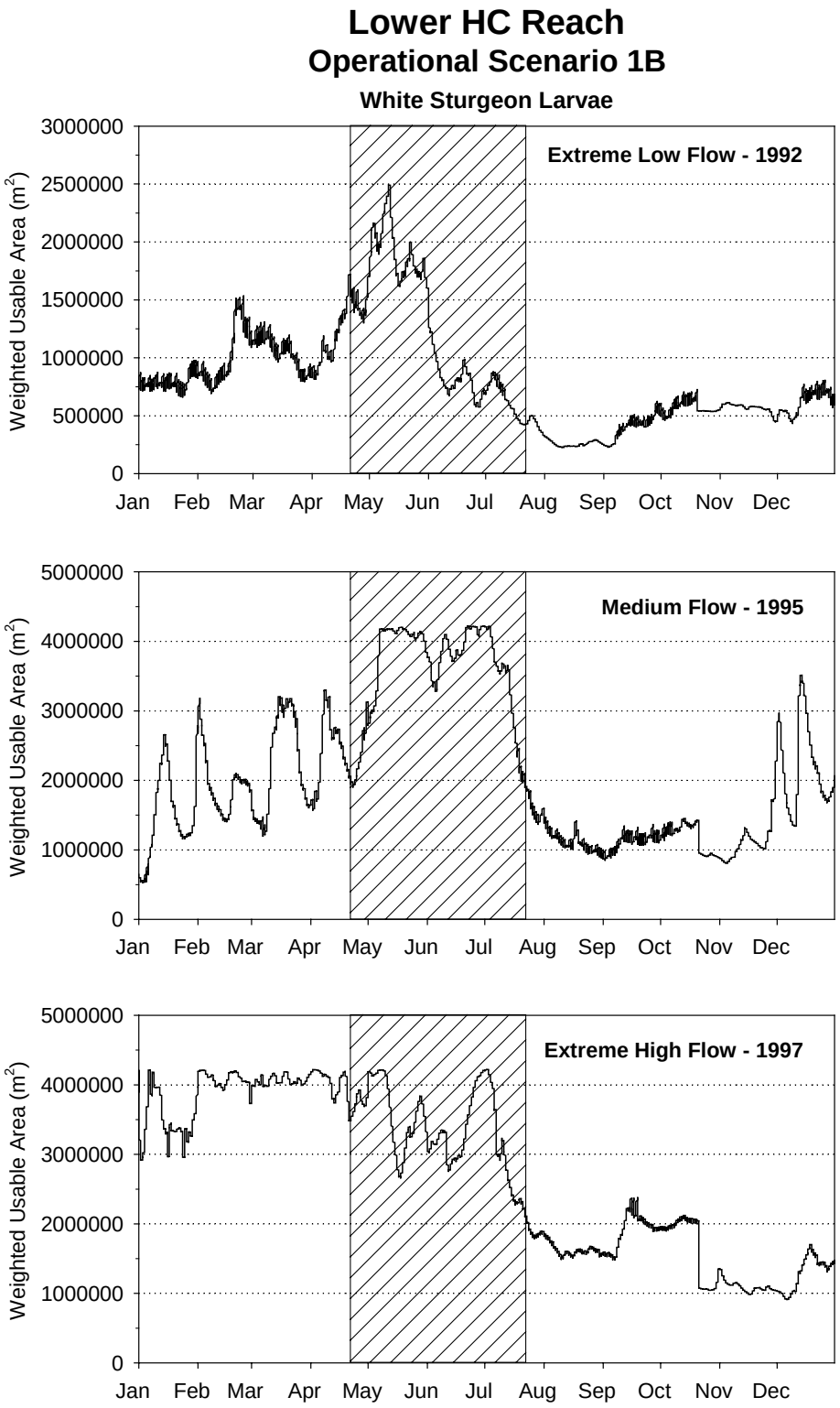


Figure 274. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

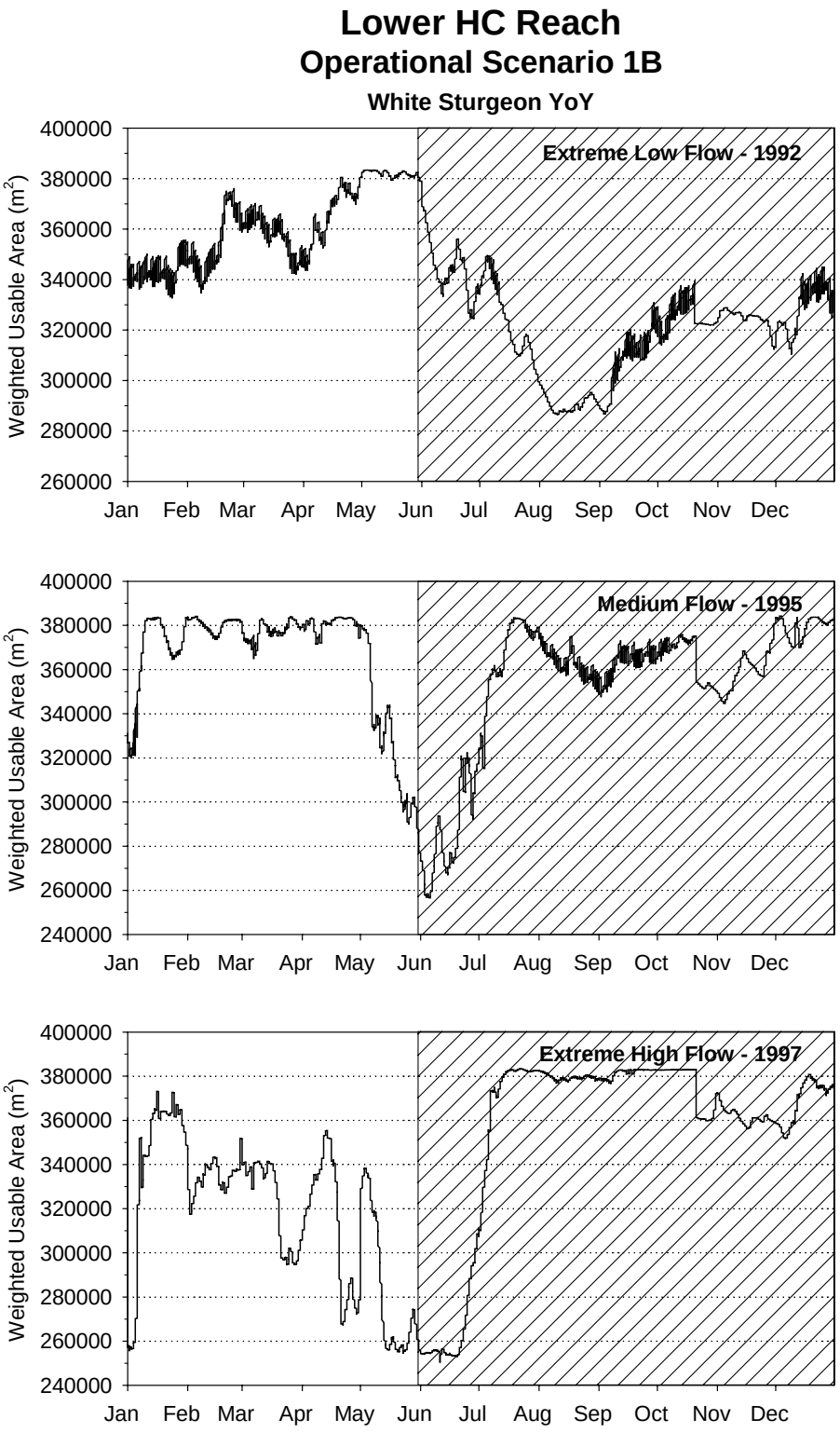


Figure 275. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

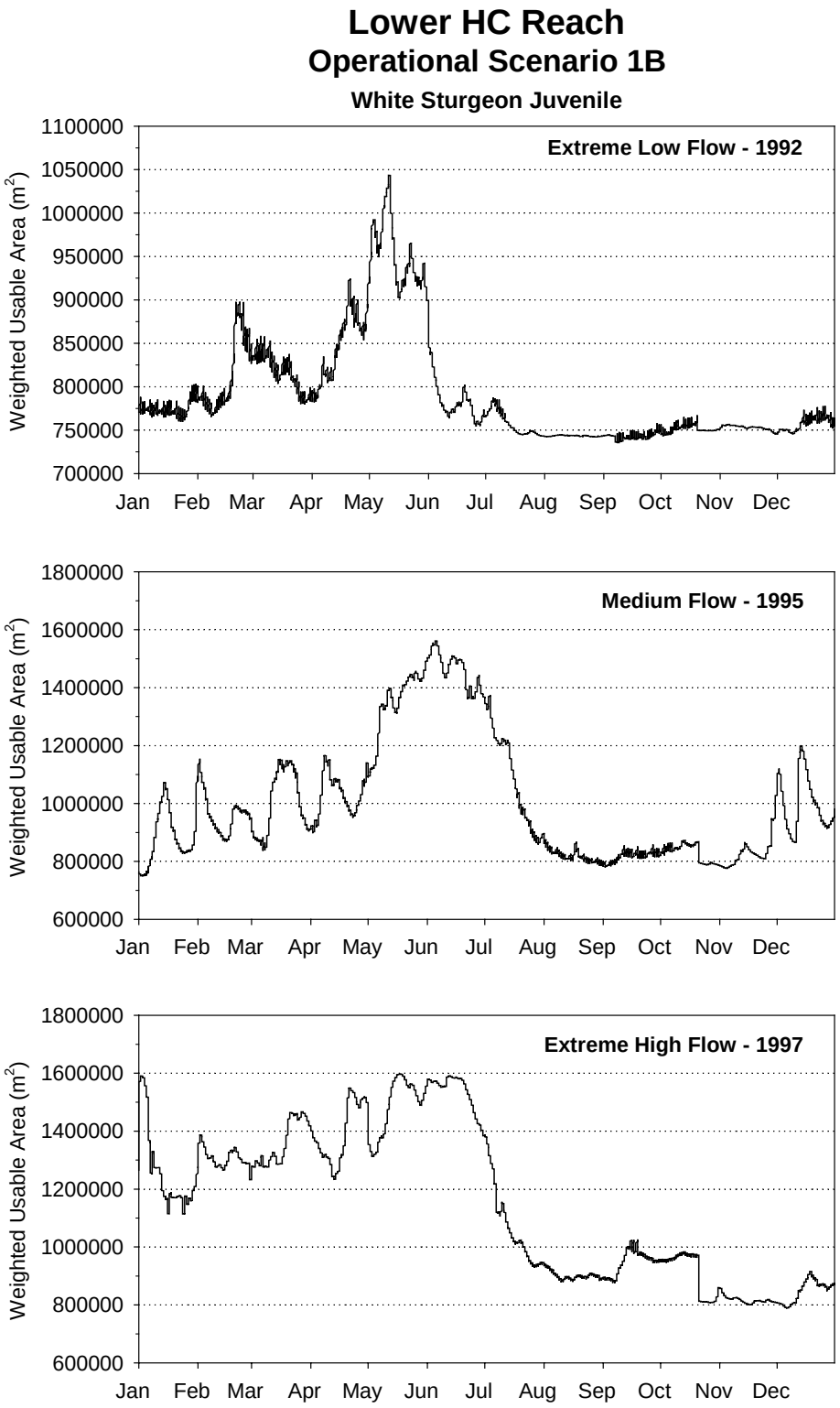


Figure 276. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

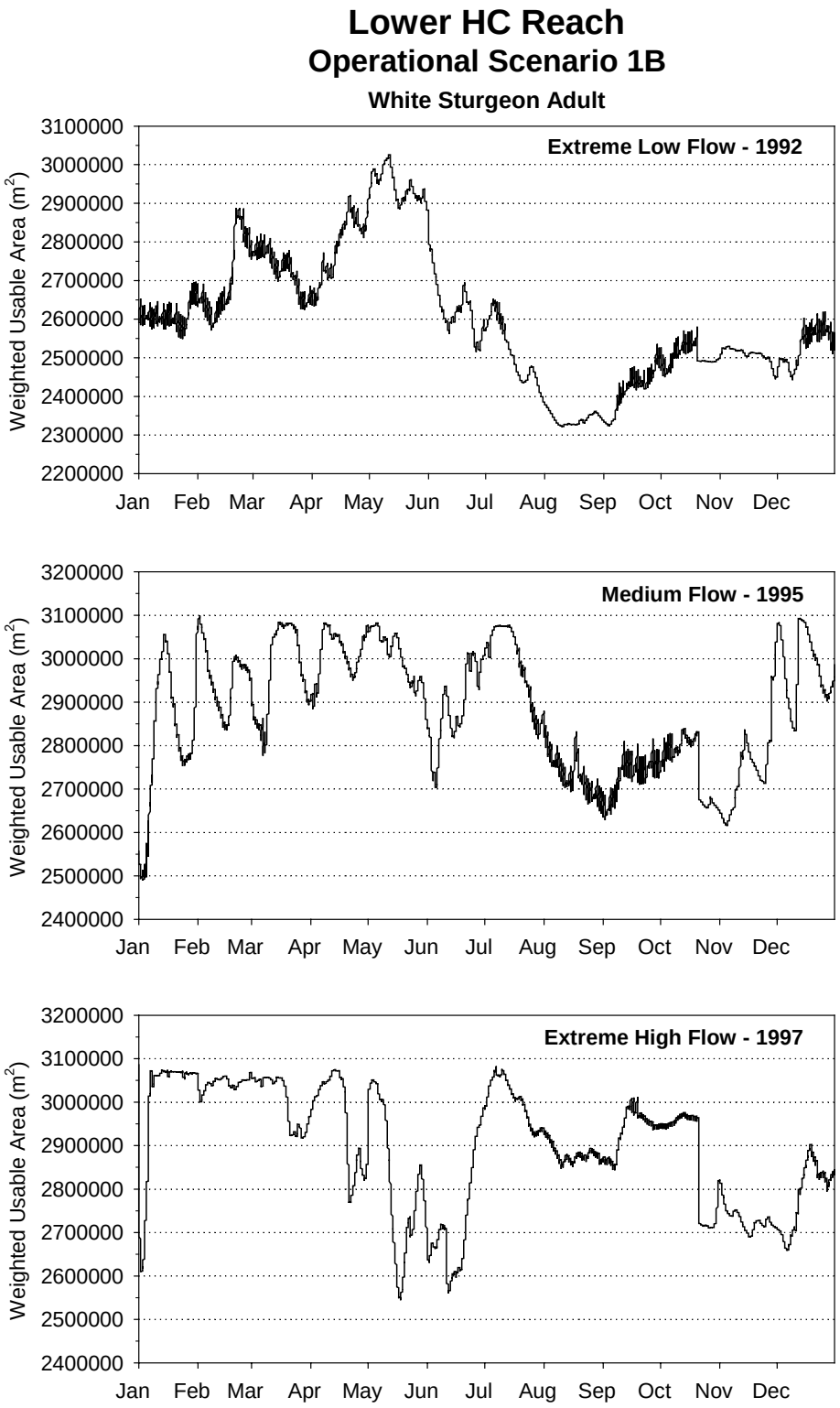


Figure 277. Total weighted usable area (WUA) under Operational Scenario 1B for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

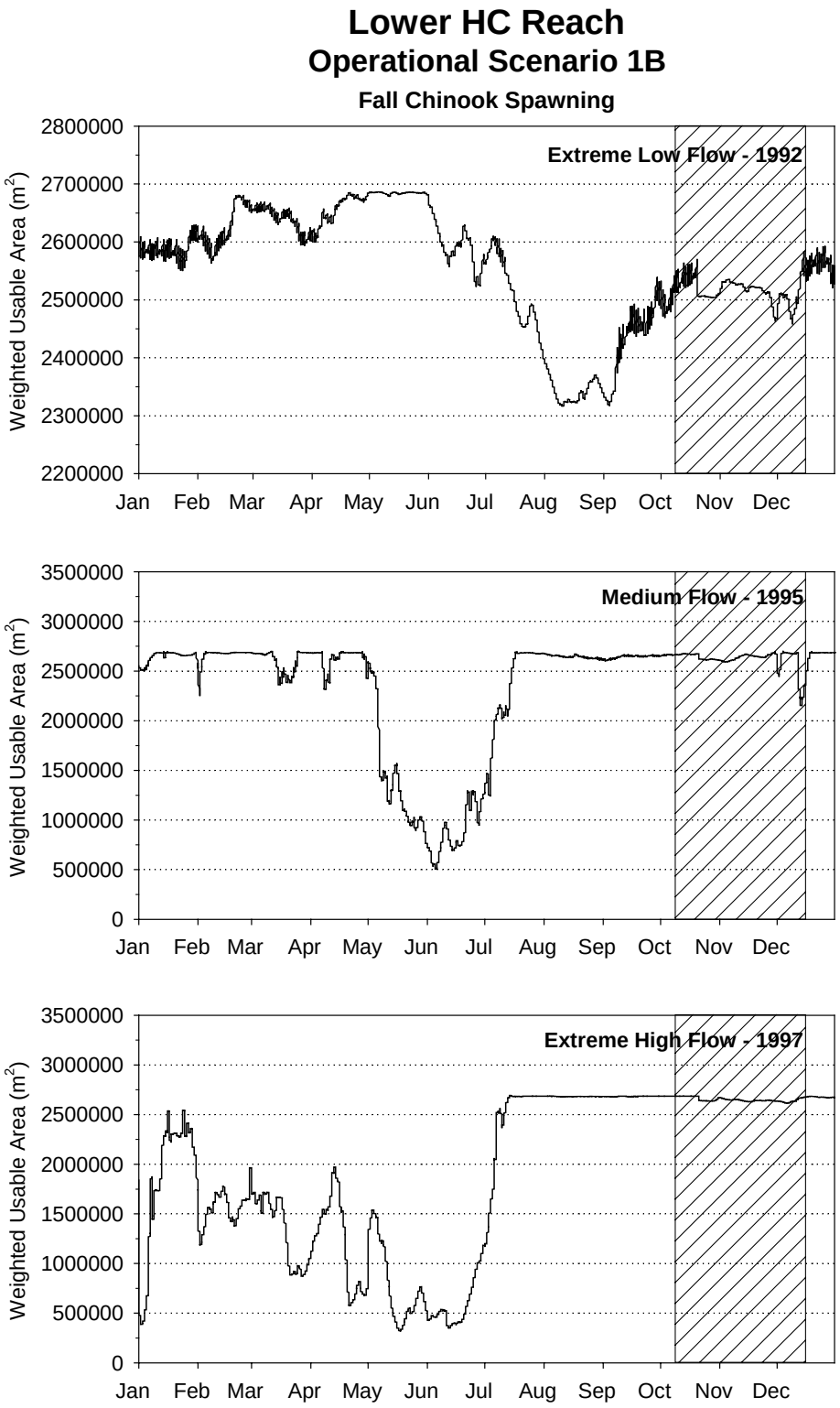


Figure 278. Total weighted usable area (WUA) under Operational Scenario 1B for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

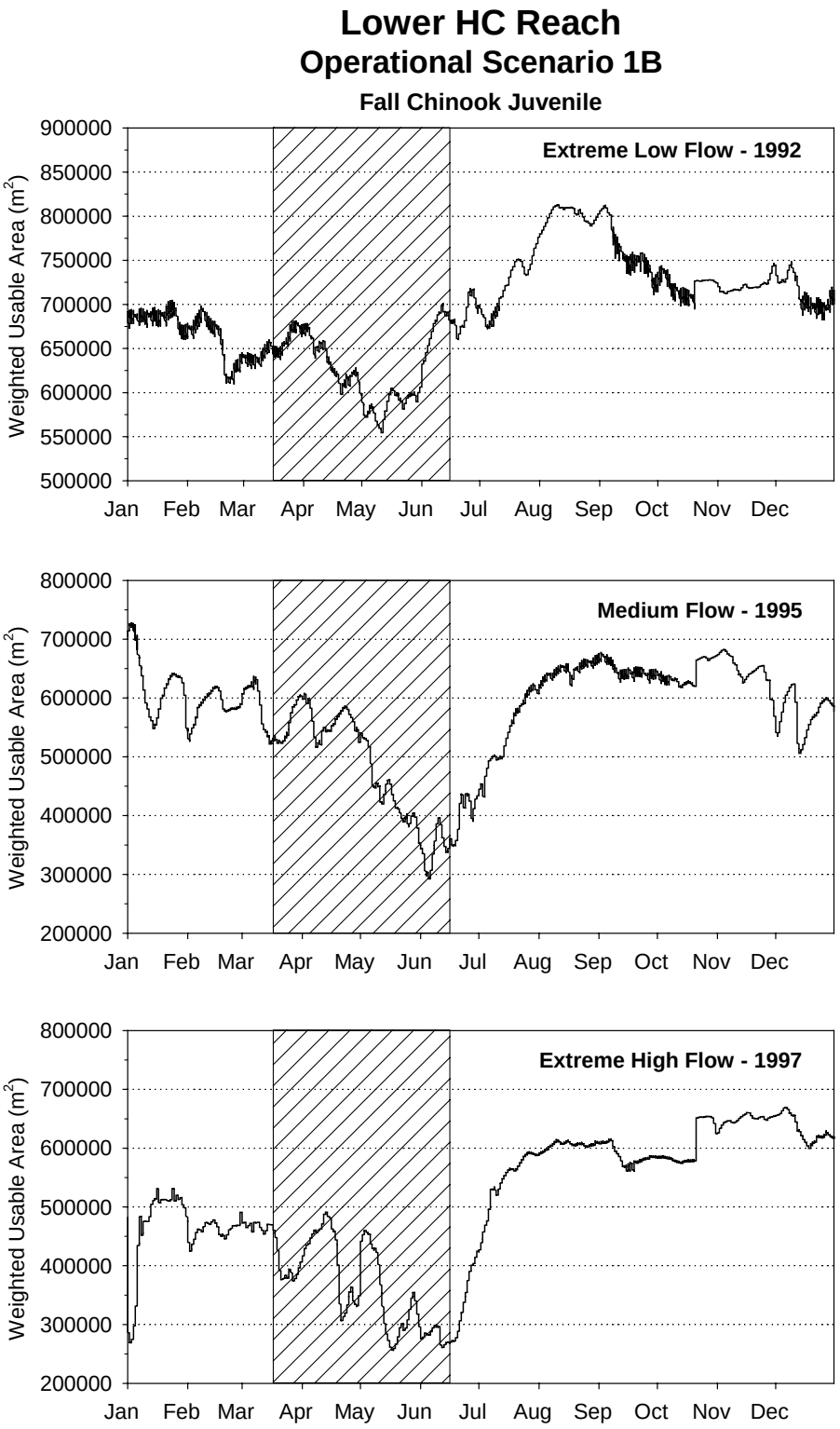


Figure 279. Total weighted usable area (WUA) under Operational Scenario 1B for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

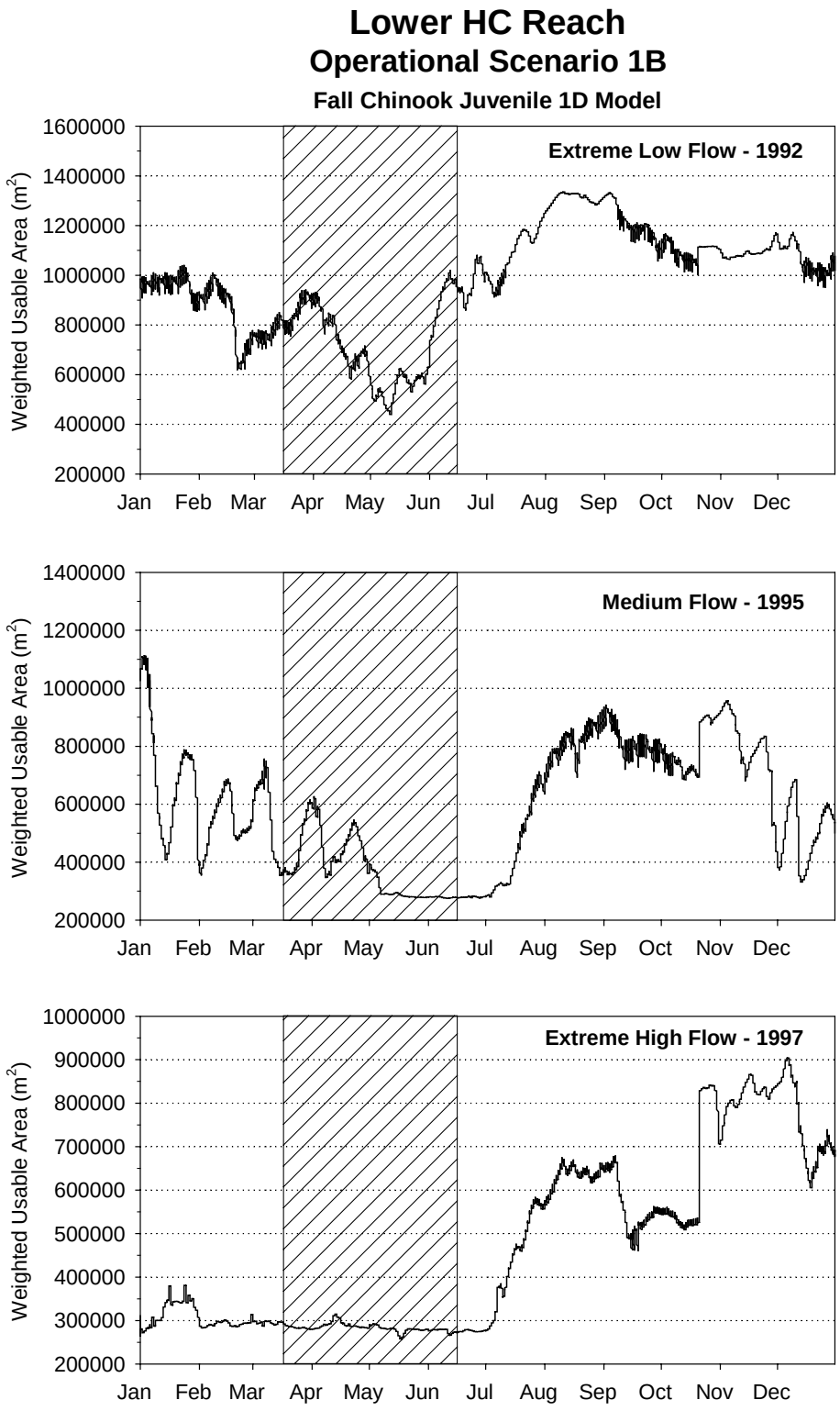


Figure 280. Total weighted usable area (WUA) under Operational Scenario 1B for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

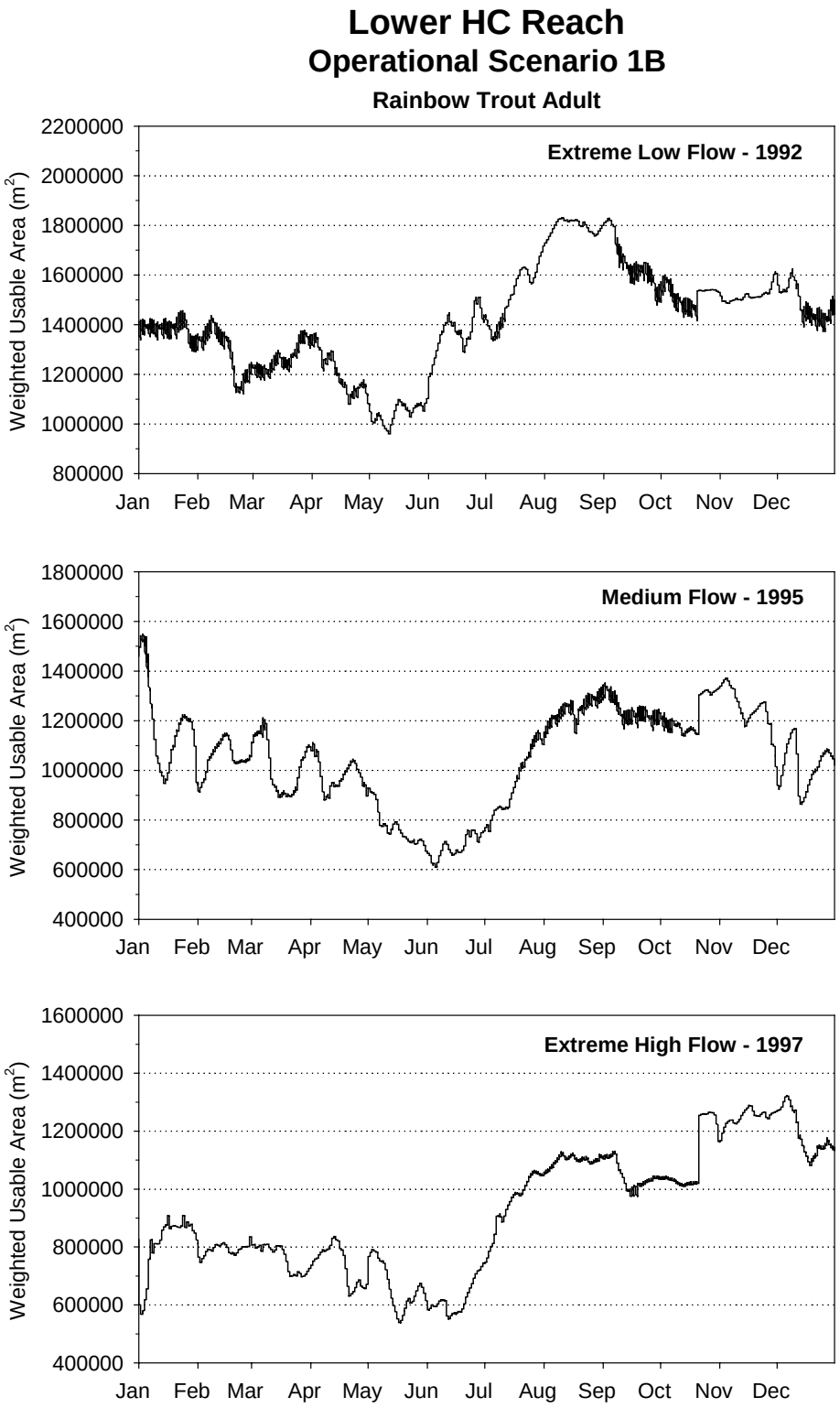


Figure 281. Total weighted usable area (WUA) under Operational Scenario 1B for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

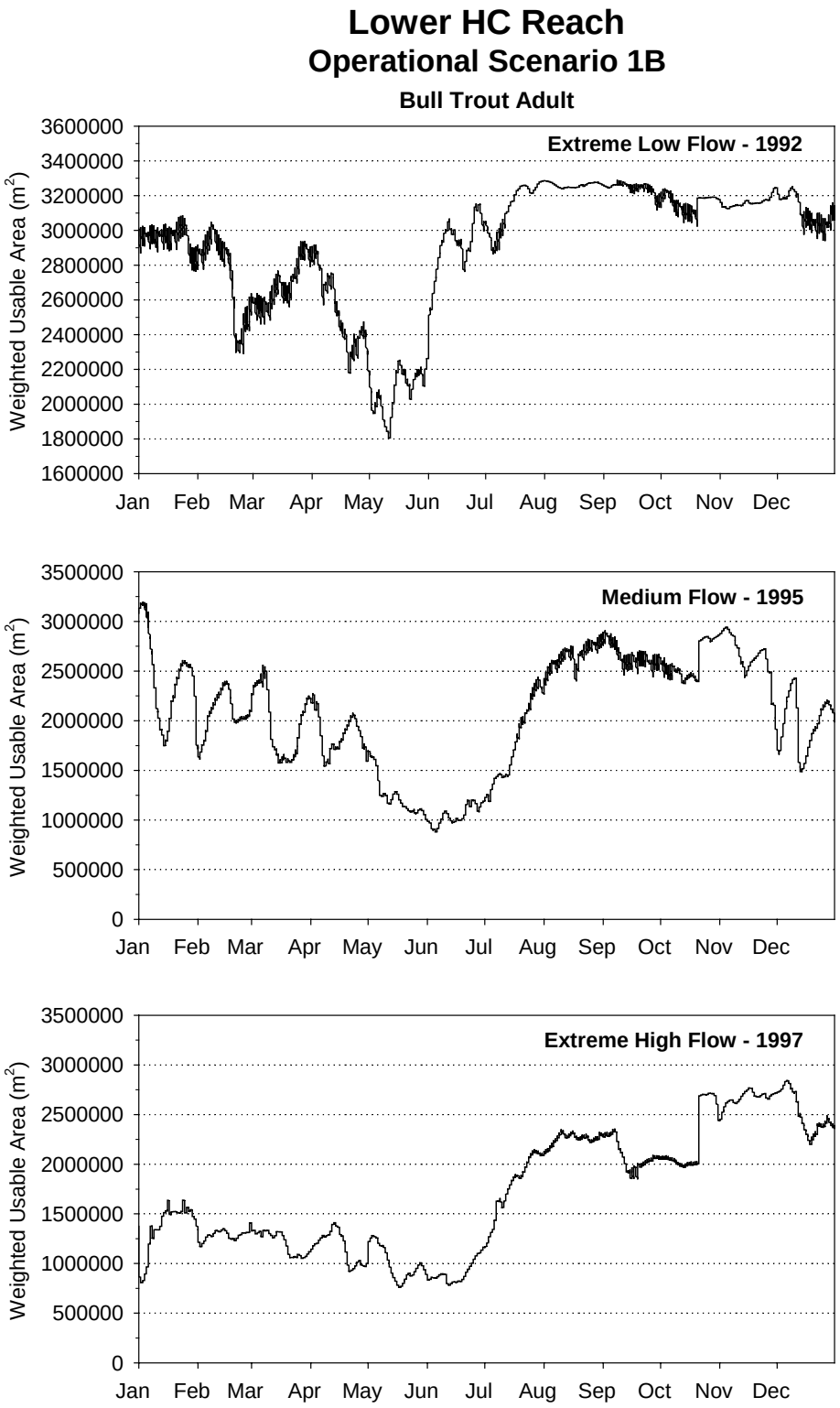


Figure 282. Total weighted usable area (WUA) under Operational Scenario 1B for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

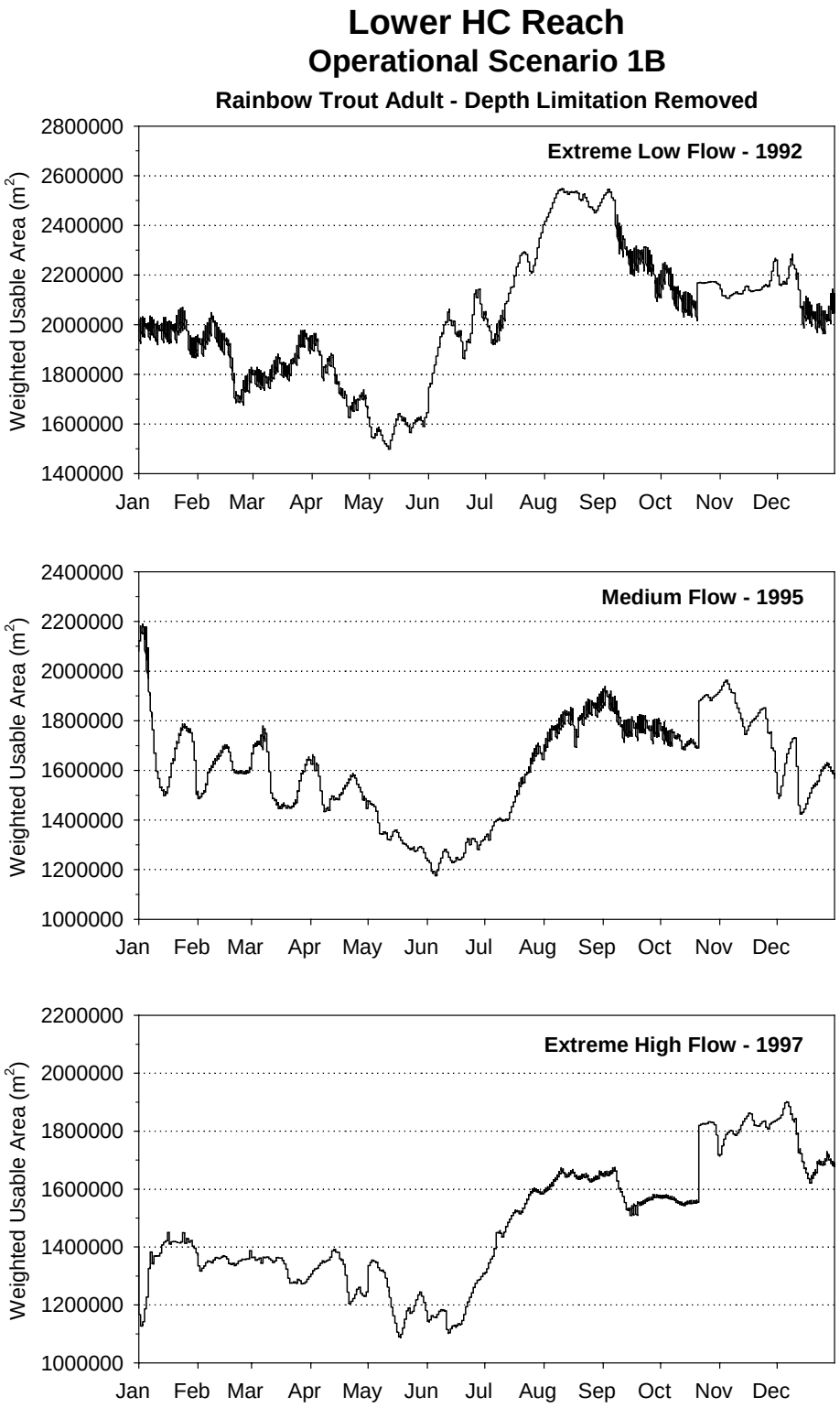


Figure 283. Total weighted usable area (WUA) under Operational Scenario 1B for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

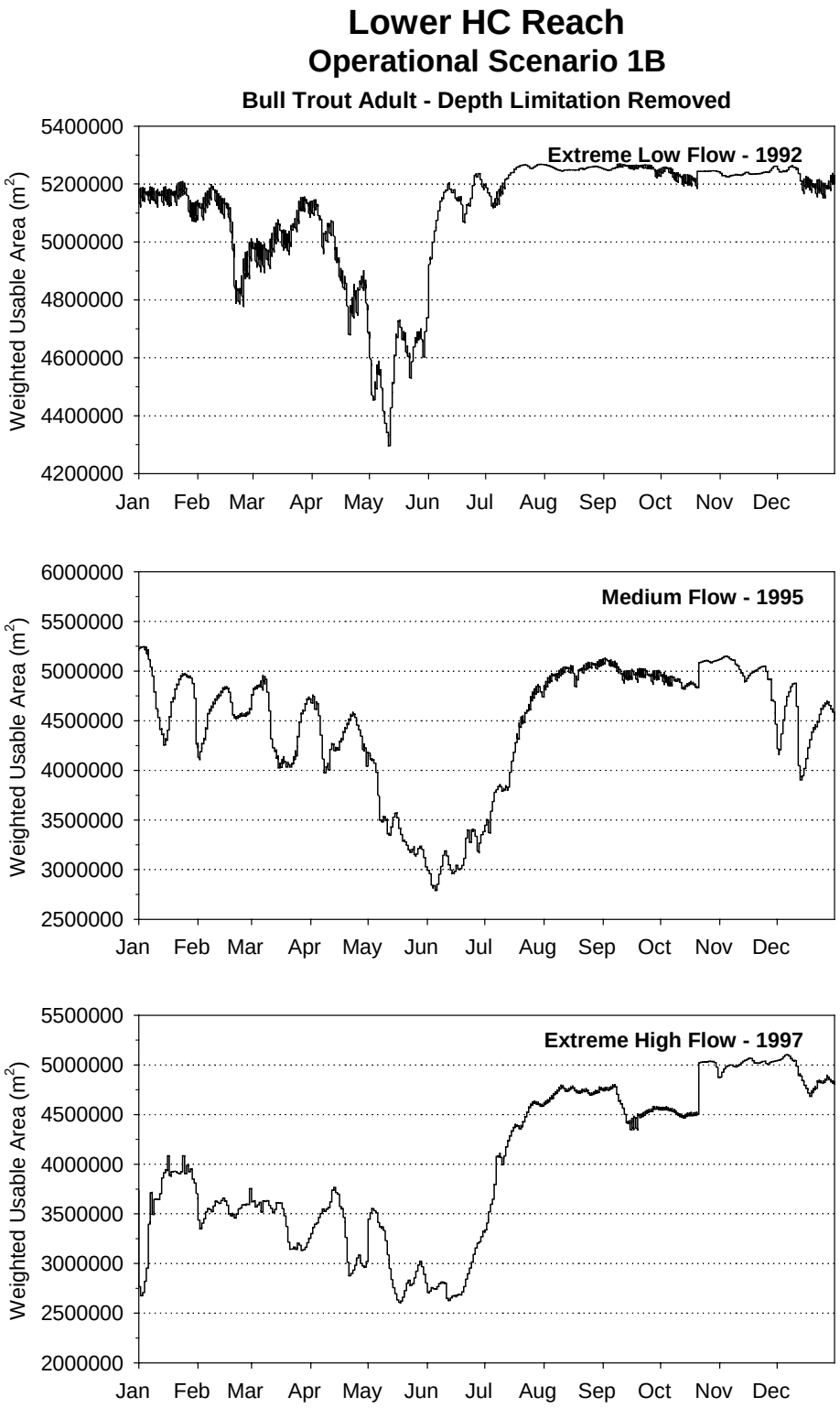


Figure 284. Total weighted usable area (WUA) under Operational Scenario 1B for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

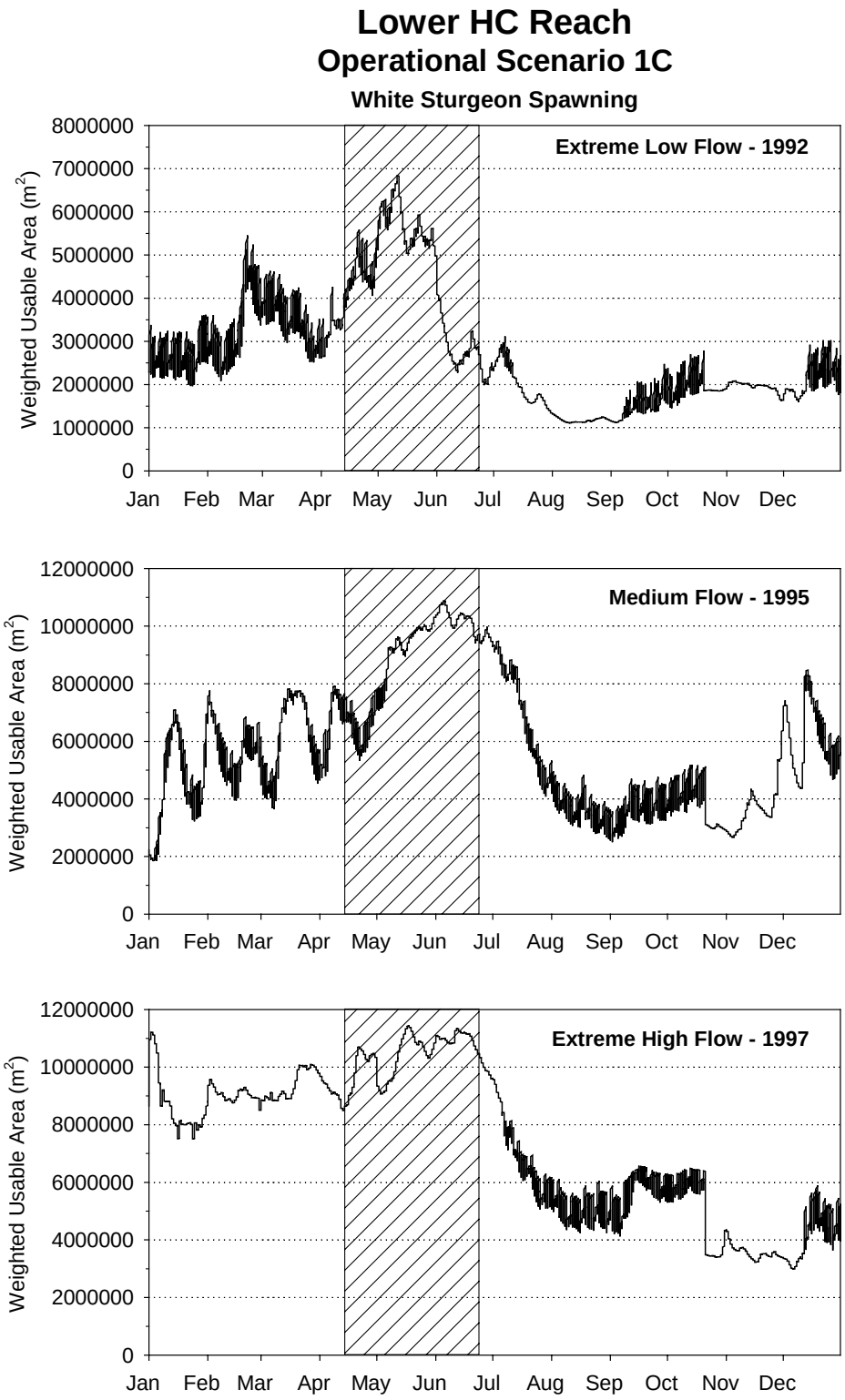


Figure 285. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

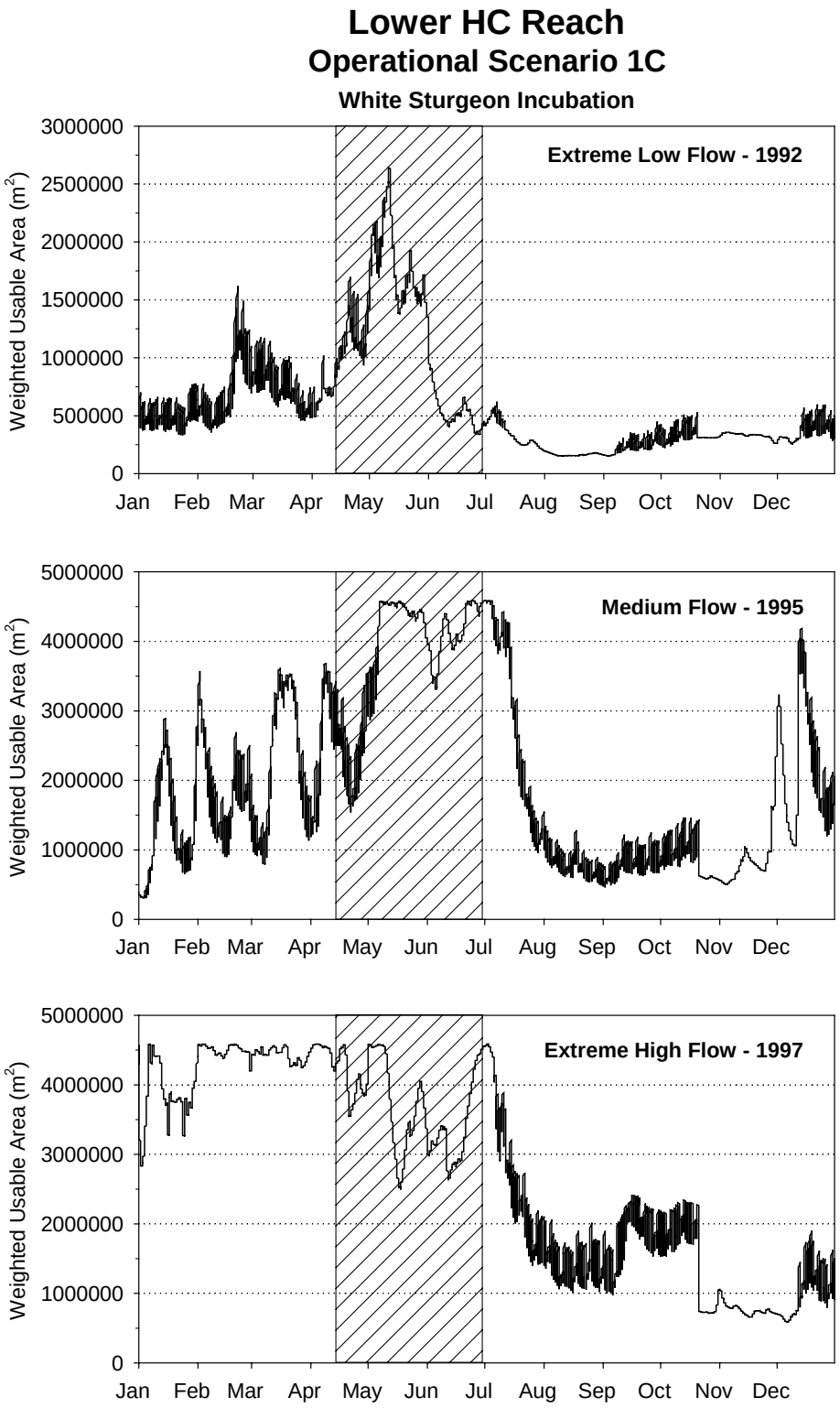


Figure 286. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

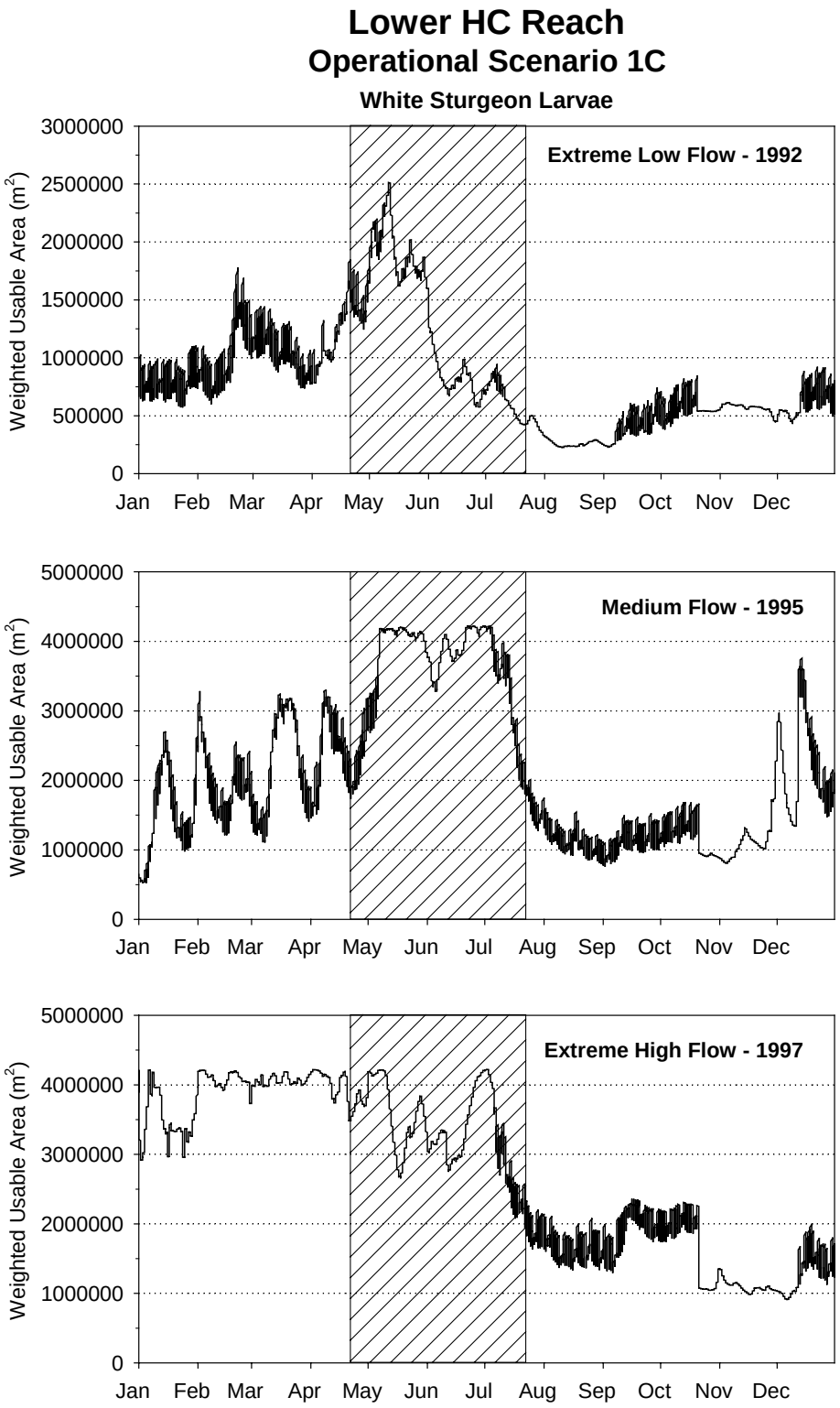


Figure 287. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

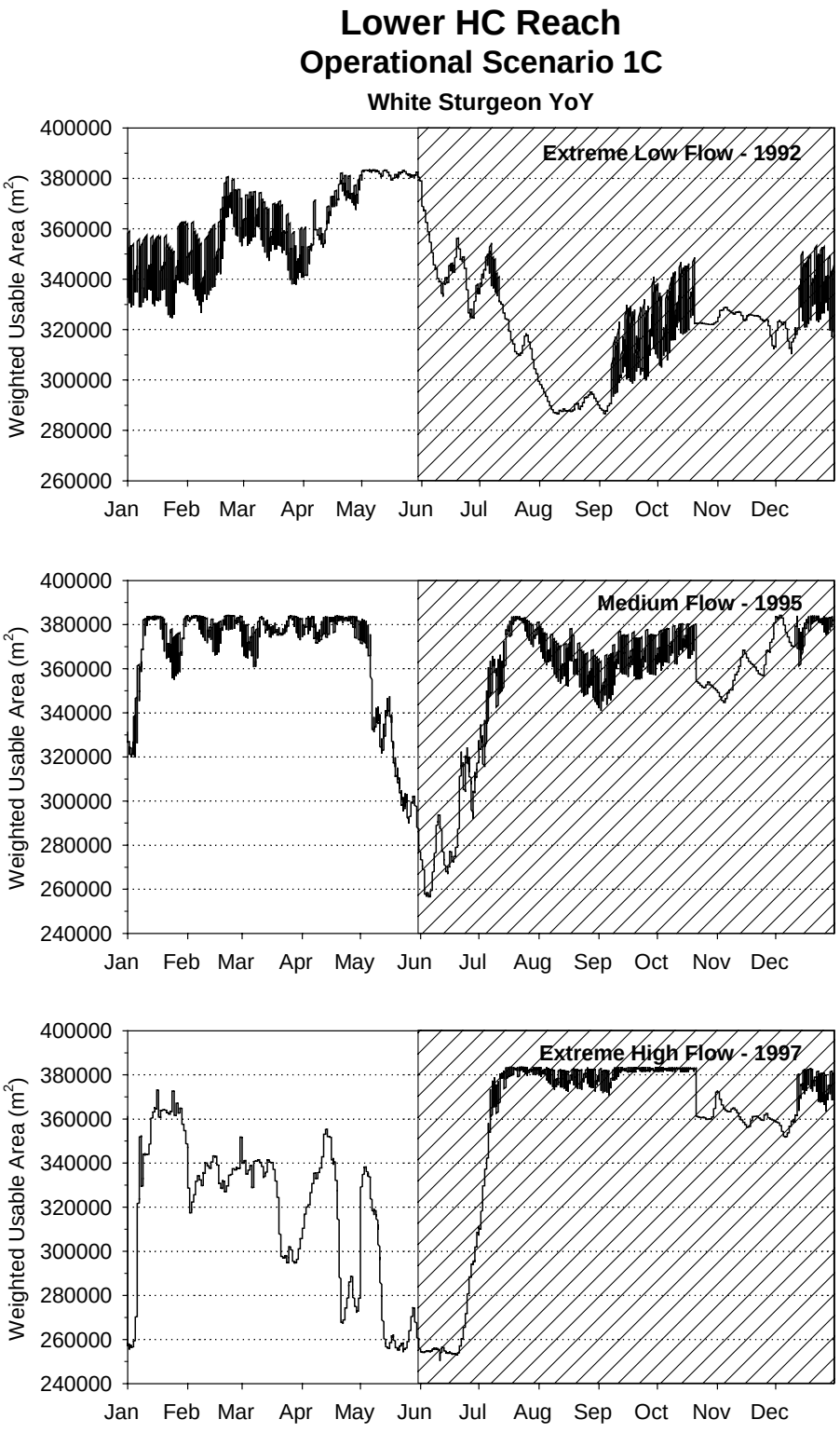


Figure 288. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

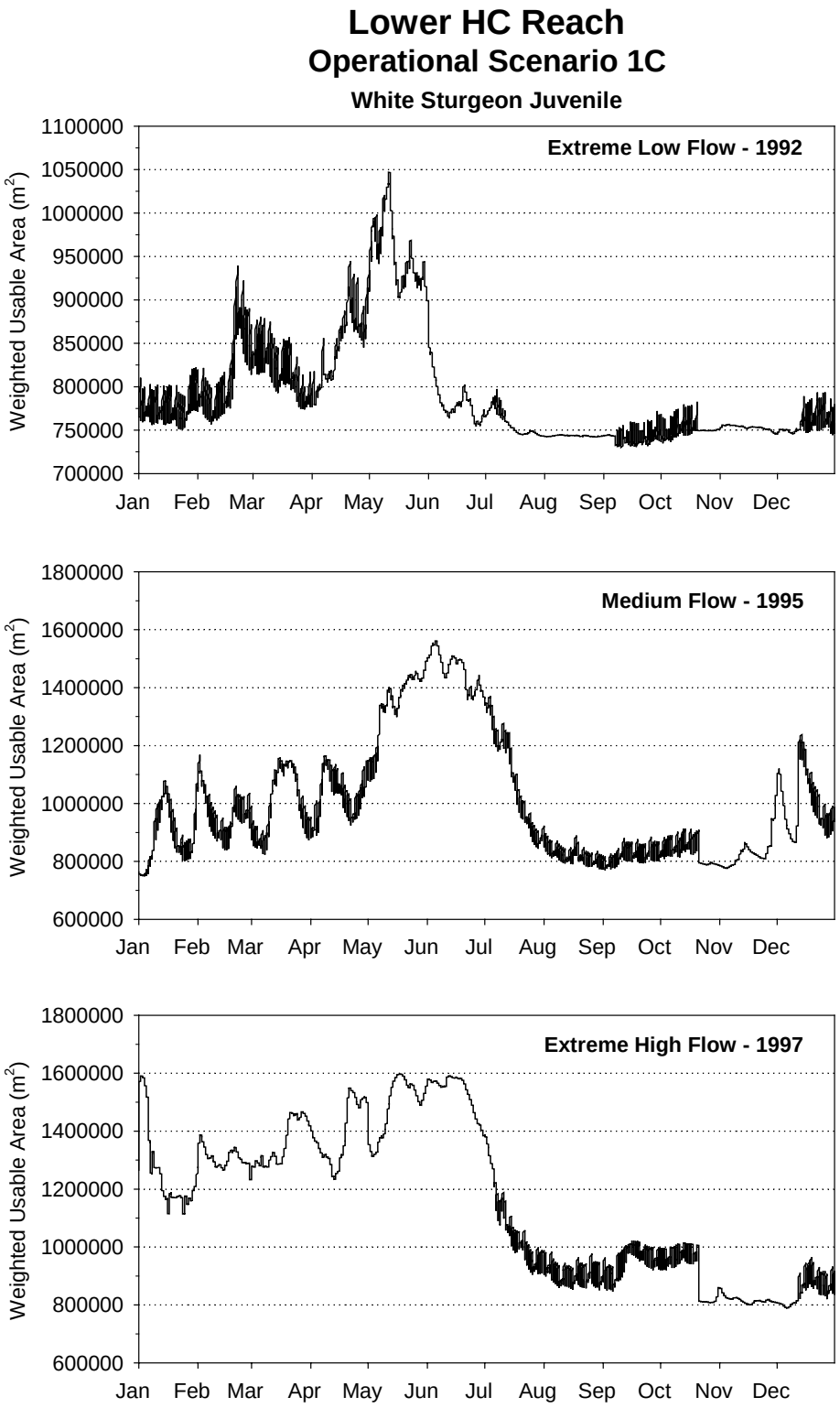


Figure 289. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

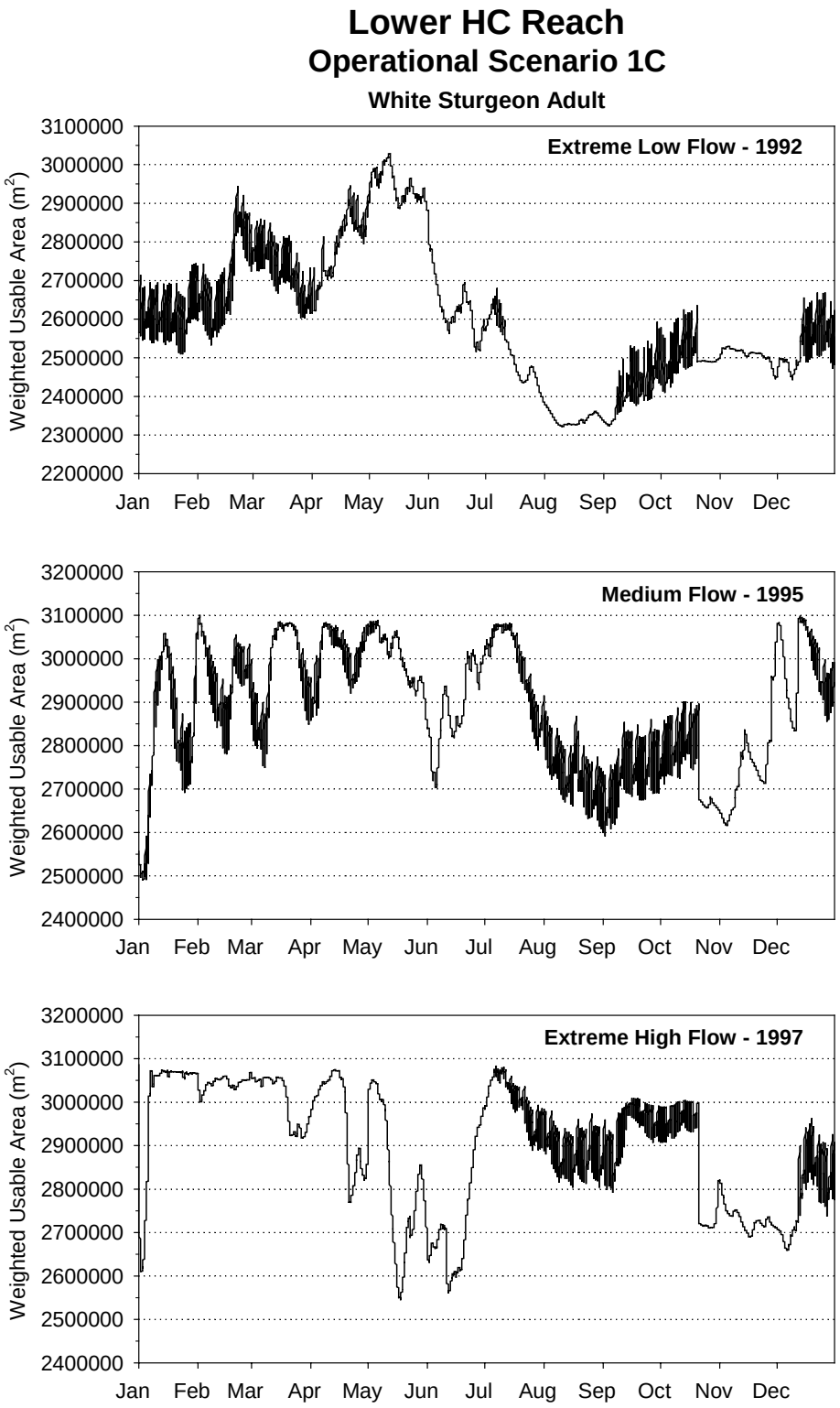


Figure 290. Total weighted usable area (WUA) under Operational Scenario 1C for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

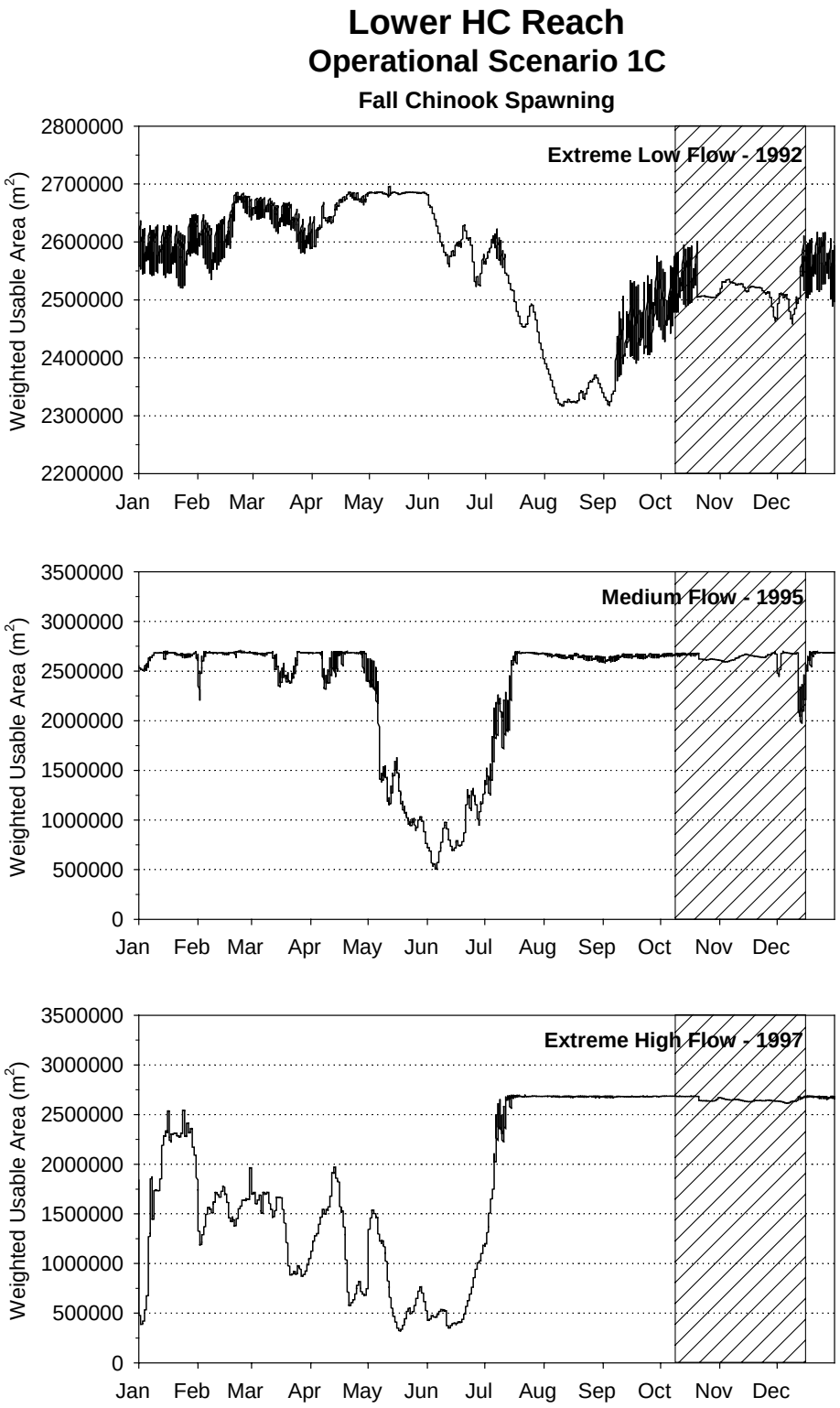


Figure 291. Total weighted usable area (WUA) under Operational Scenario 1C for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

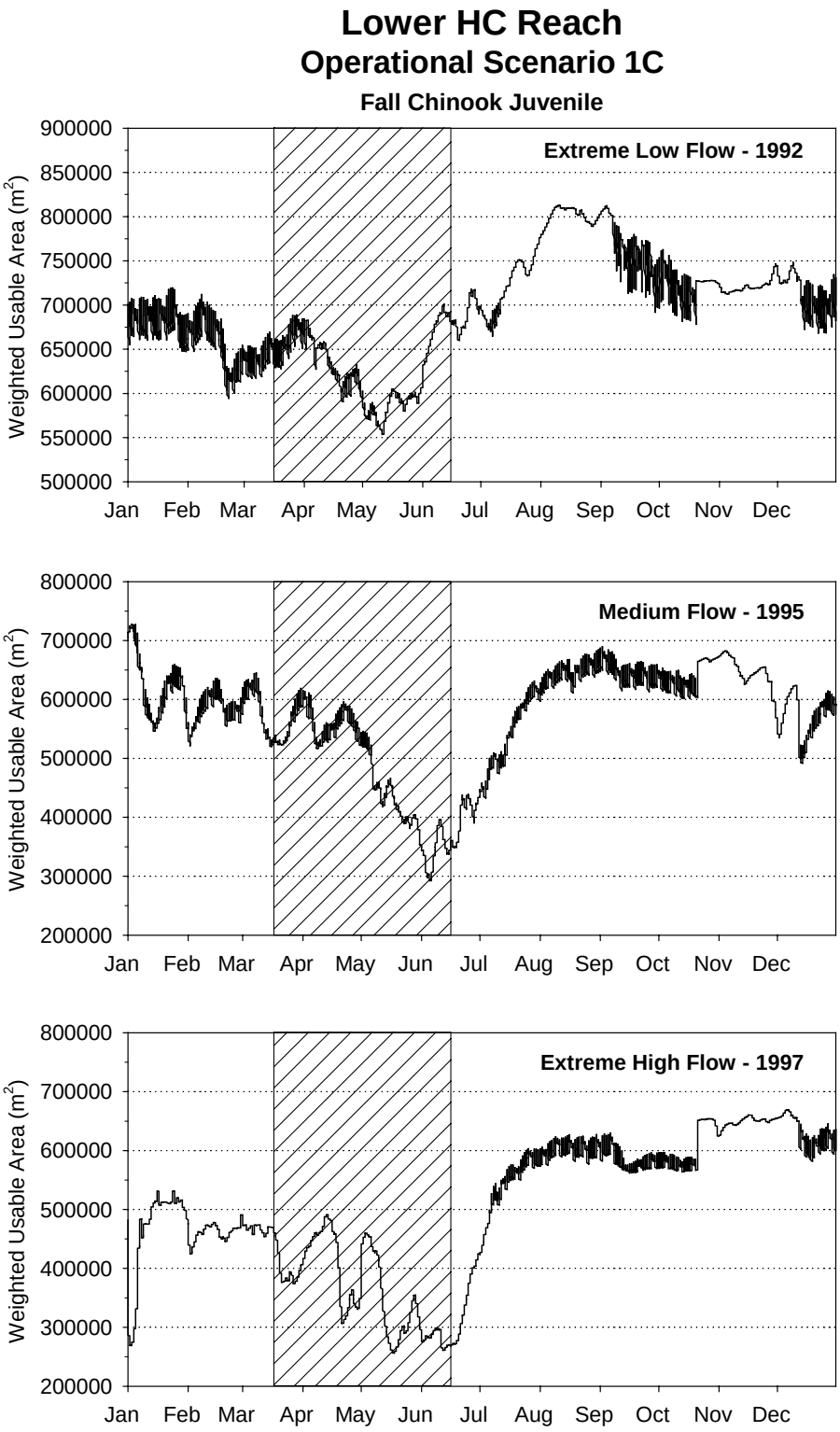


Figure 292. Total weighted usable area (WUA) under Operational Scenario 1C for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

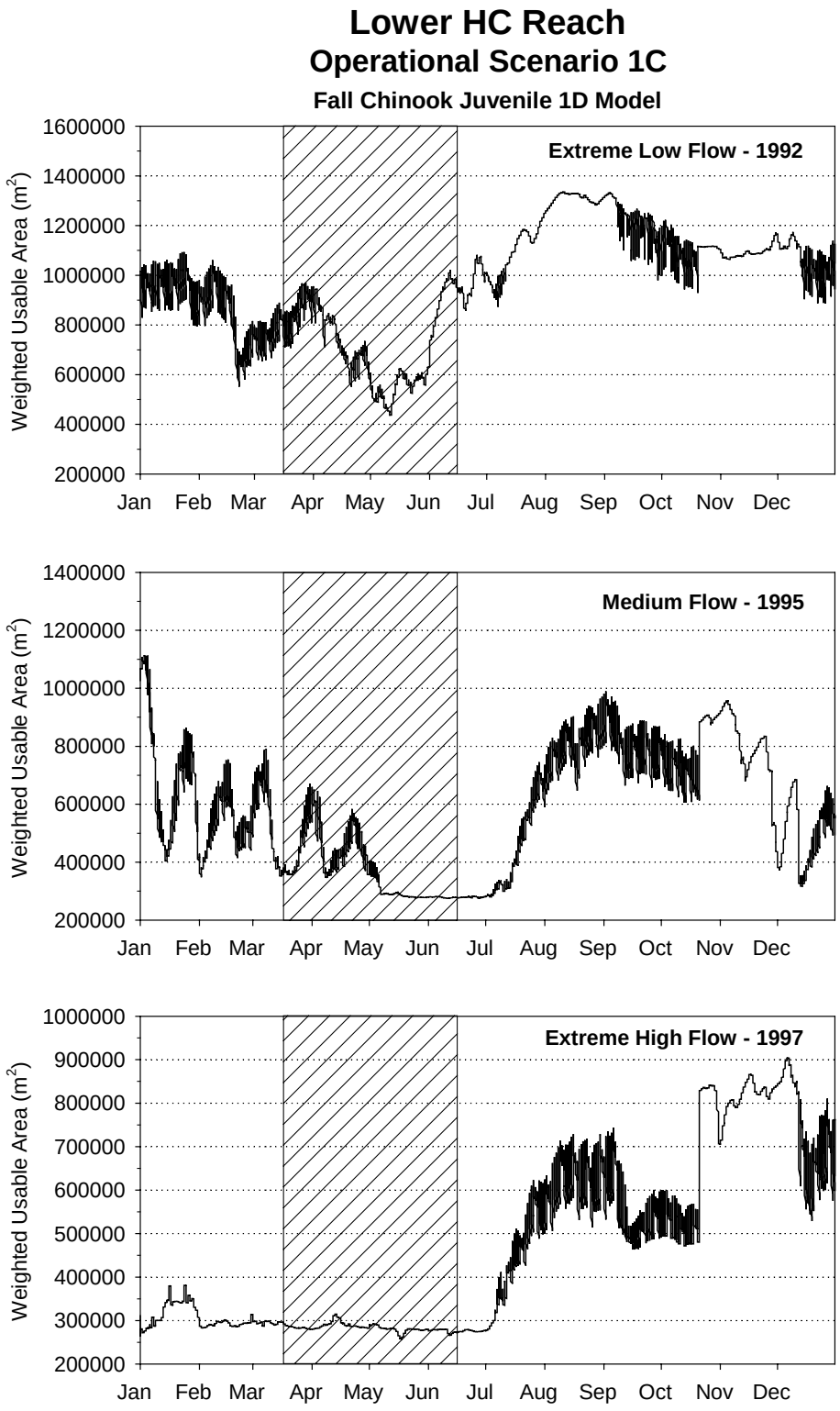


Figure 293. Total weighted usable area (WUA) under Operational Scenario 1C for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

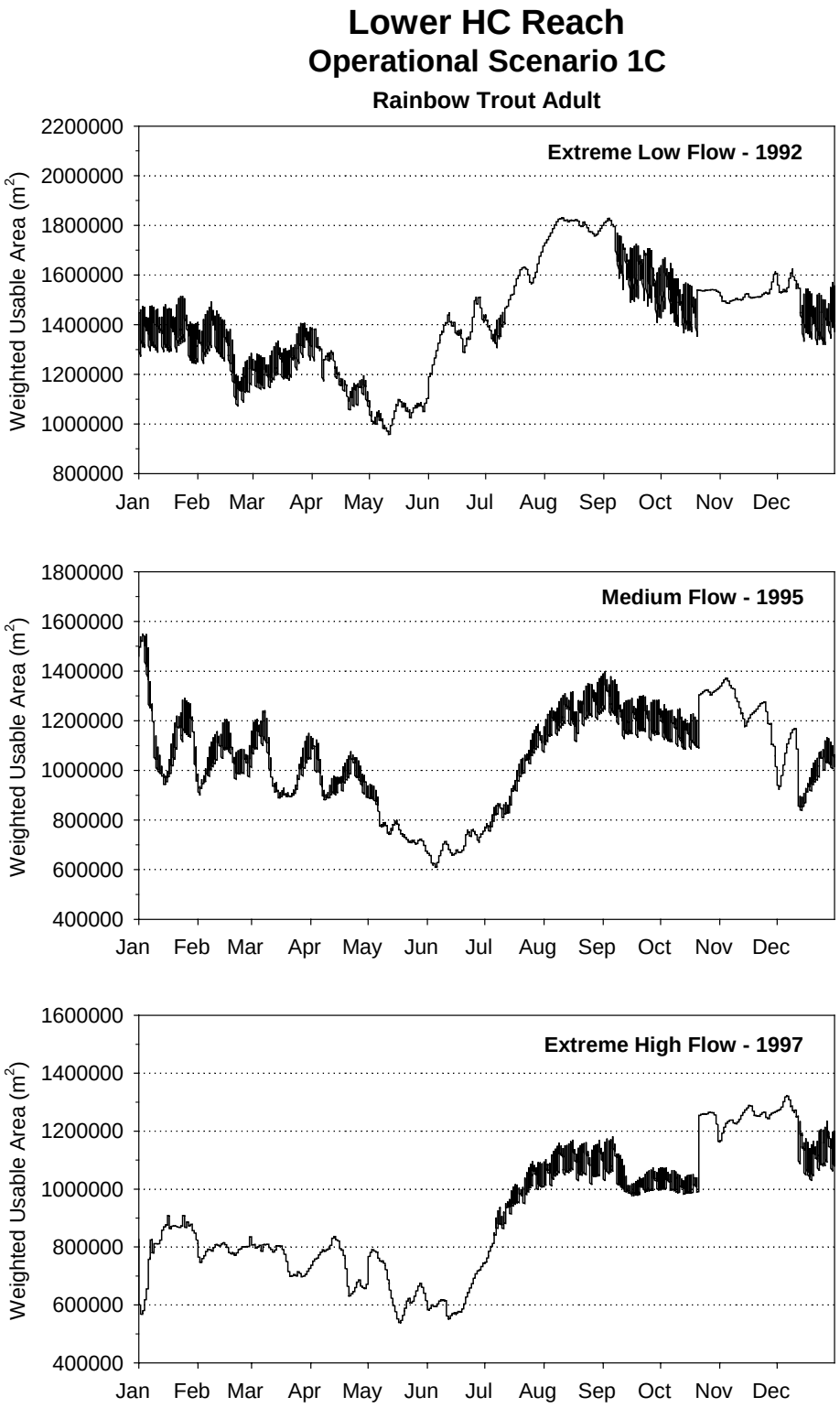


Figure 294. Total weighted usable area (WUA) under Operational Scenario 1C for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

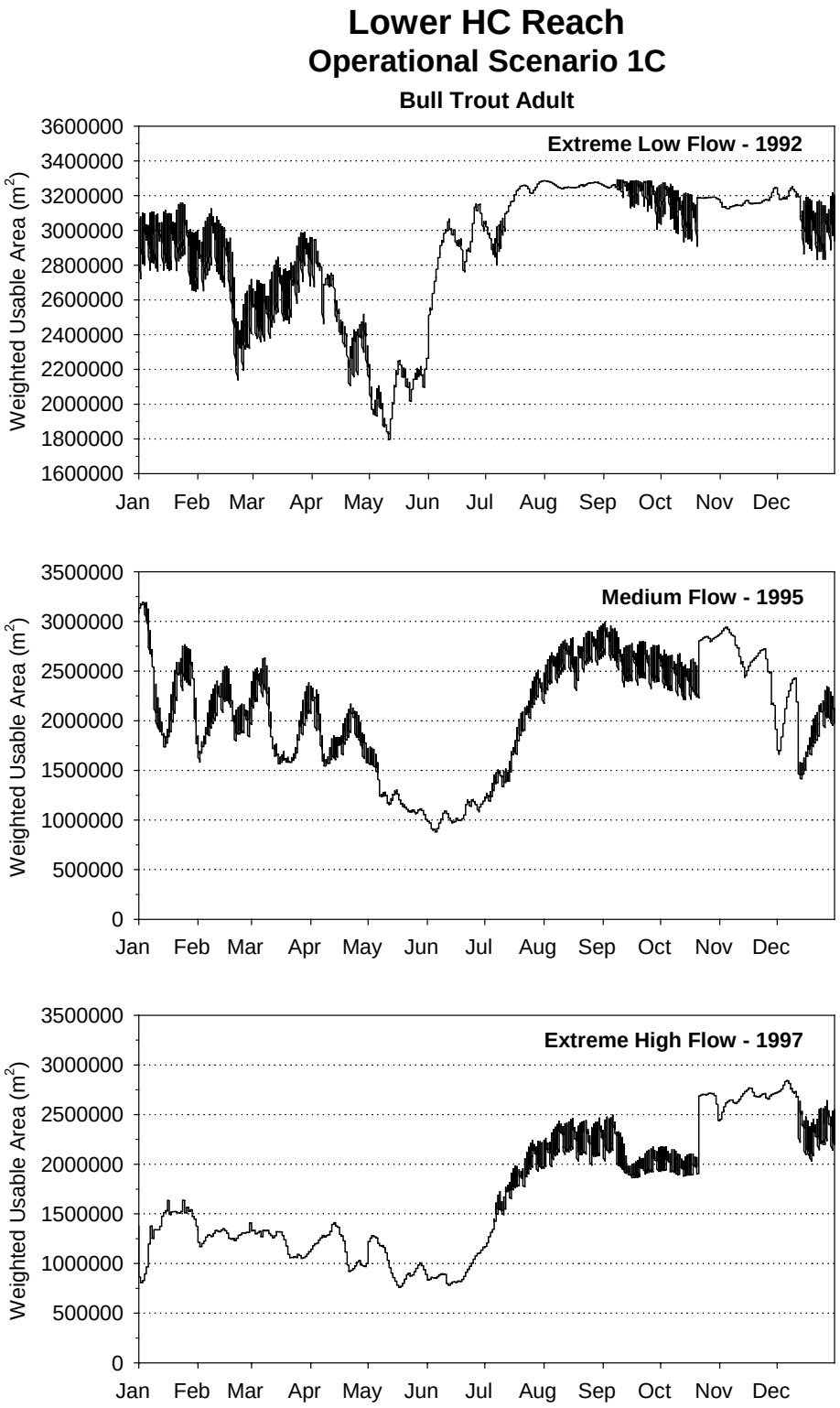


Figure 295. Total weighted usable area (WUA) under Operational Scenario 1C for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

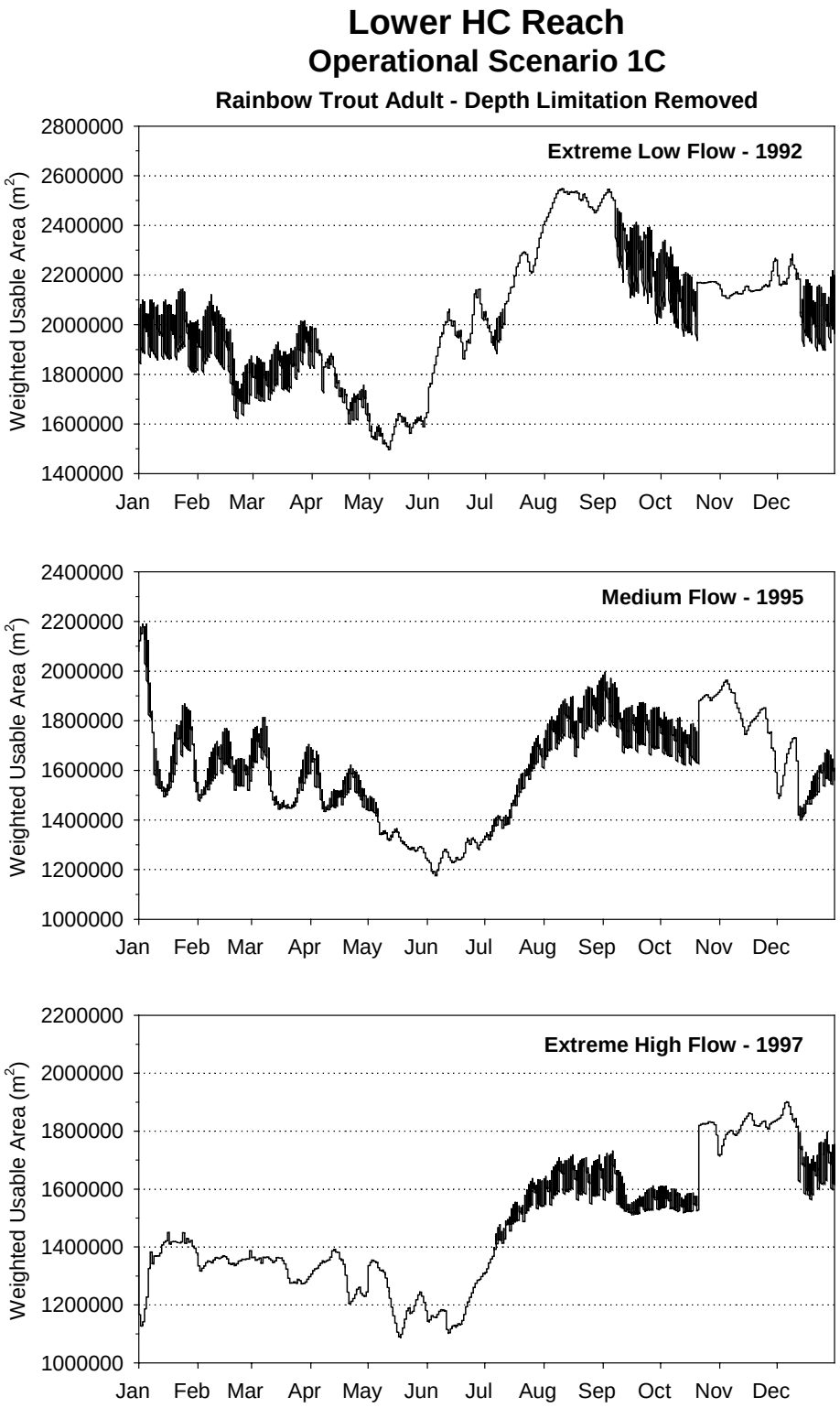


Figure 296. Total weighted usable area (WUA) under Operational Scenario 1C for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

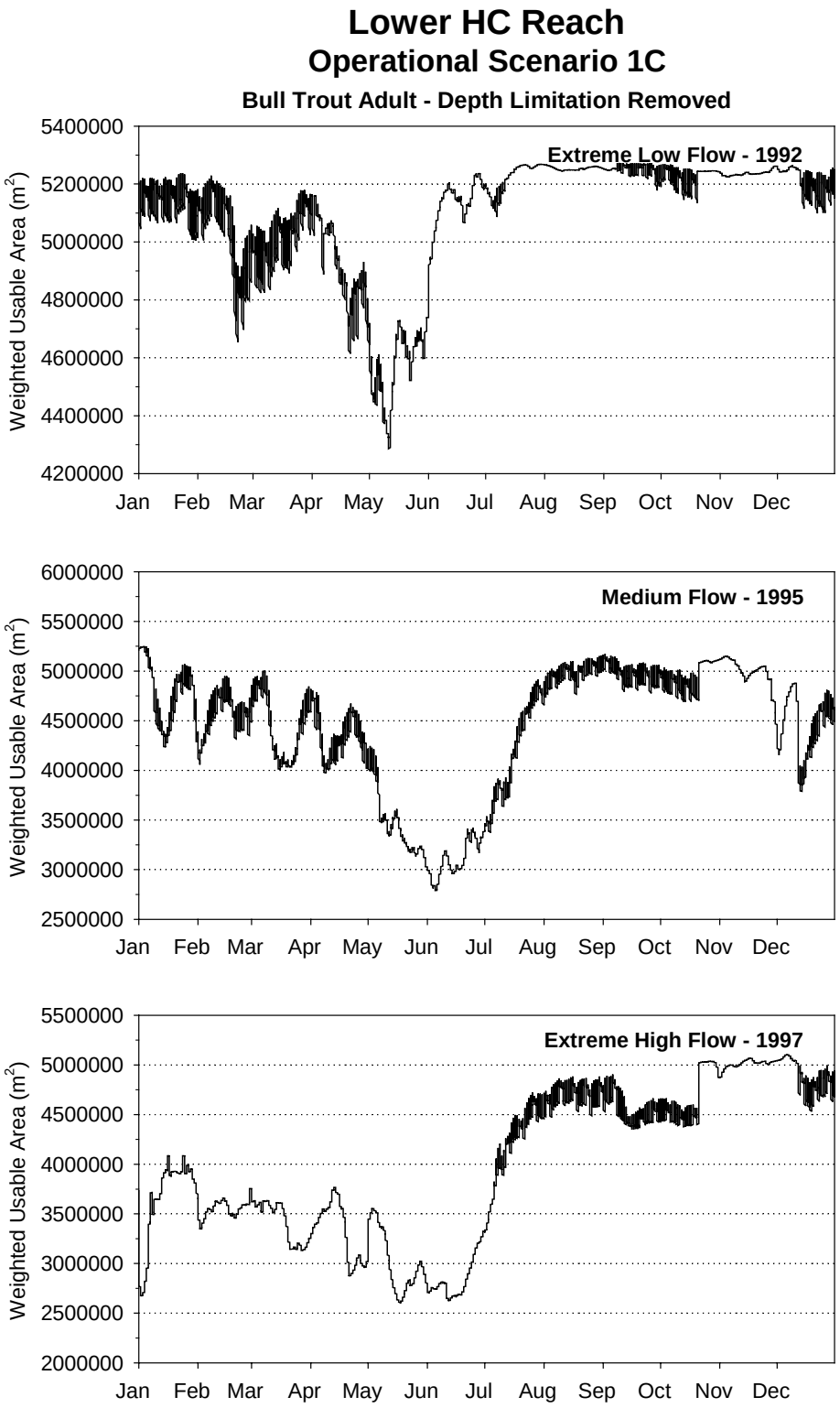


Figure 297. Total weighted usable area (WUA) under Operational Scenario 1C for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

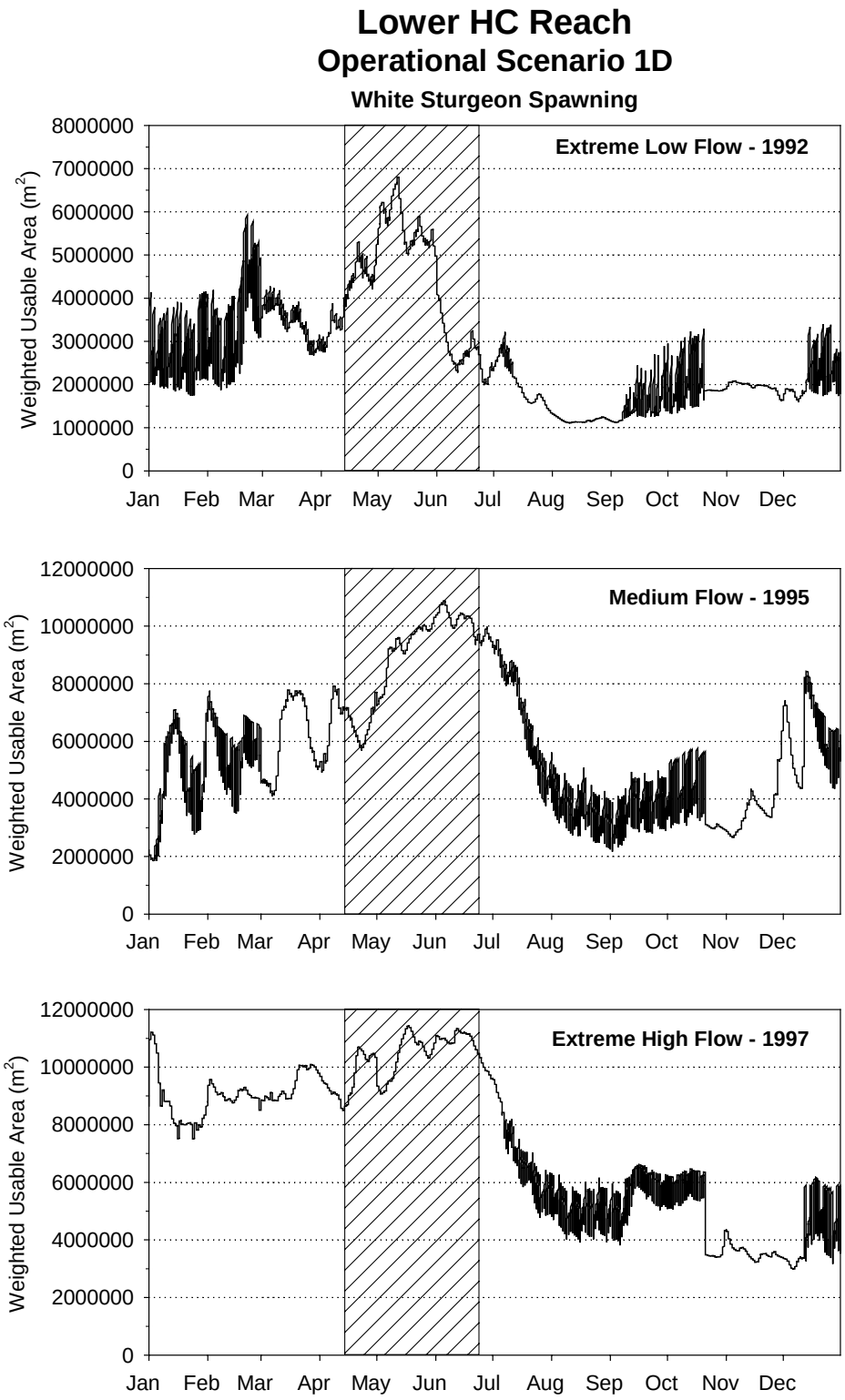


Figure 298. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

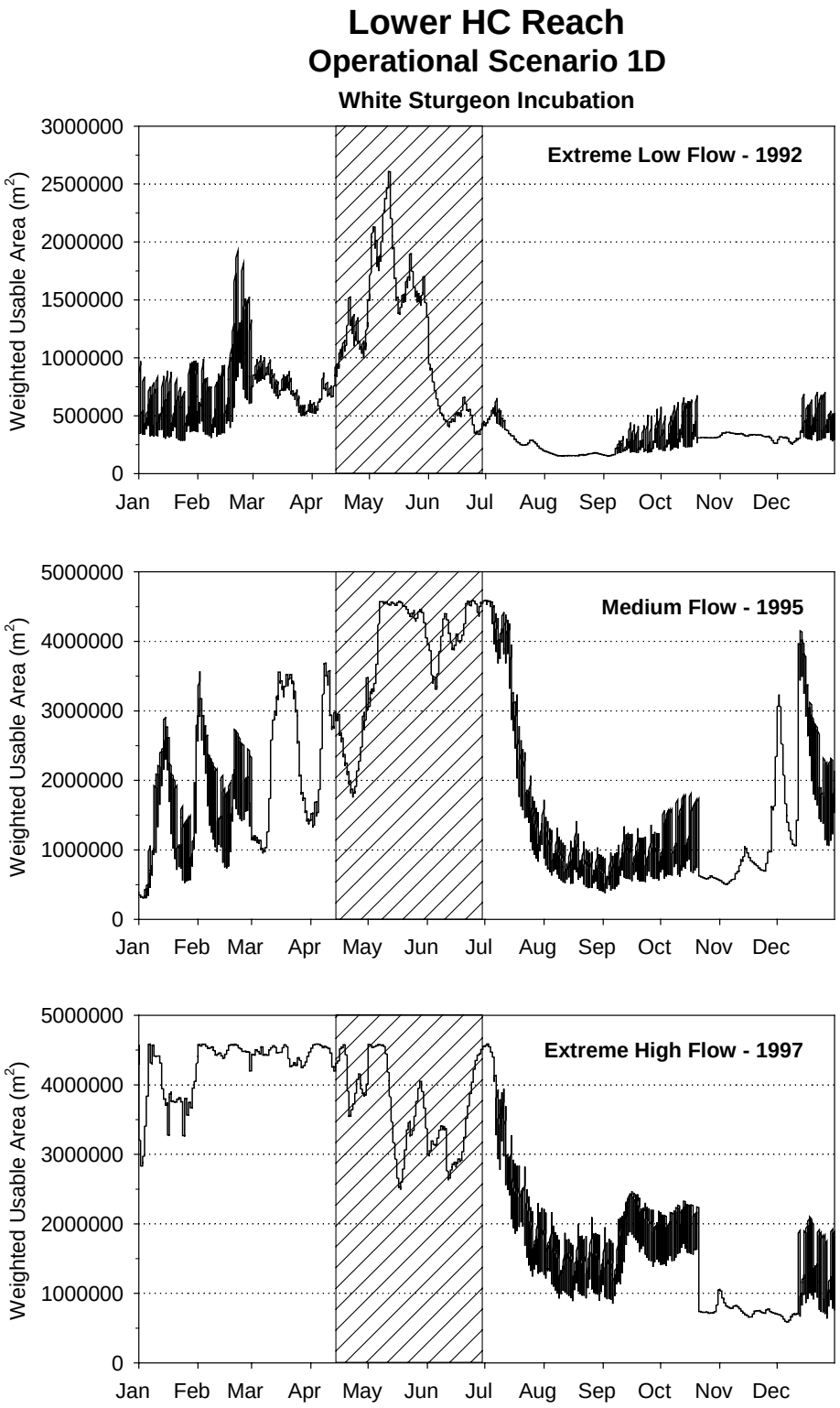


Figure 299. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

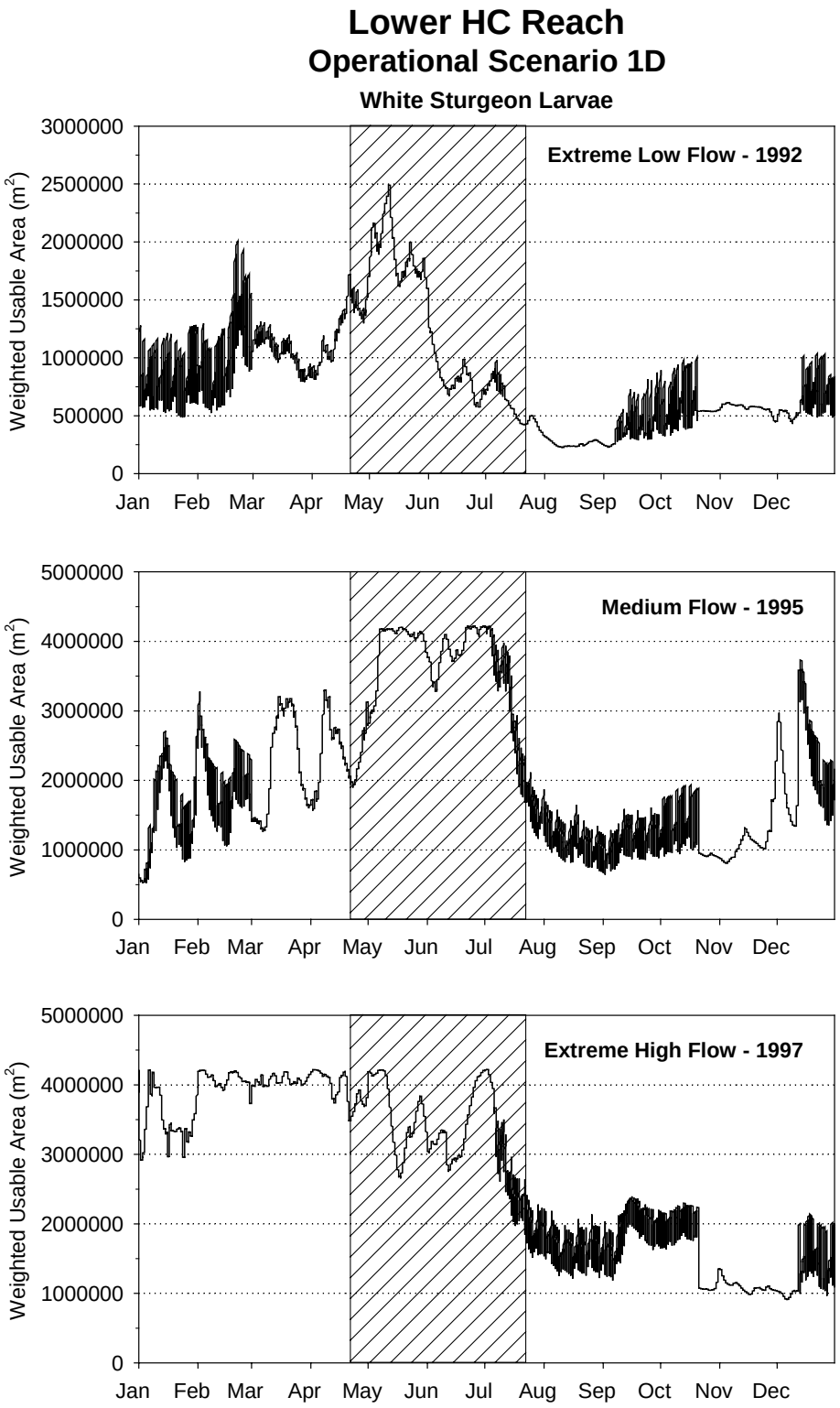


Figure 300. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

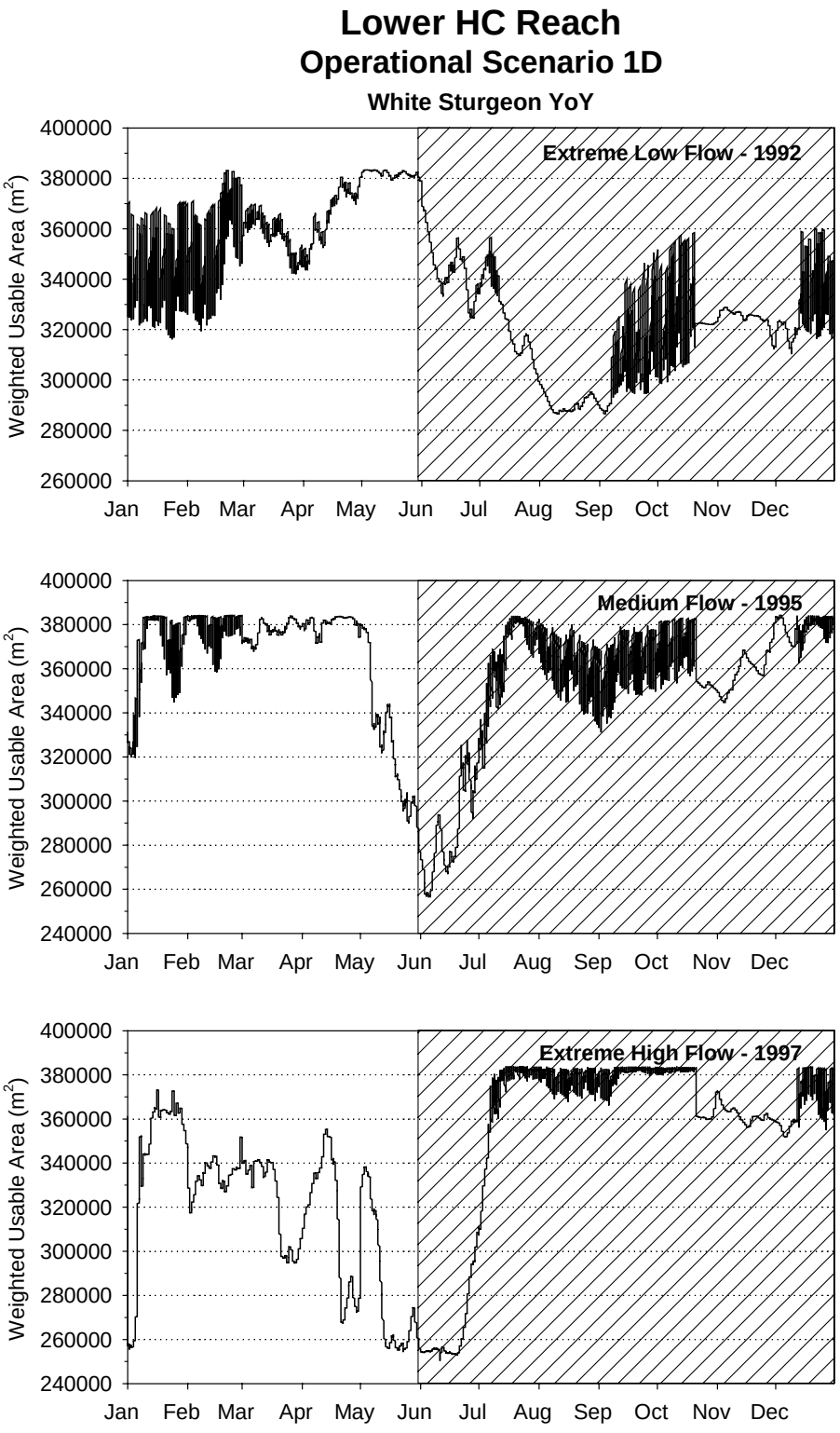


Figure 301. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

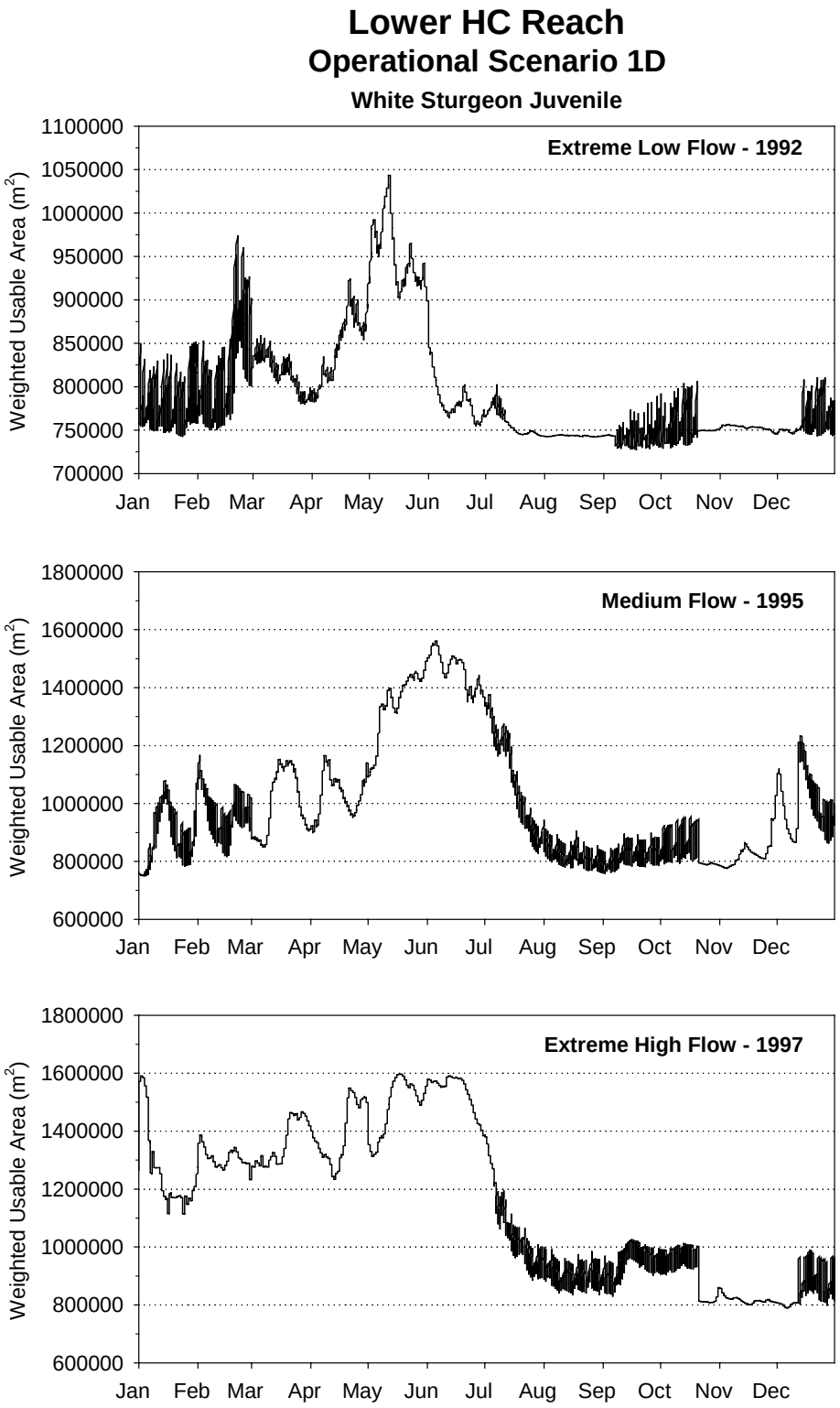


Figure 302. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

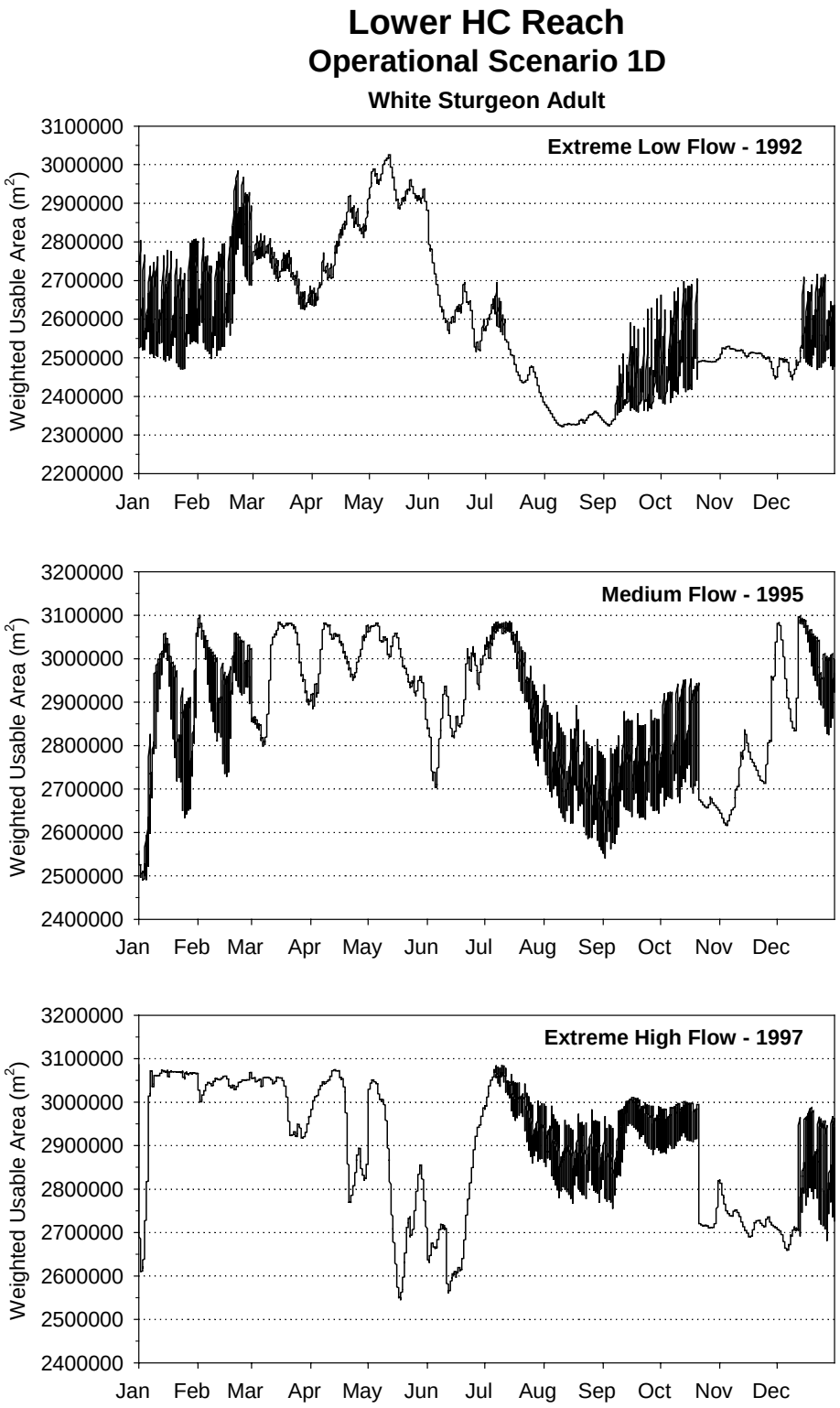


Figure 303. Total weighted usable area (WUA) under Operational Scenario 1D for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

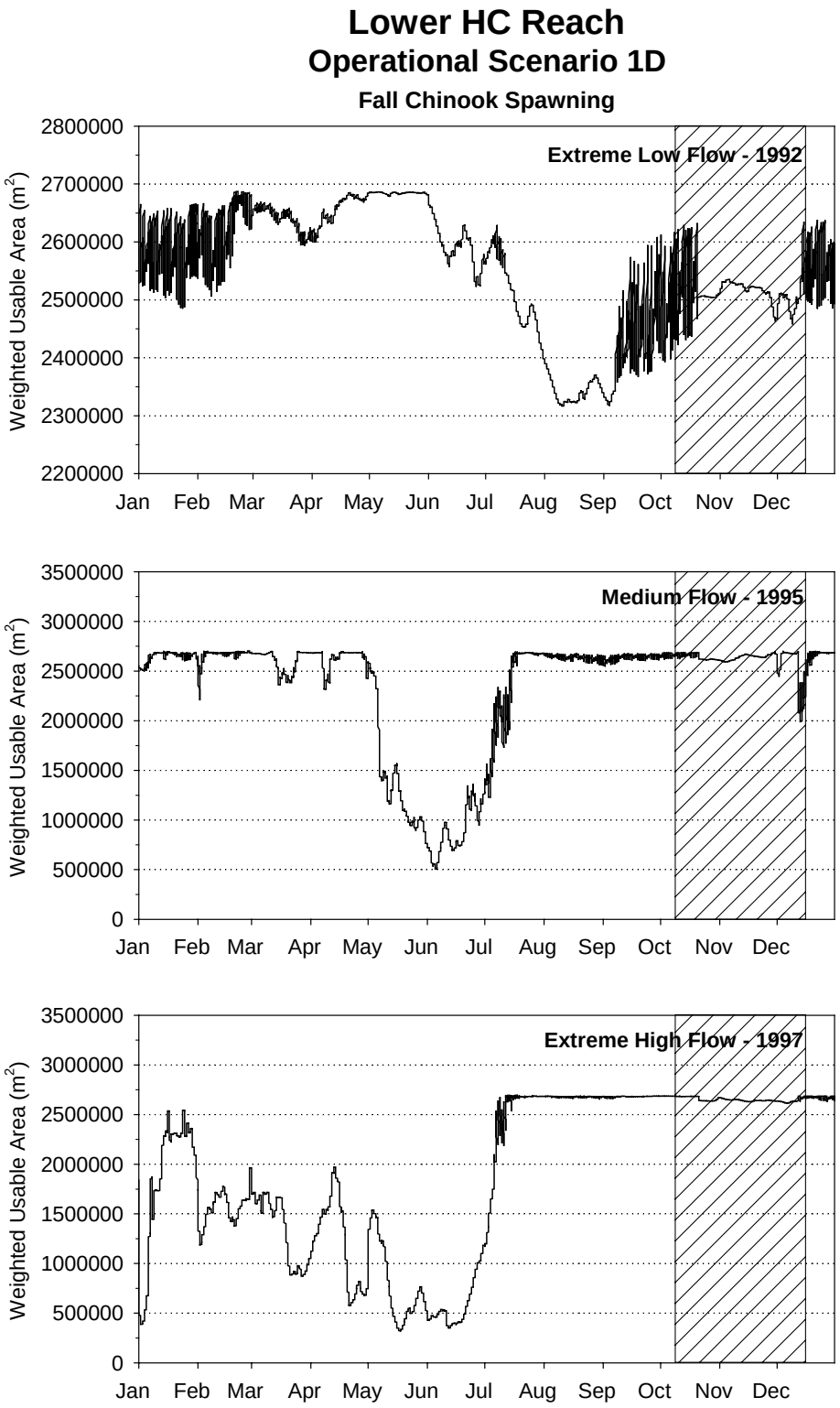


Figure 304. Total weighted usable area (WUA) under Operational Scenario 1D for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

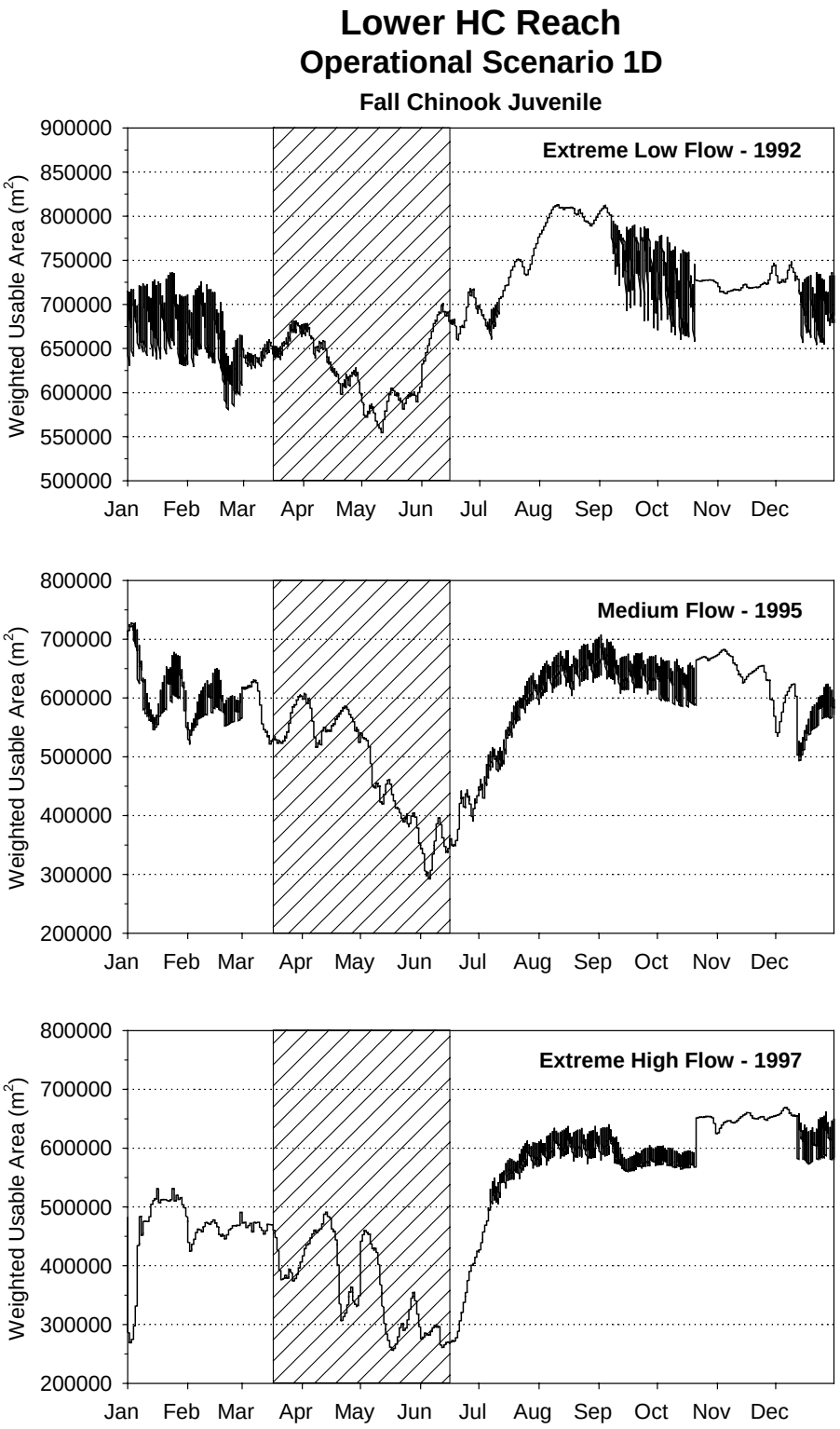


Figure 305. Total weighted usable area (WUA) under Operational Scenario 1D for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

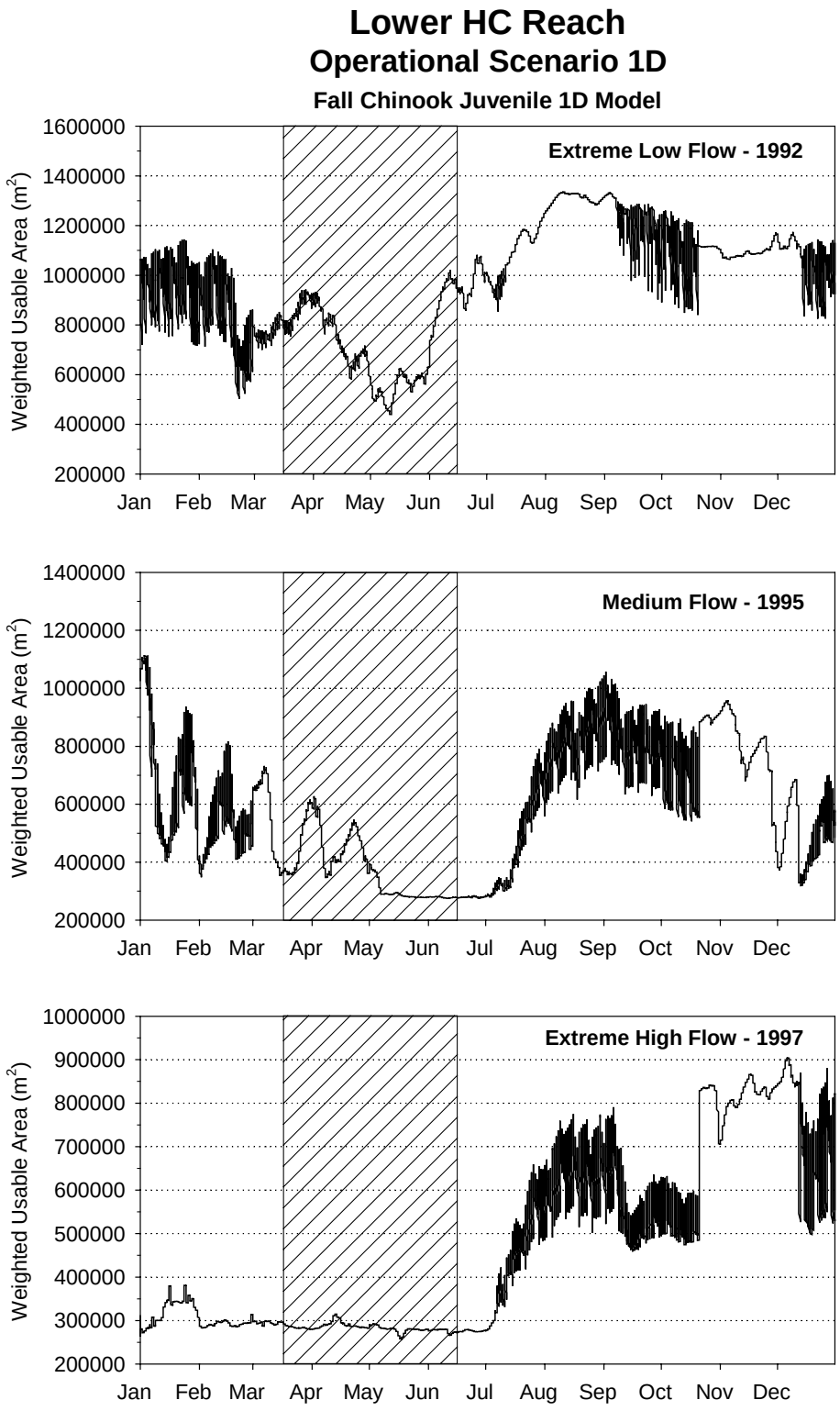


Figure 306. Total weighted usable area (WUA) under Operational Scenario 1D for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

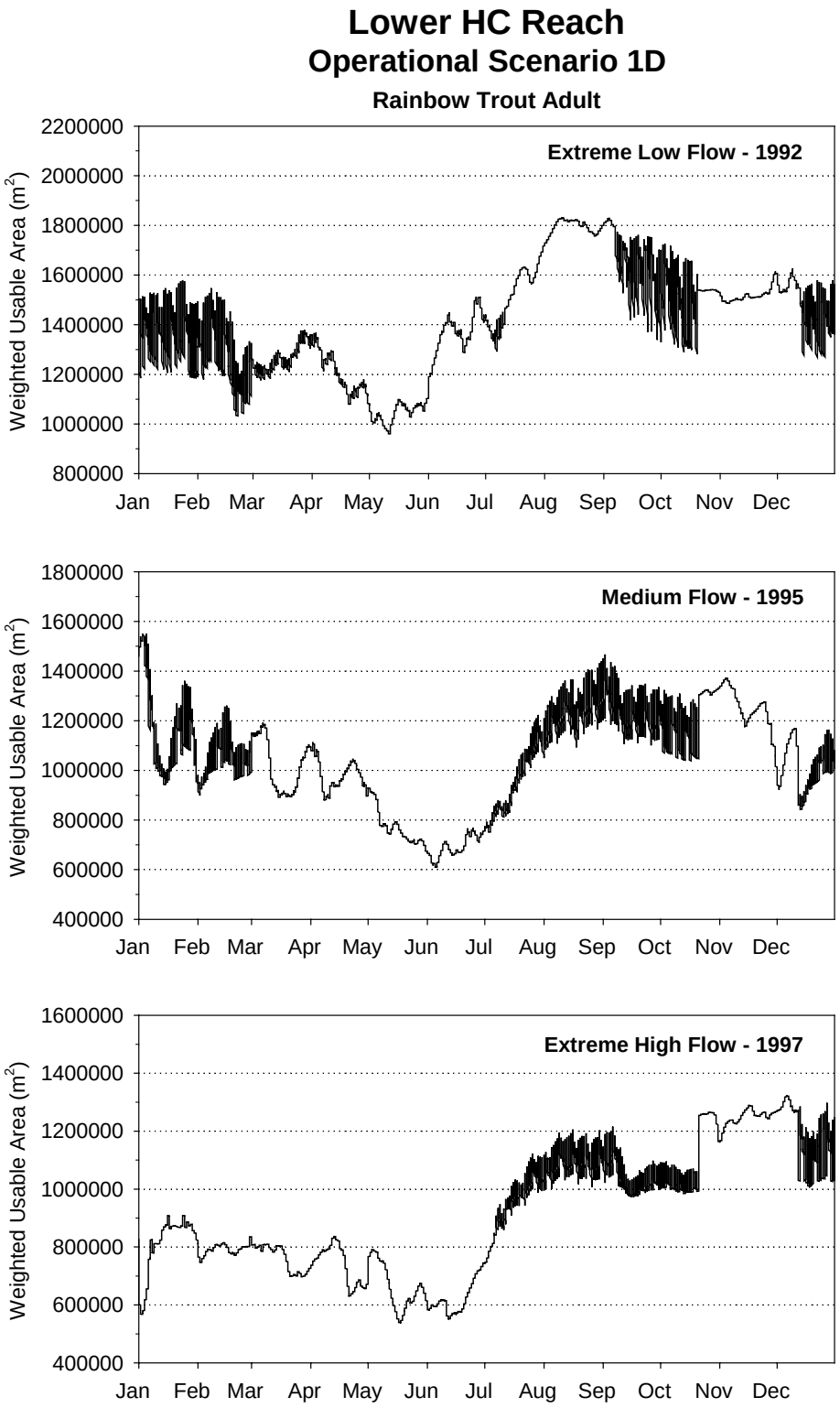


Figure 307. Total weighted usable area (WUA) under Operational Scenario 1D for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

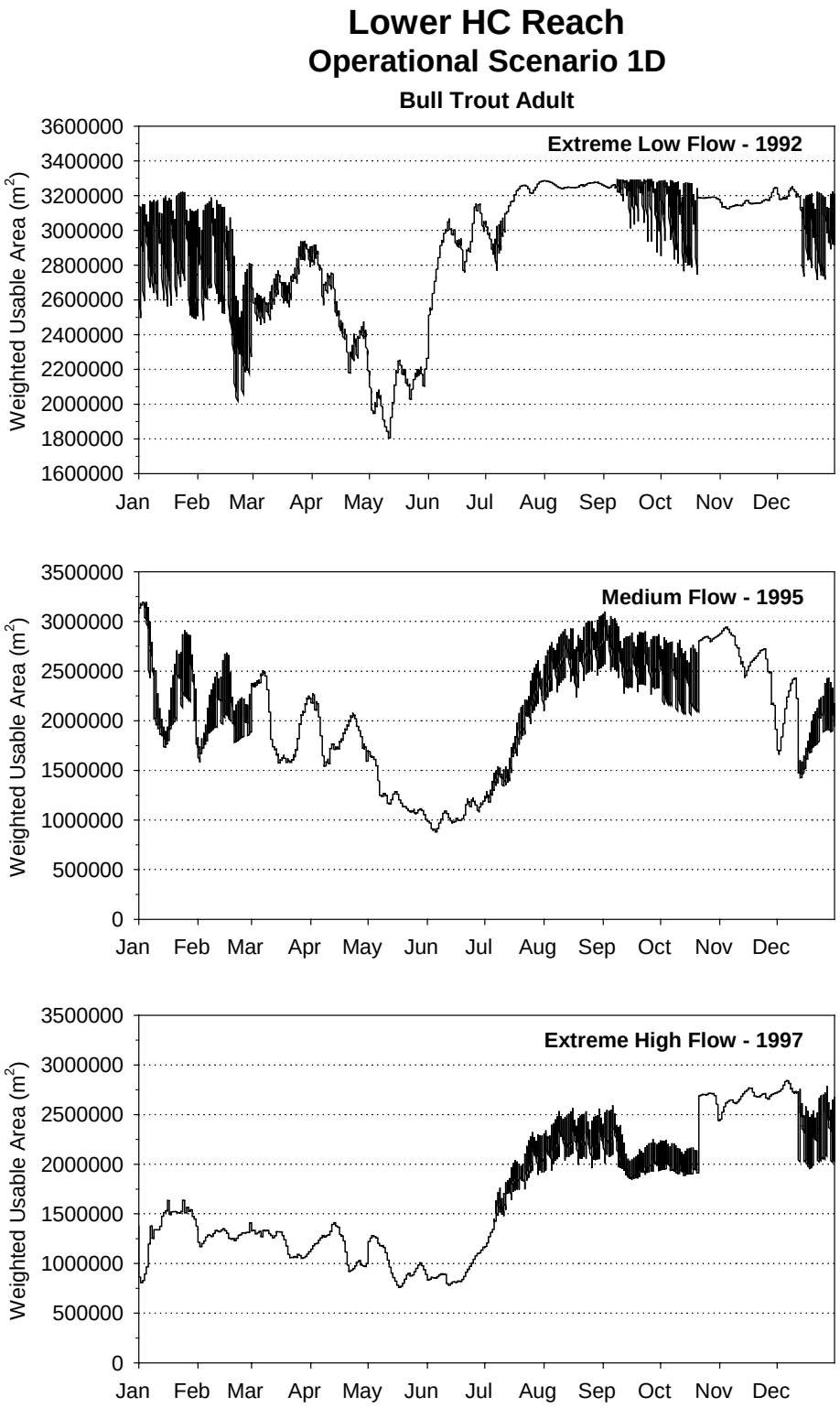


Figure 308. Total weighted usable area (WUA) under Operational Scenario 1D for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

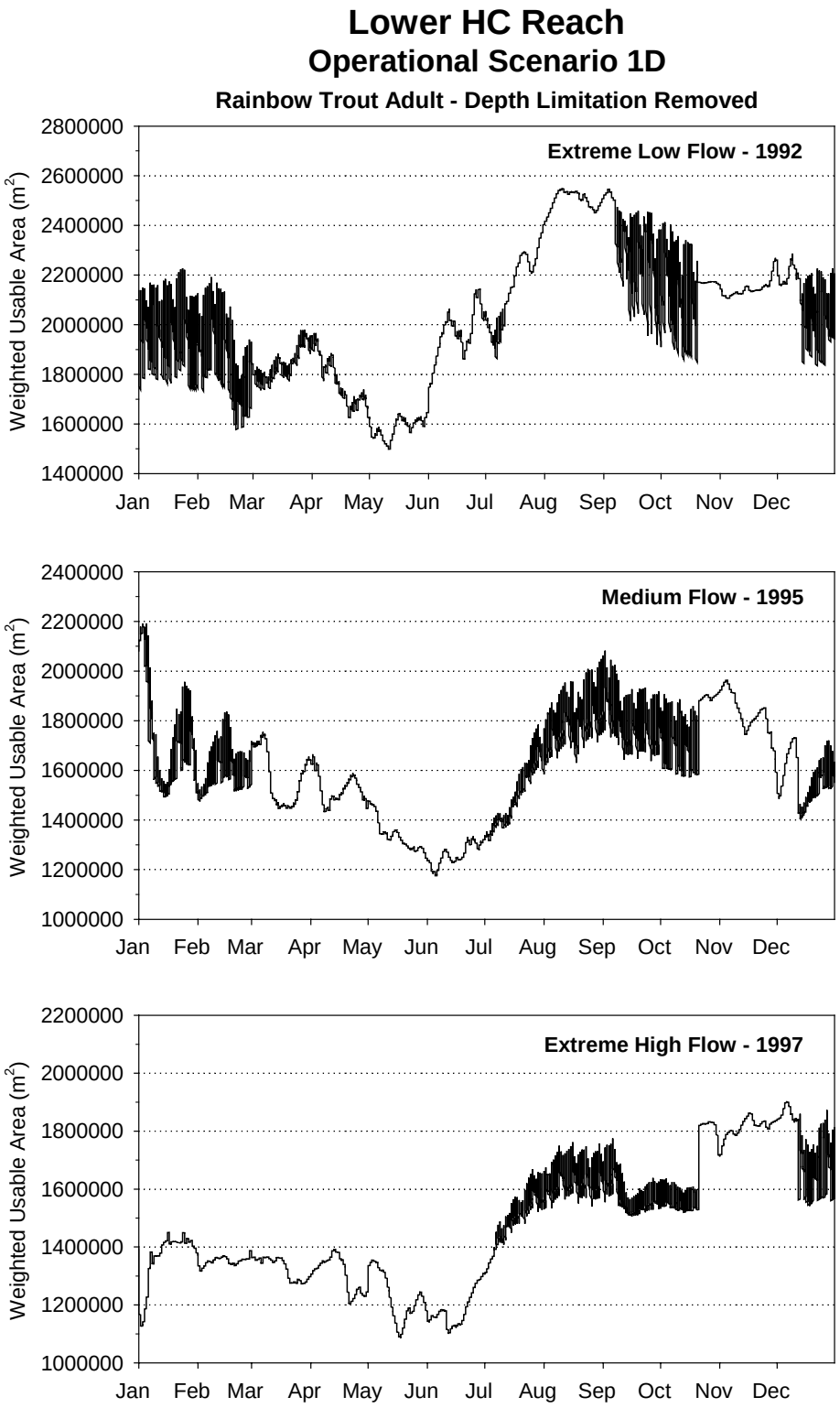


Figure 309. Total weighted usable area (WUA) under Operational Scenario 1D for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

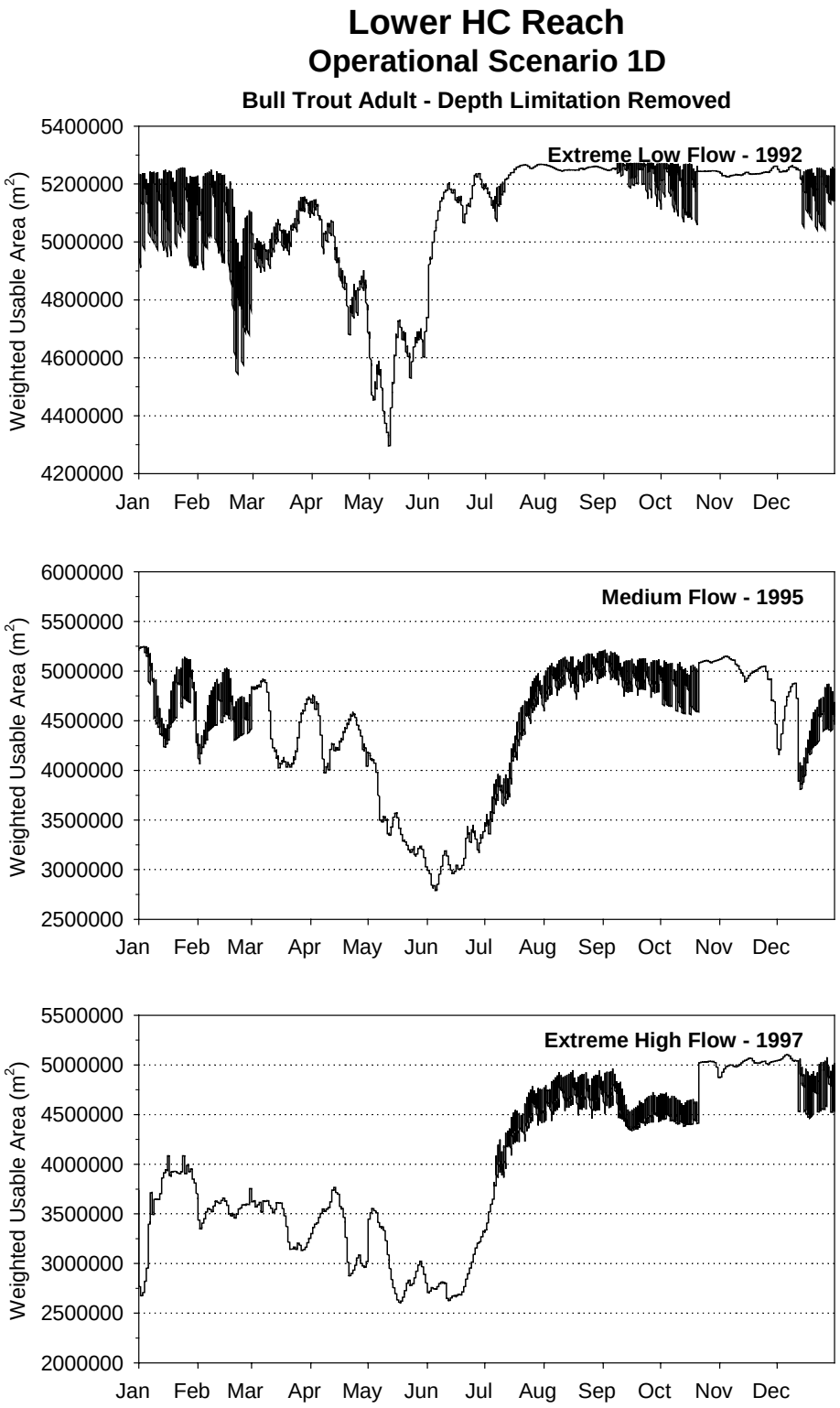


Figure 310. Total weighted usable area (WUA) under Operational Scenario 1D for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

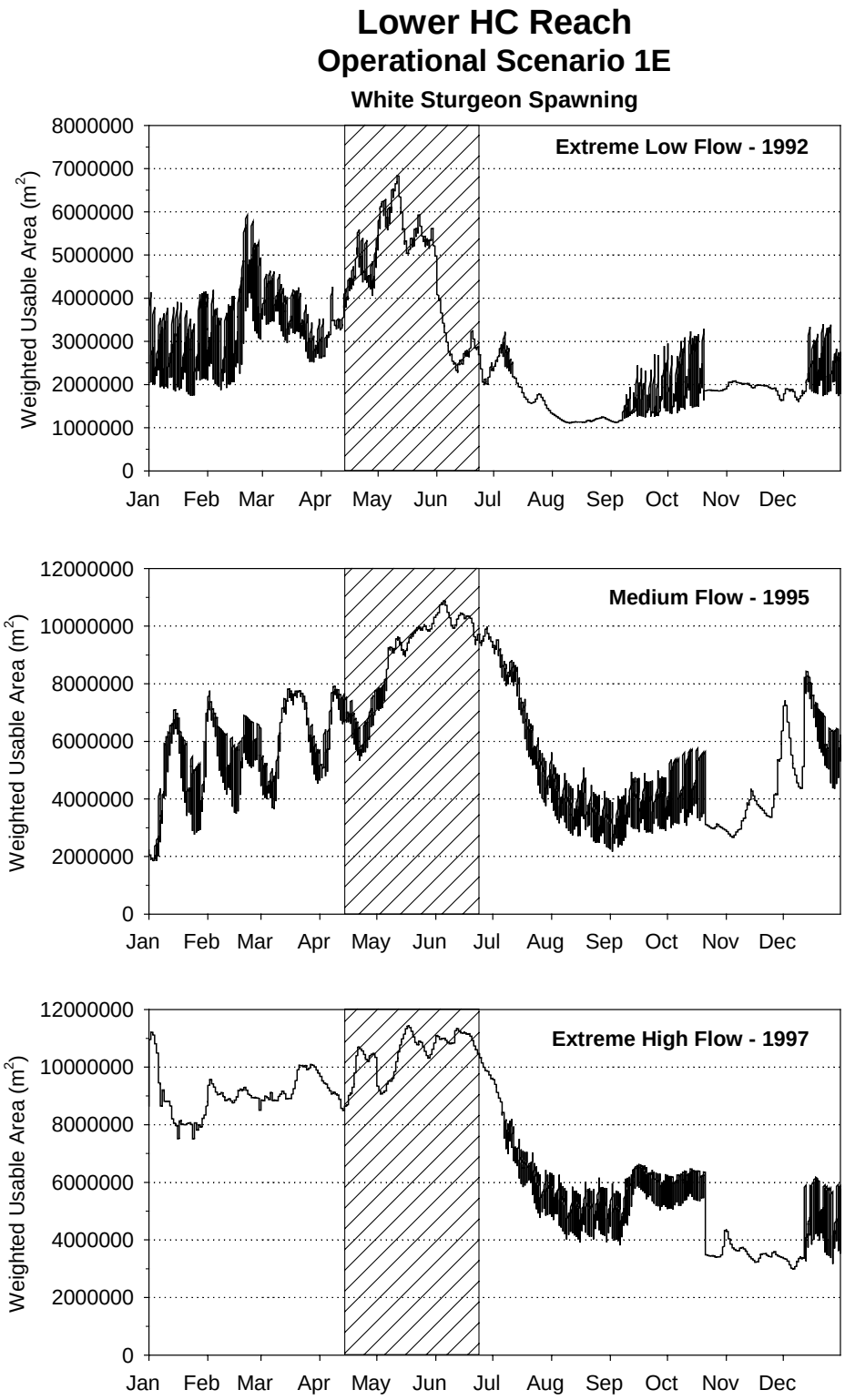


Figure 311. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

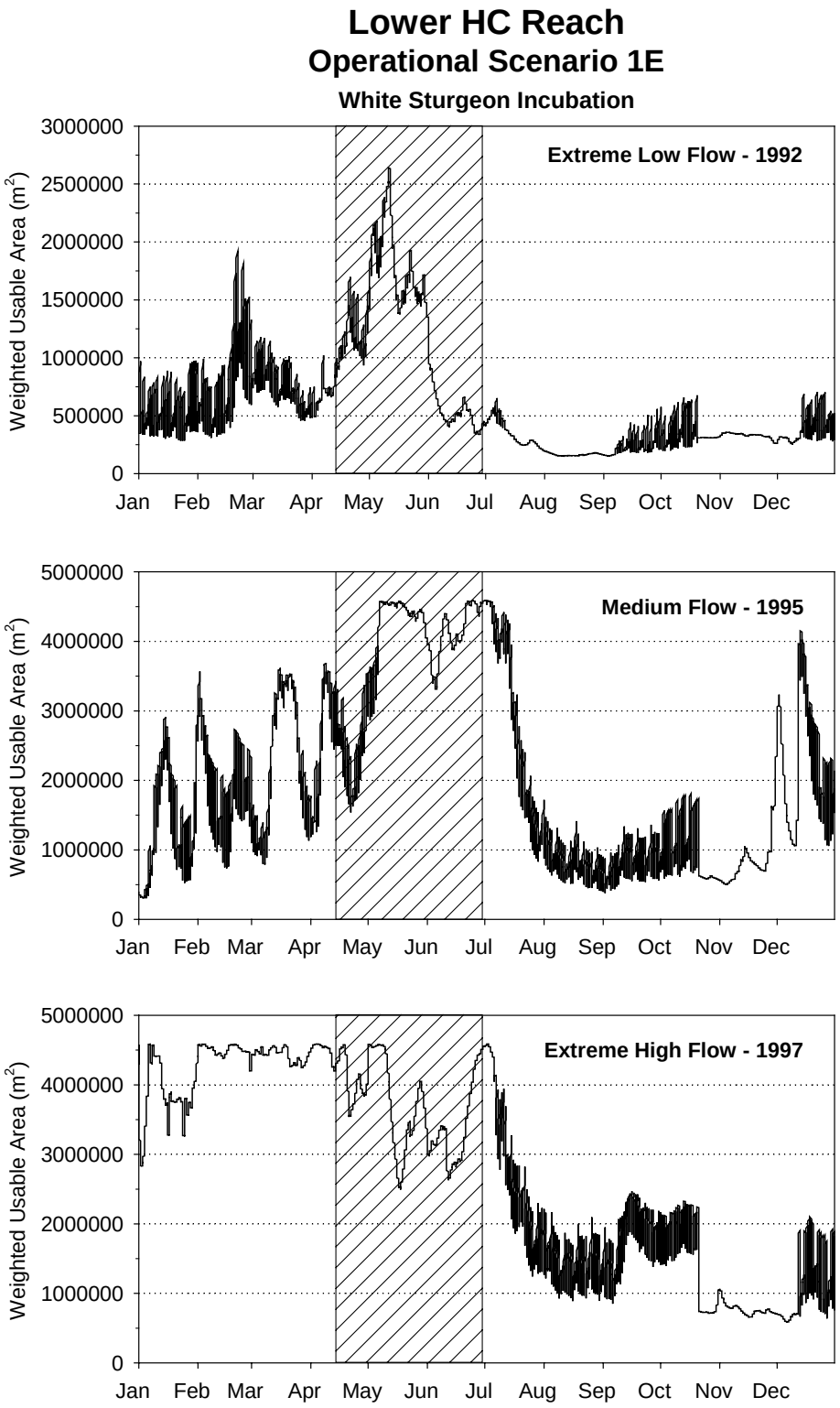


Figure 312. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

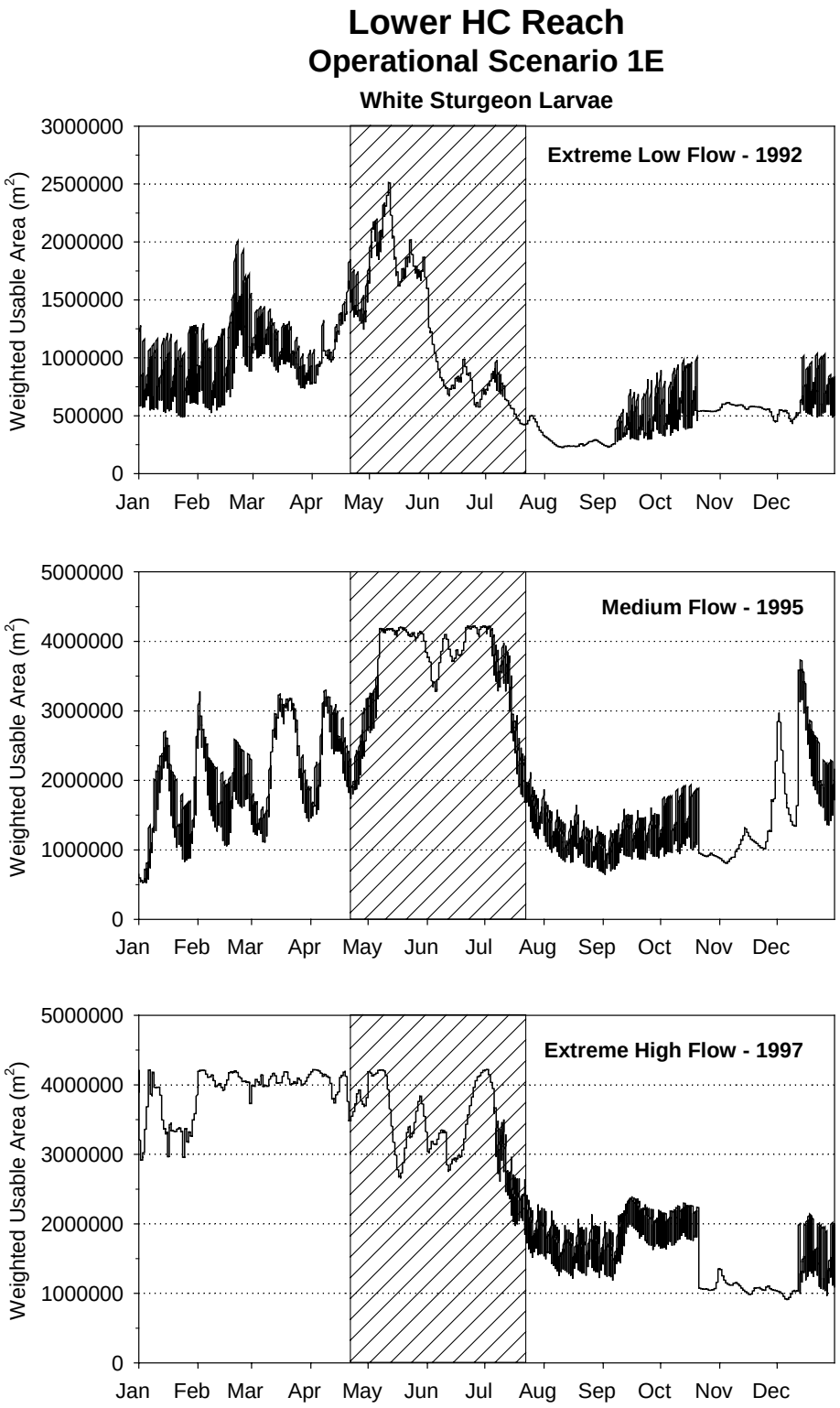


Figure 313. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

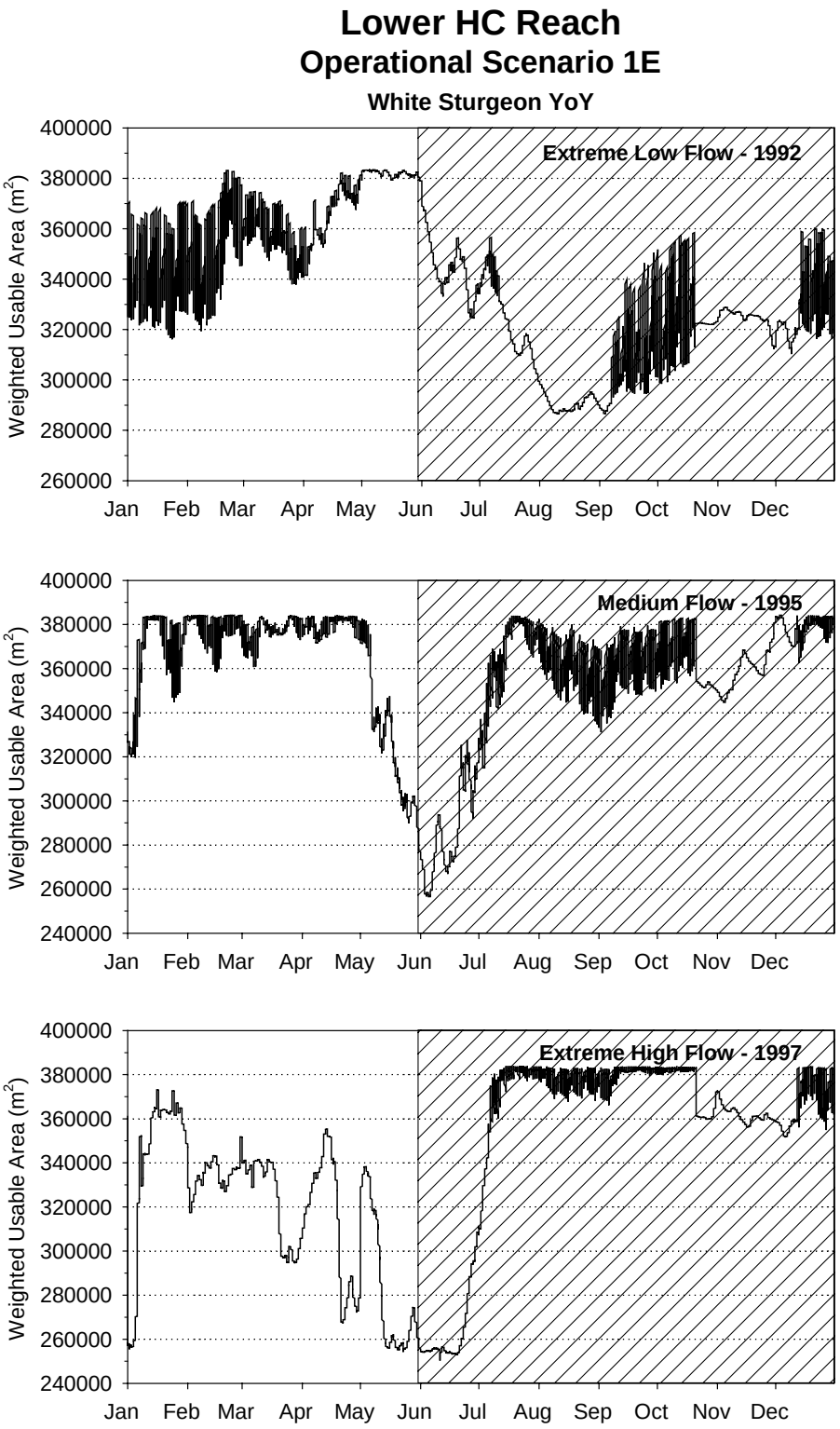


Figure 314. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

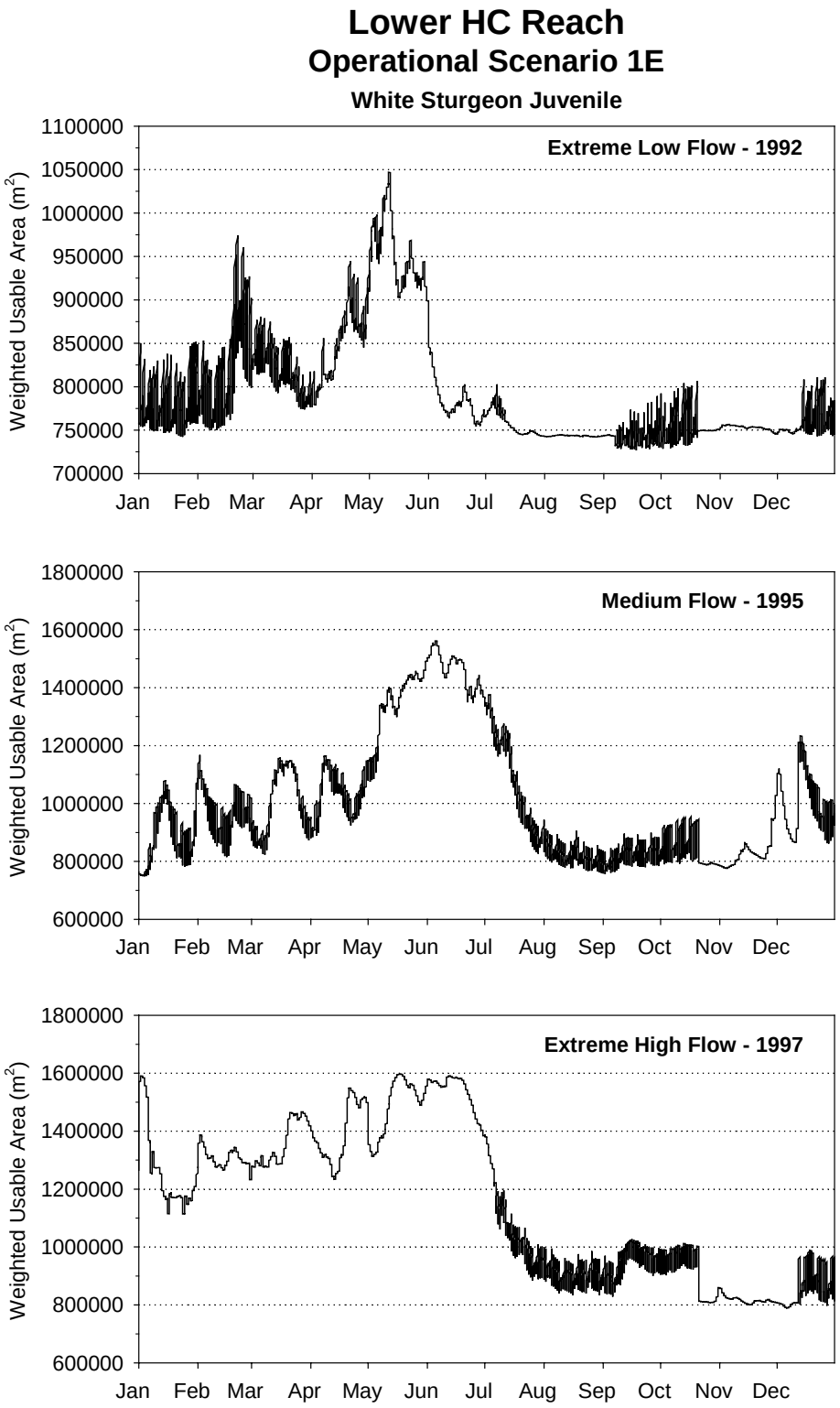


Figure 315. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

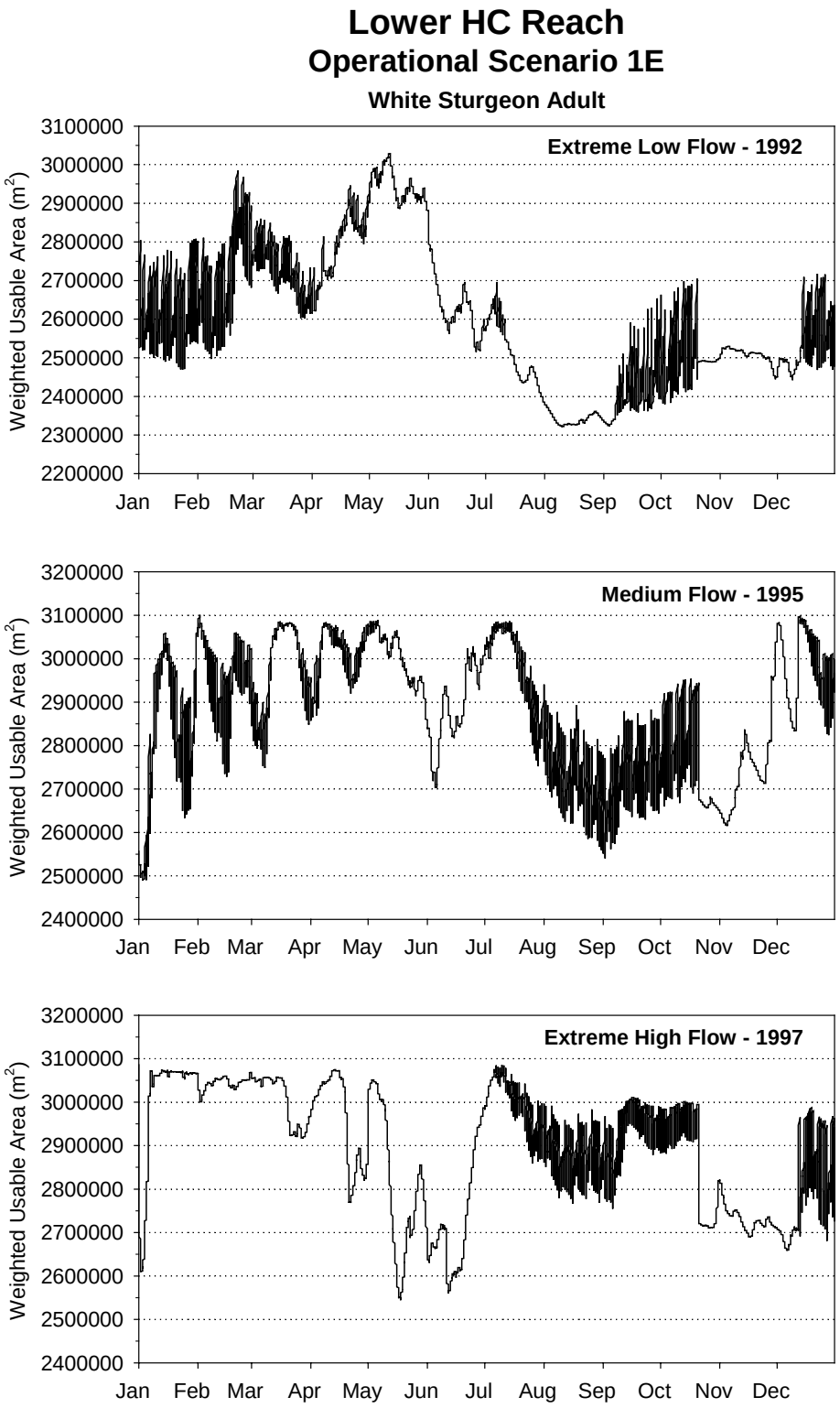


Figure 316. Total weighted usable area (WUA) under Operational Scenario 1E for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

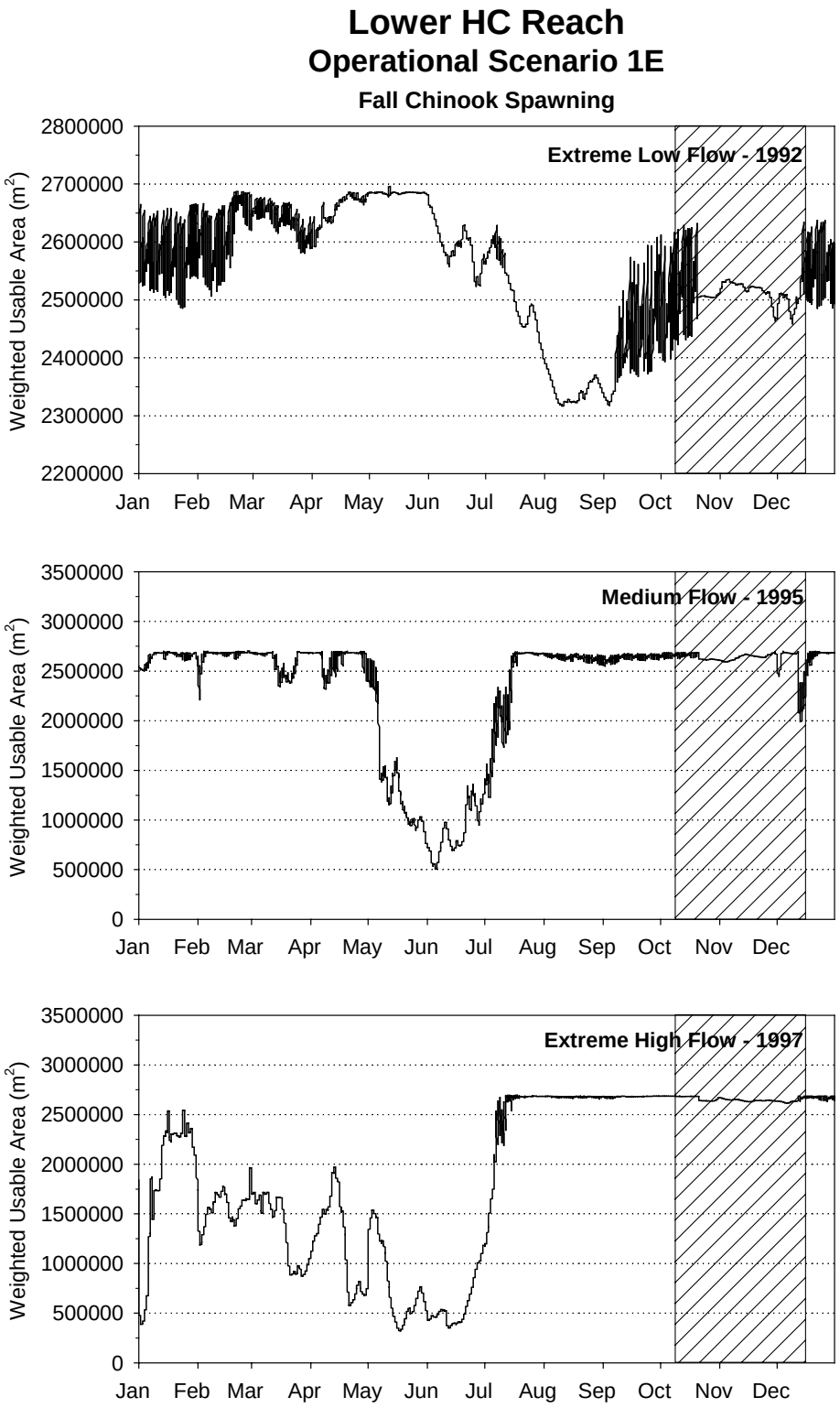


Figure 317. Total weighted usable area (WUA) under Operational Scenario 1E for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

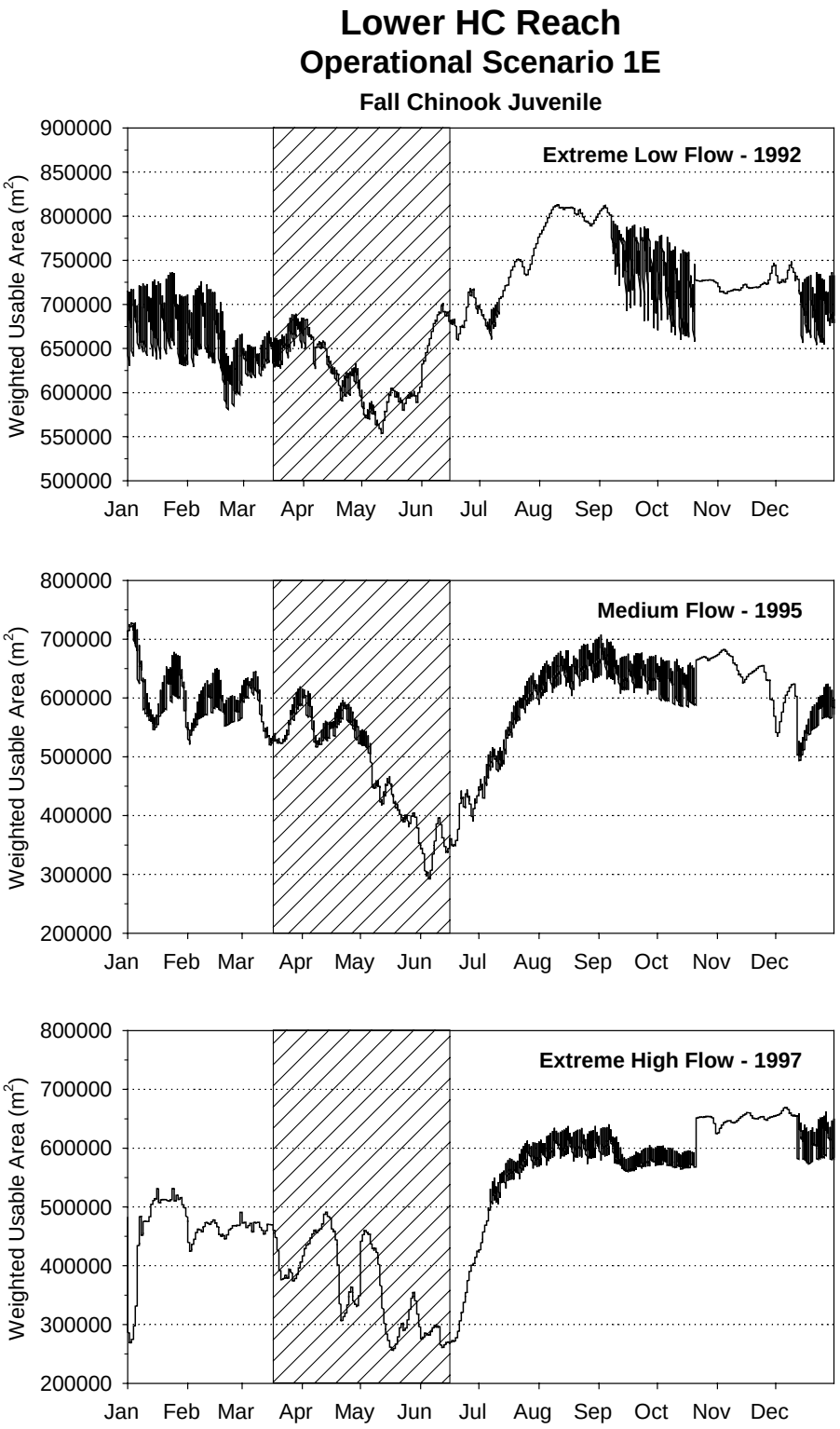


Figure 318. Total weighted usable area (WUA) under Operational Scenario 1E for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

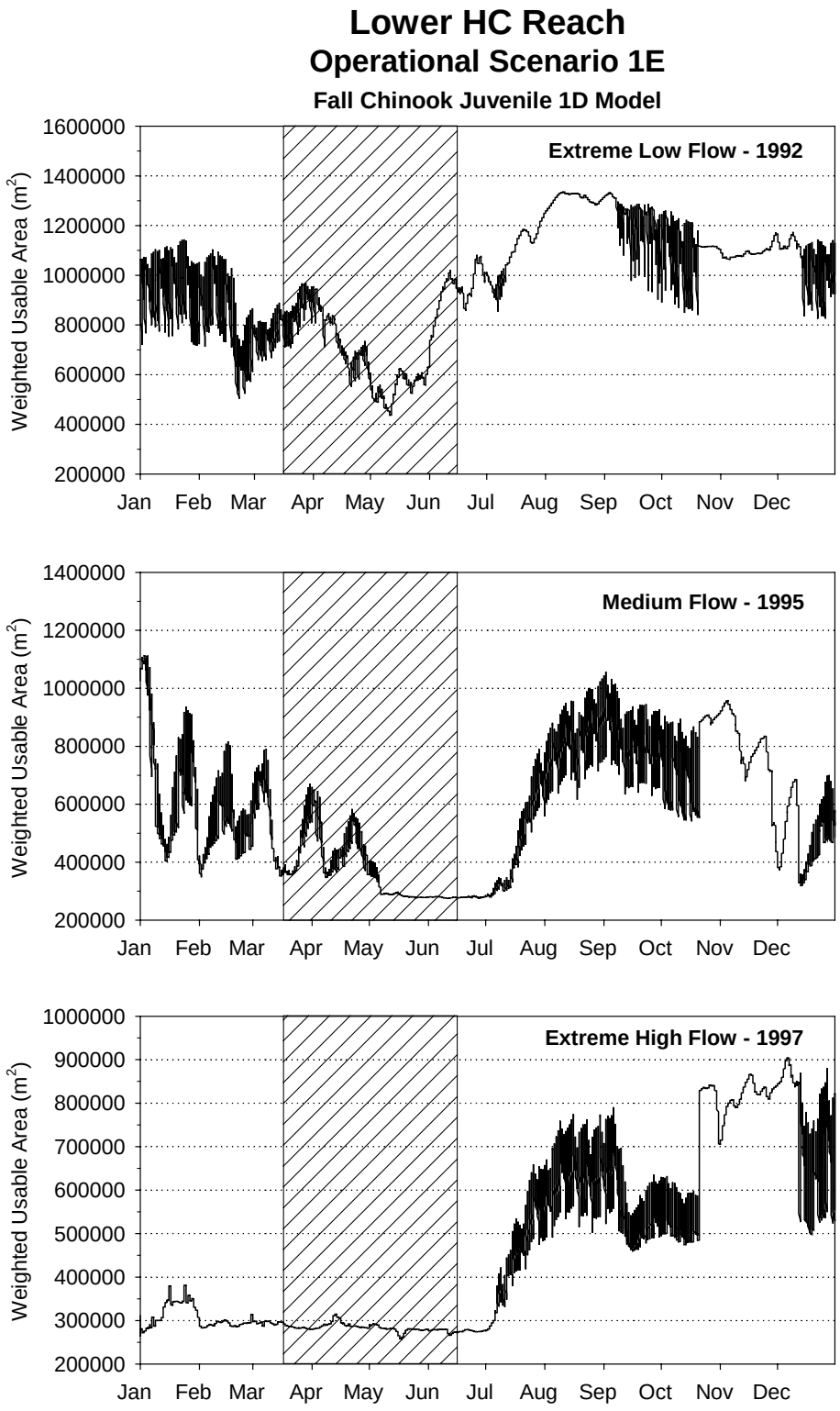


Figure 319. Total weighted usable area (WUA) under Operational Scenario 1E for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

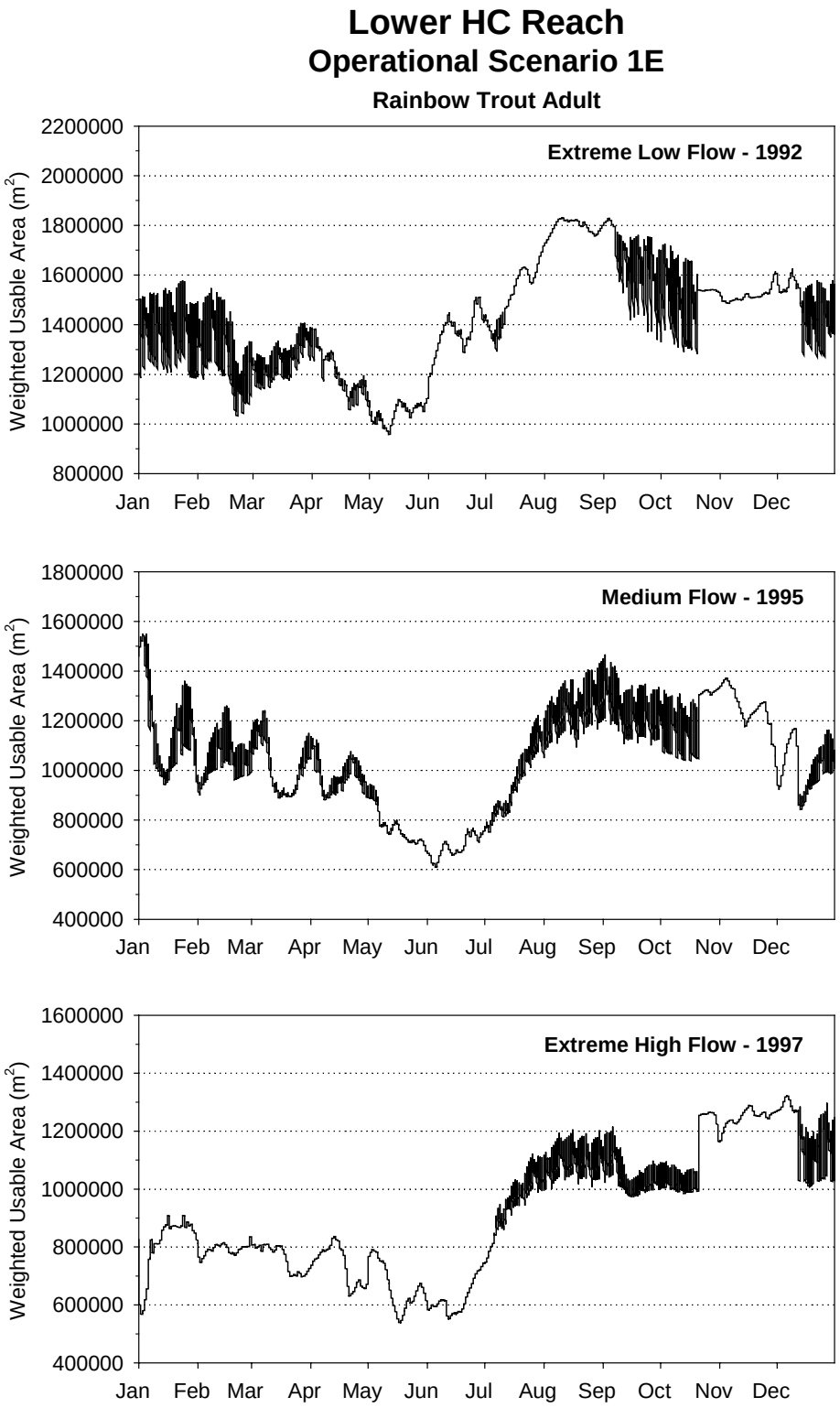


Figure 320. Total weighted usable area (WUA) under Operational Scenario 1E for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

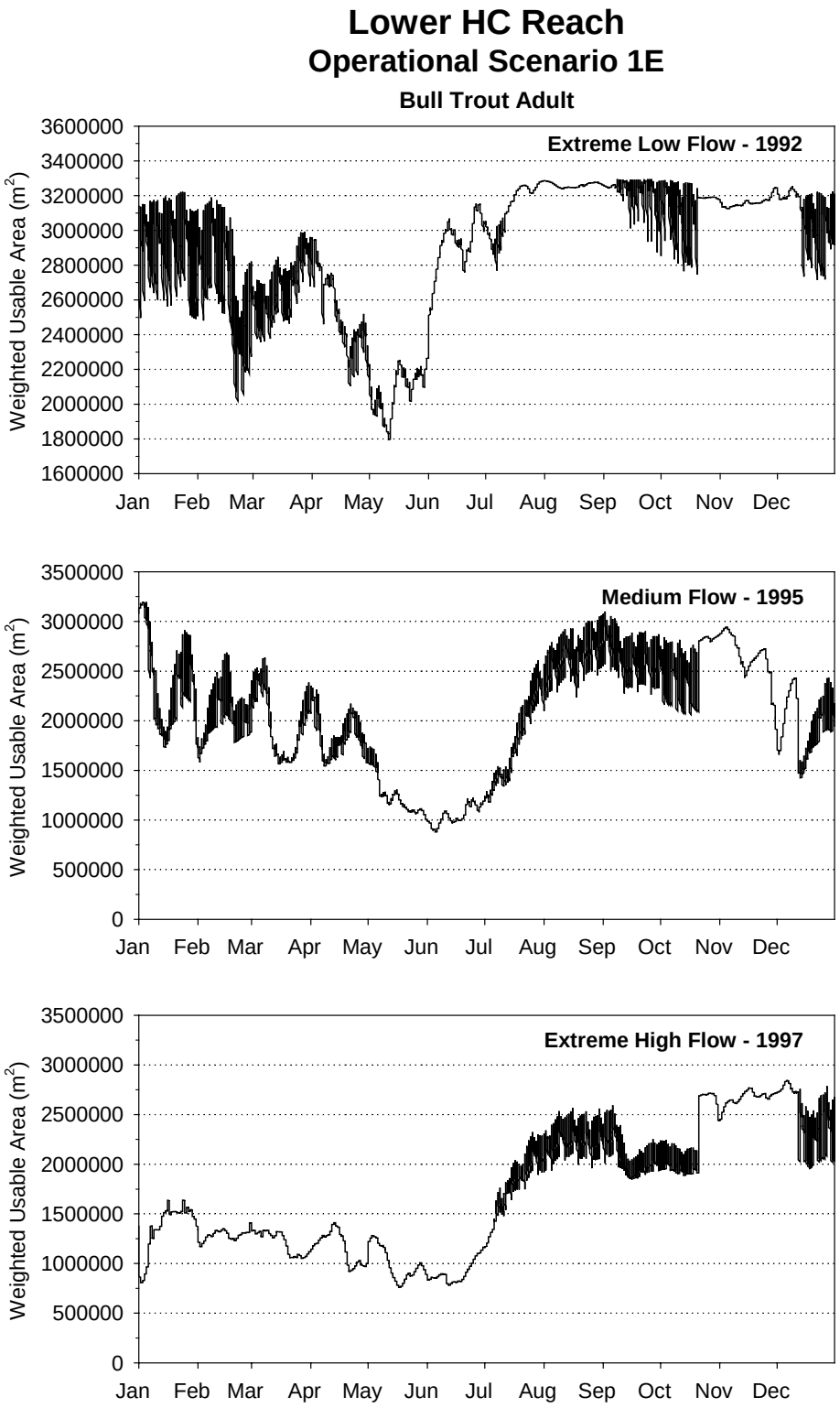


Figure 321. Total weighted usable area (WUA) under Operational Scenario 1E for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

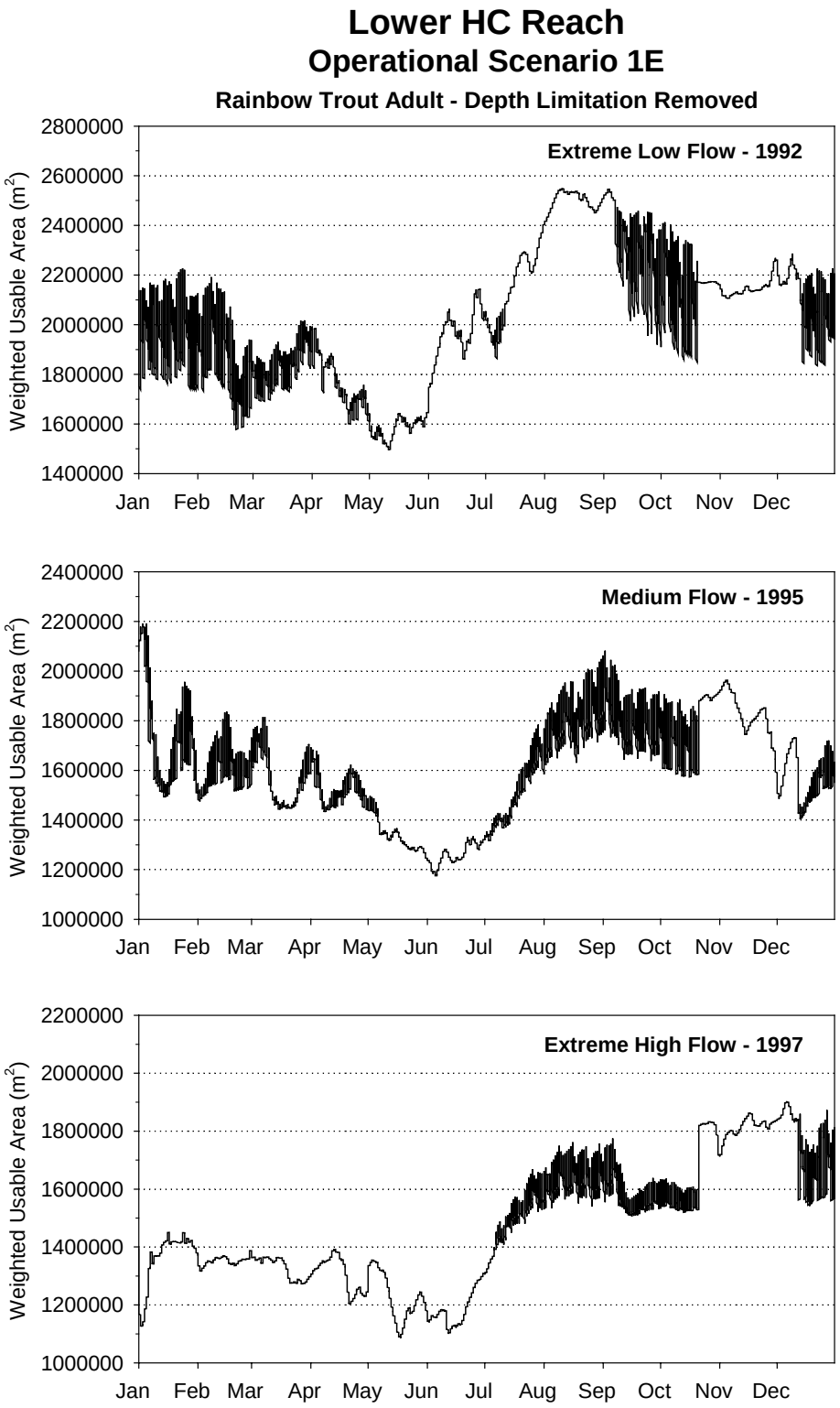


Figure 322. Total weighted usable area (WUA) under Operational Scenario 1E for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

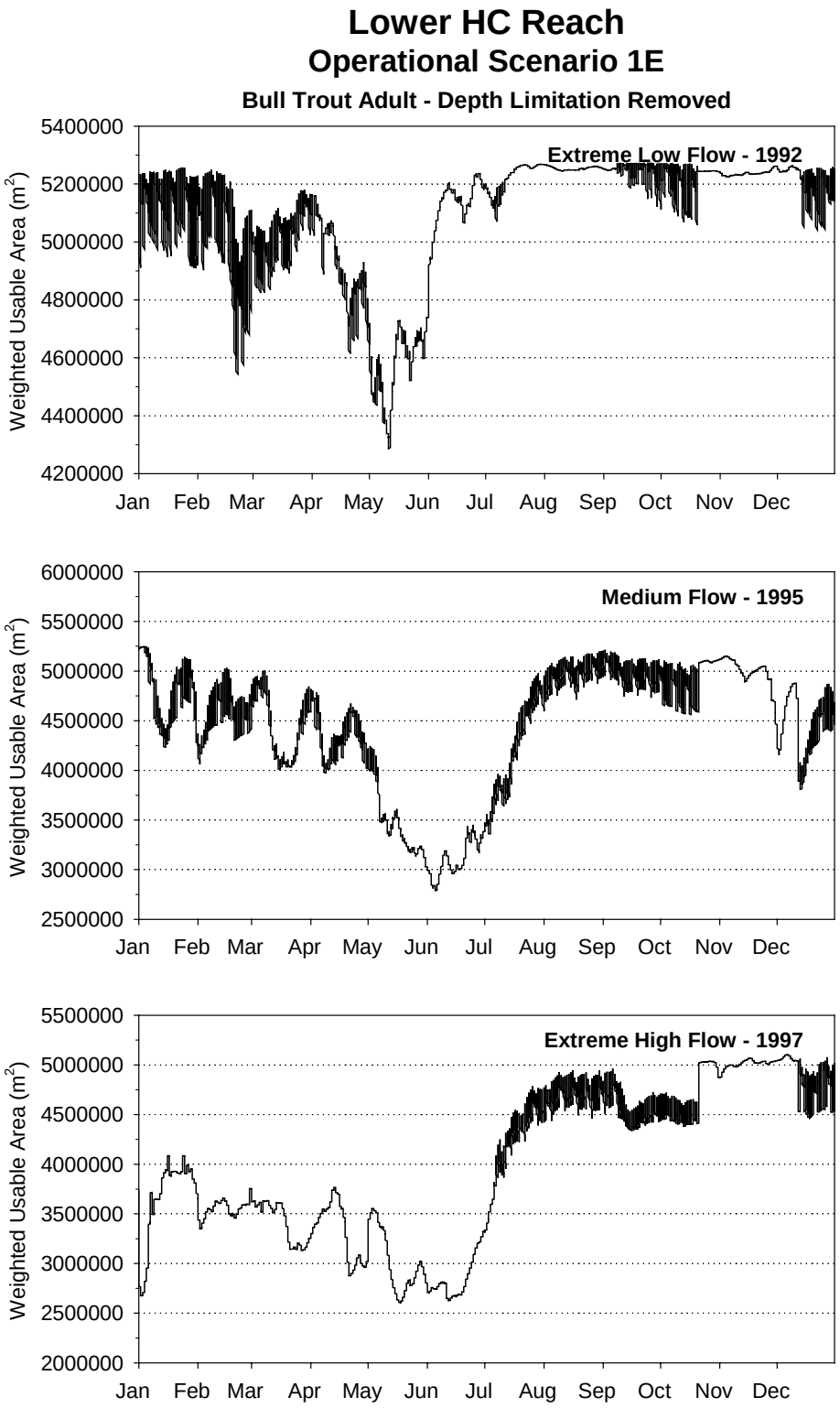


Figure 323. Total weighted usable area (WUA) under Operational Scenario 1E for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

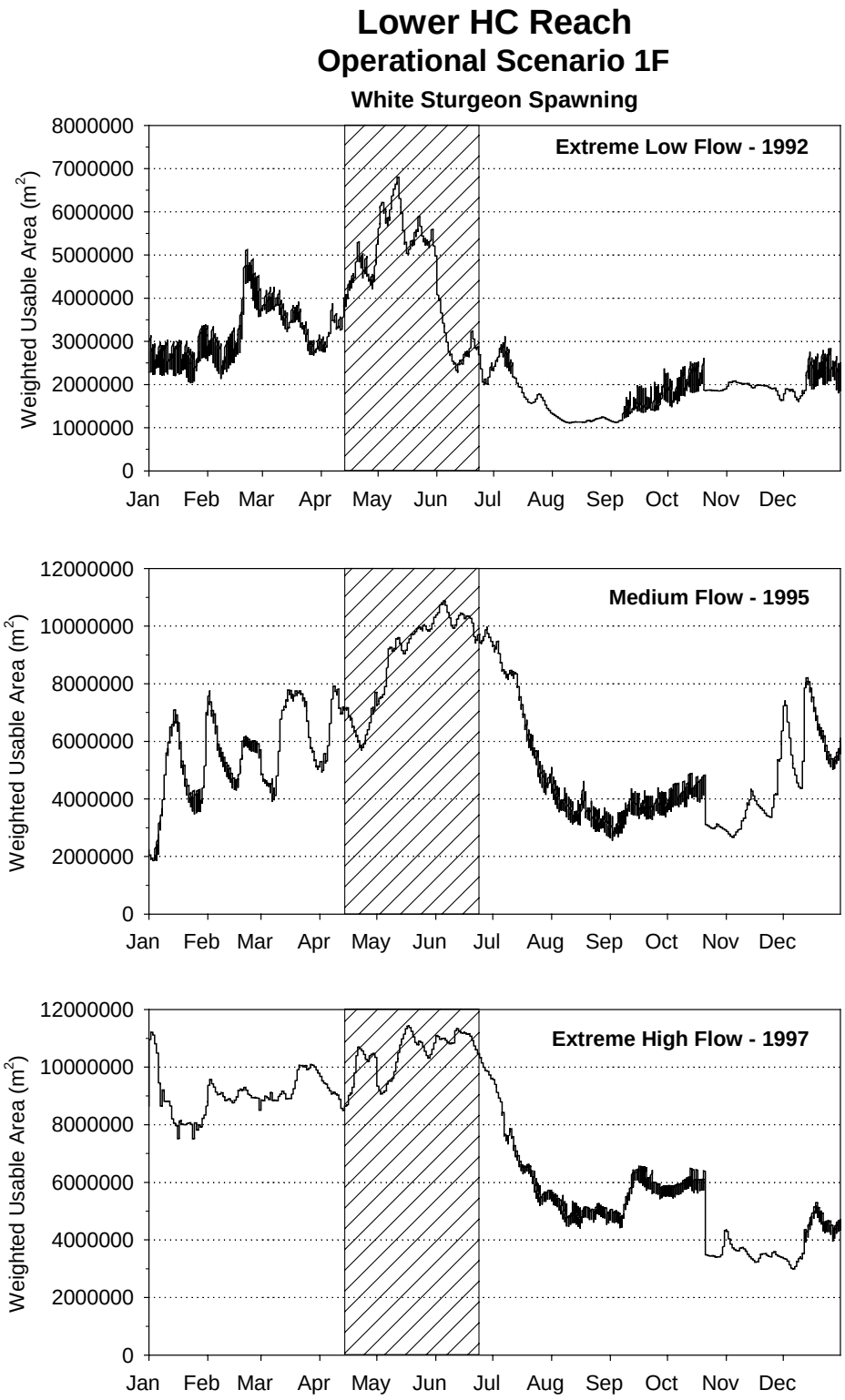


Figure 324. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

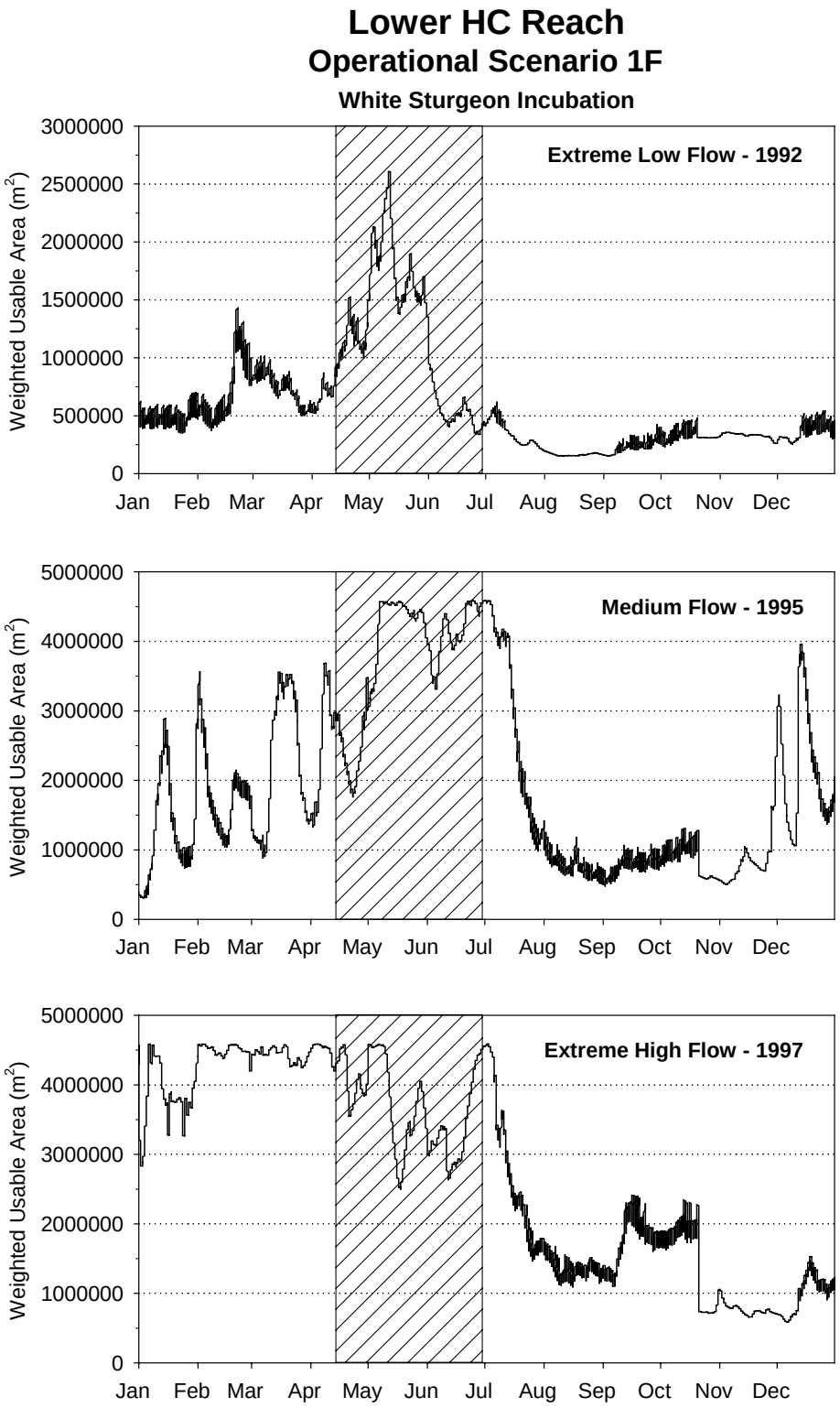


Figure 325. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

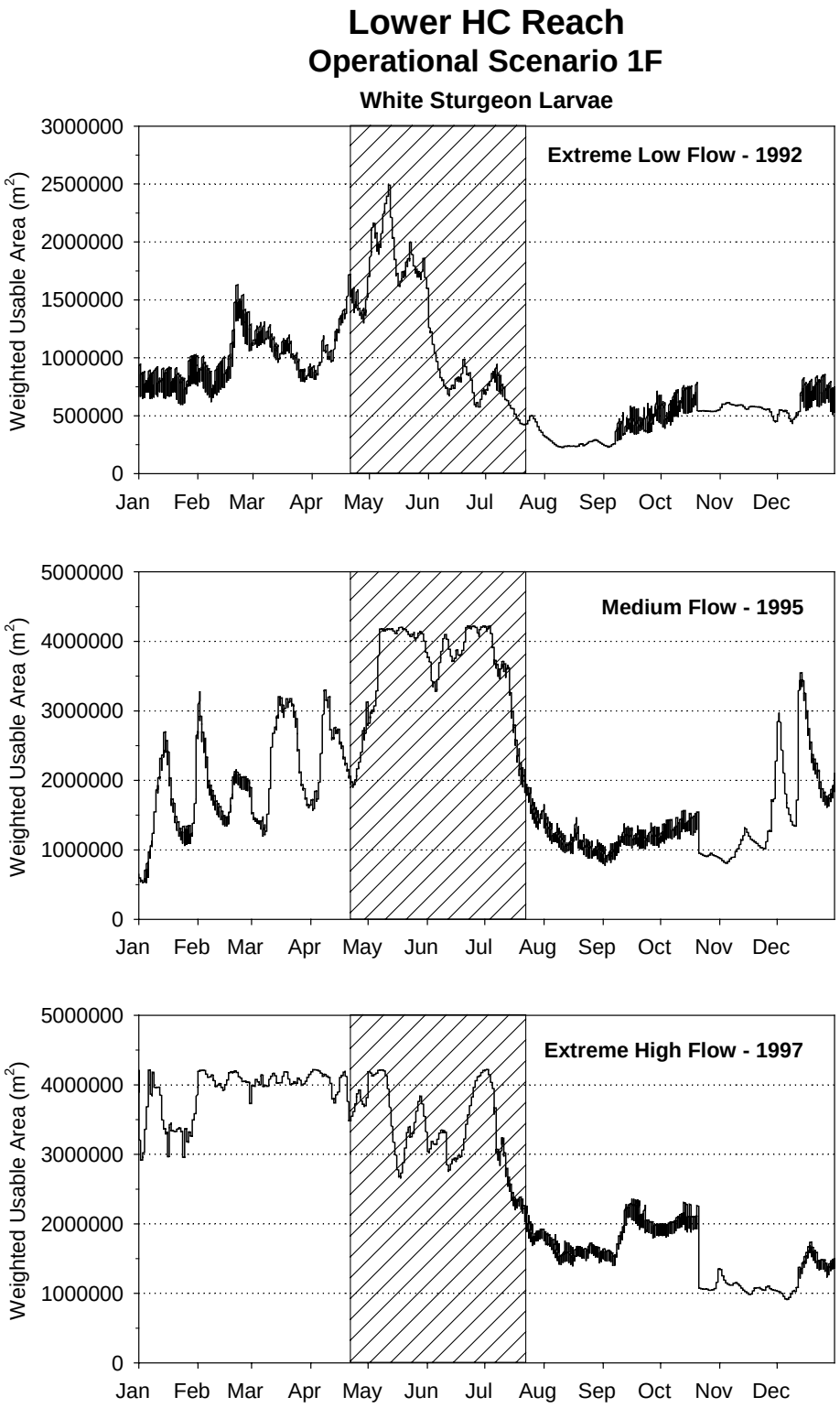


Figure 326. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

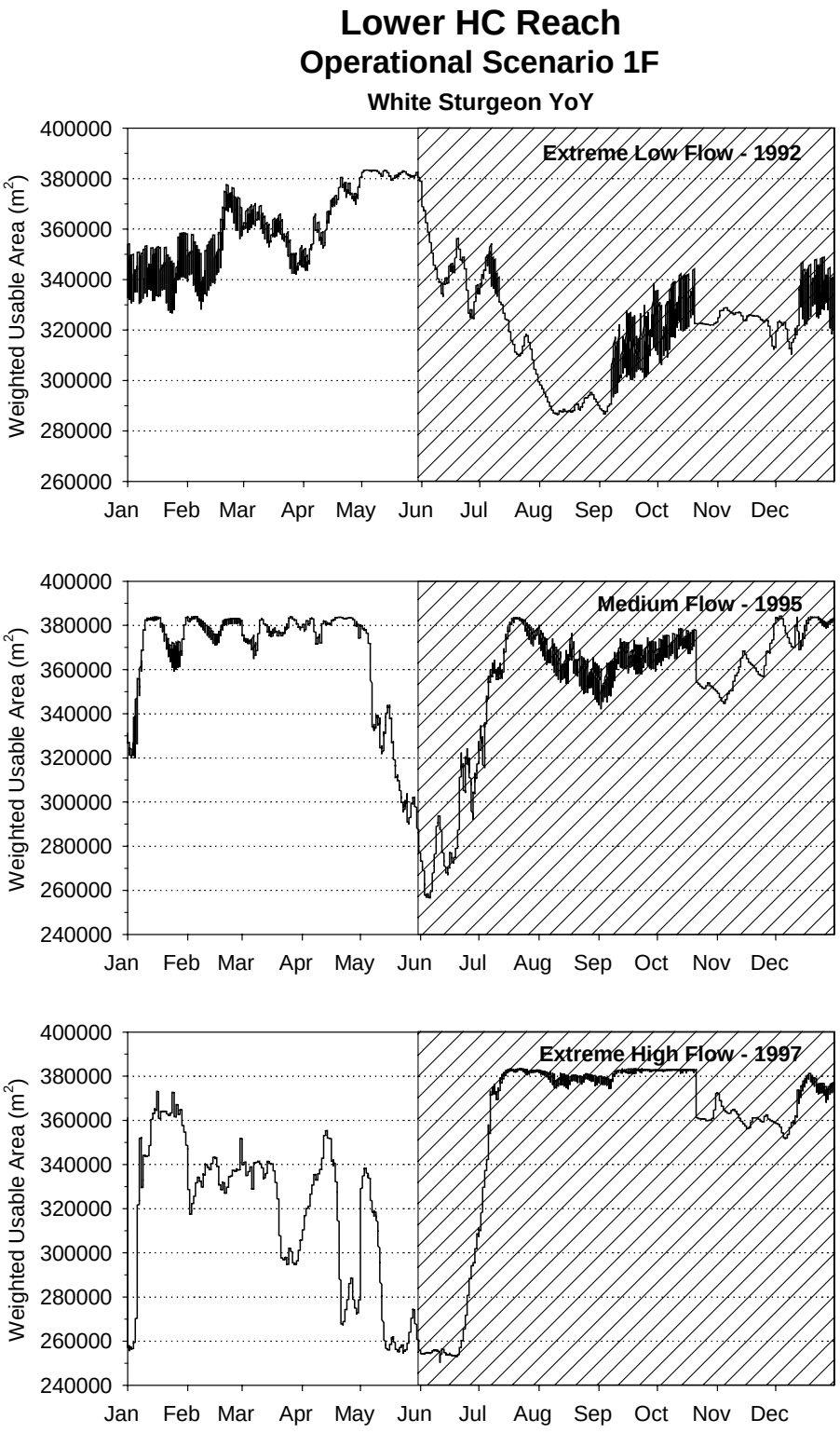


Figure 327. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

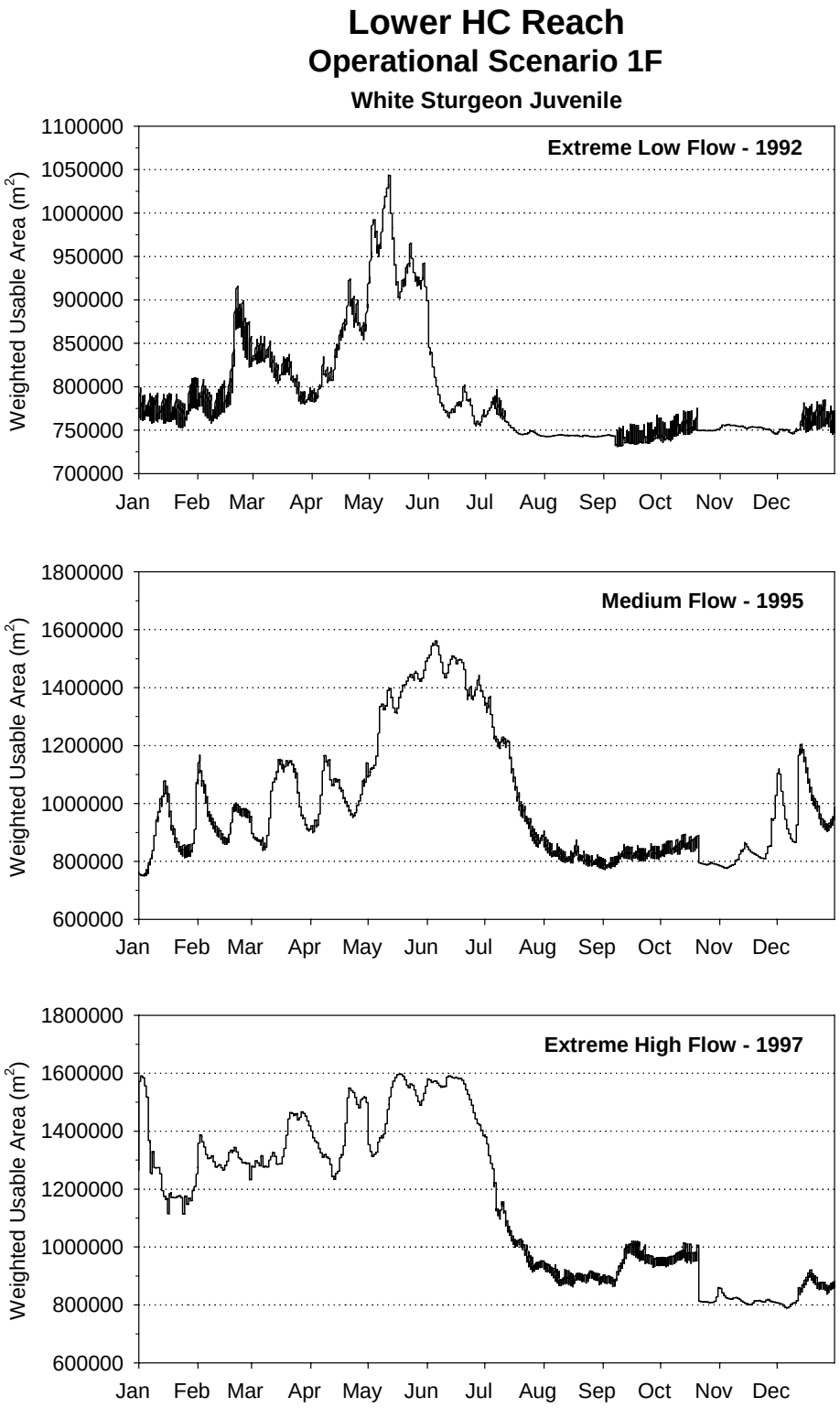


Figure 328. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

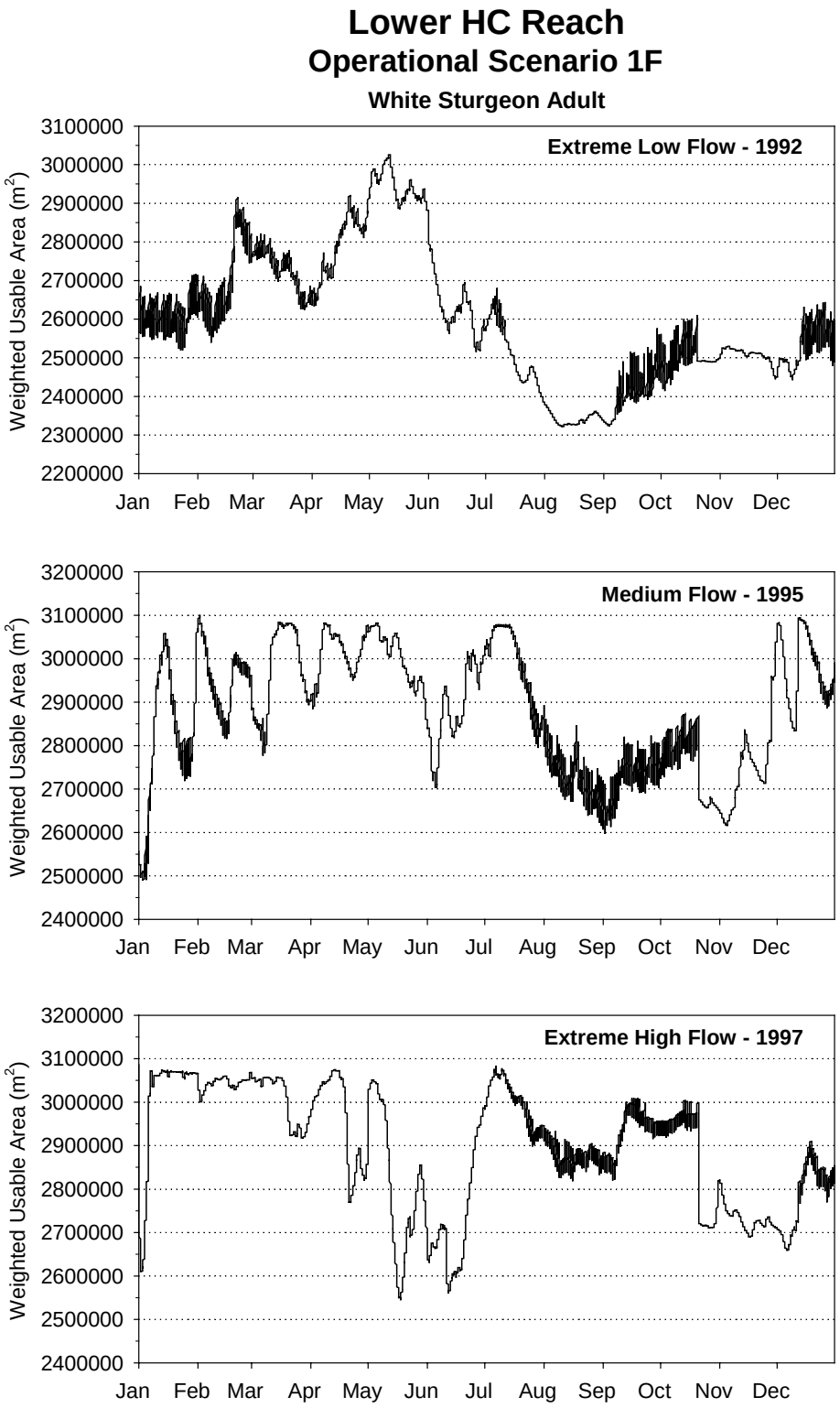


Figure 329. Total weighted usable area (WUA) under Operational Scenario 1F for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

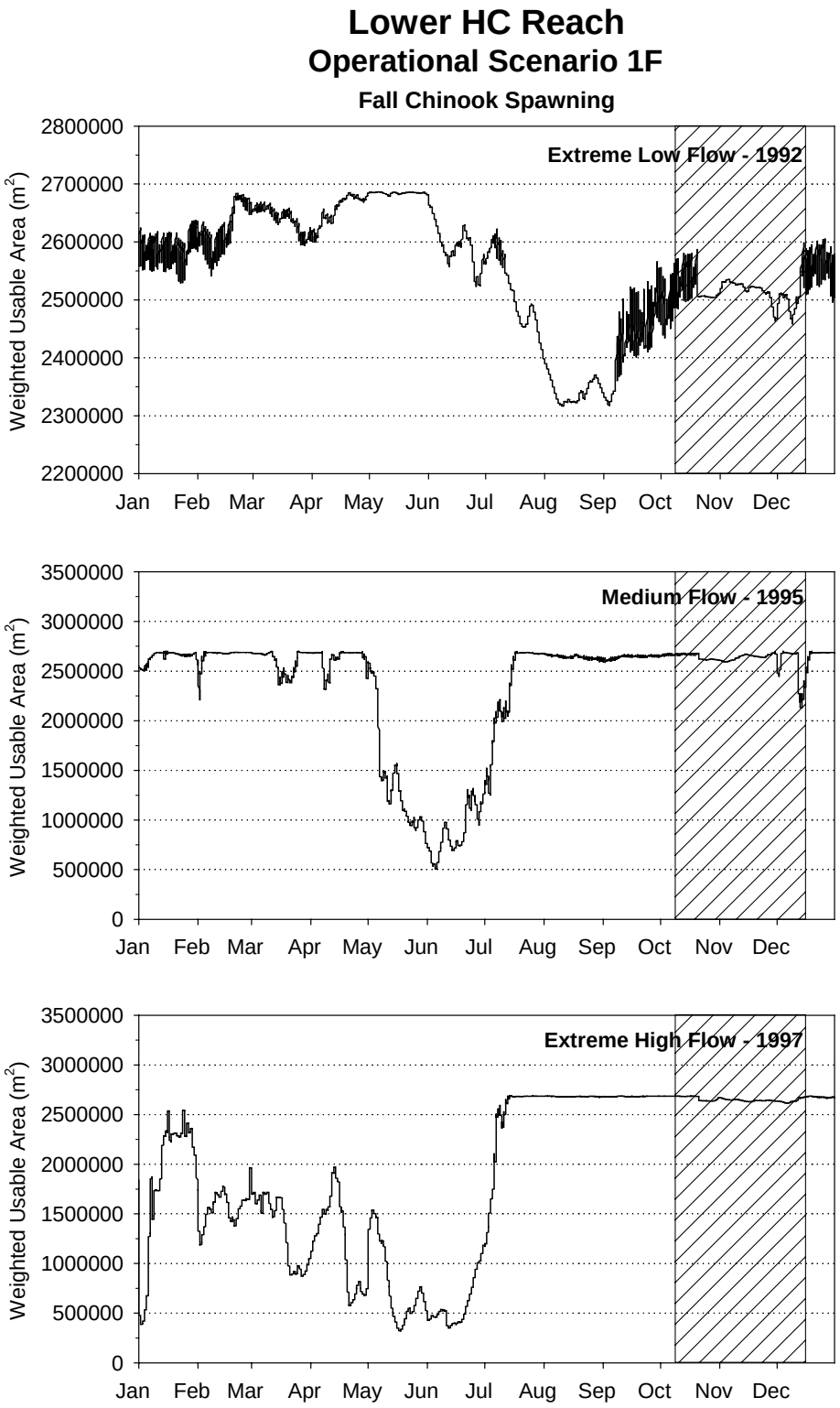


Figure 330. Total weighted usable area (WUA) under Operational Scenario 1F for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

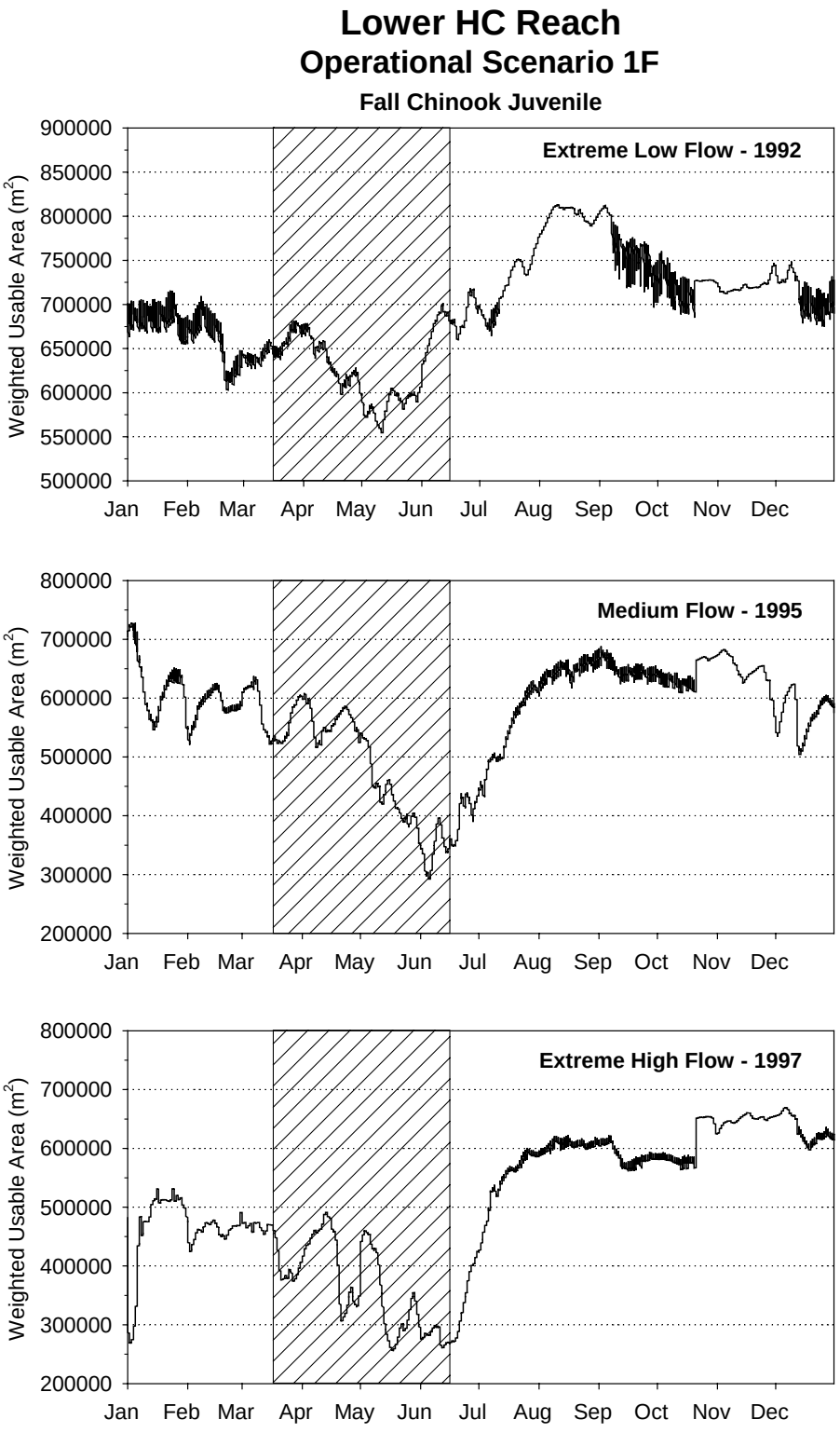


Figure 331. Total weighted usable area (WUA) under Operational Scenario 1F for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

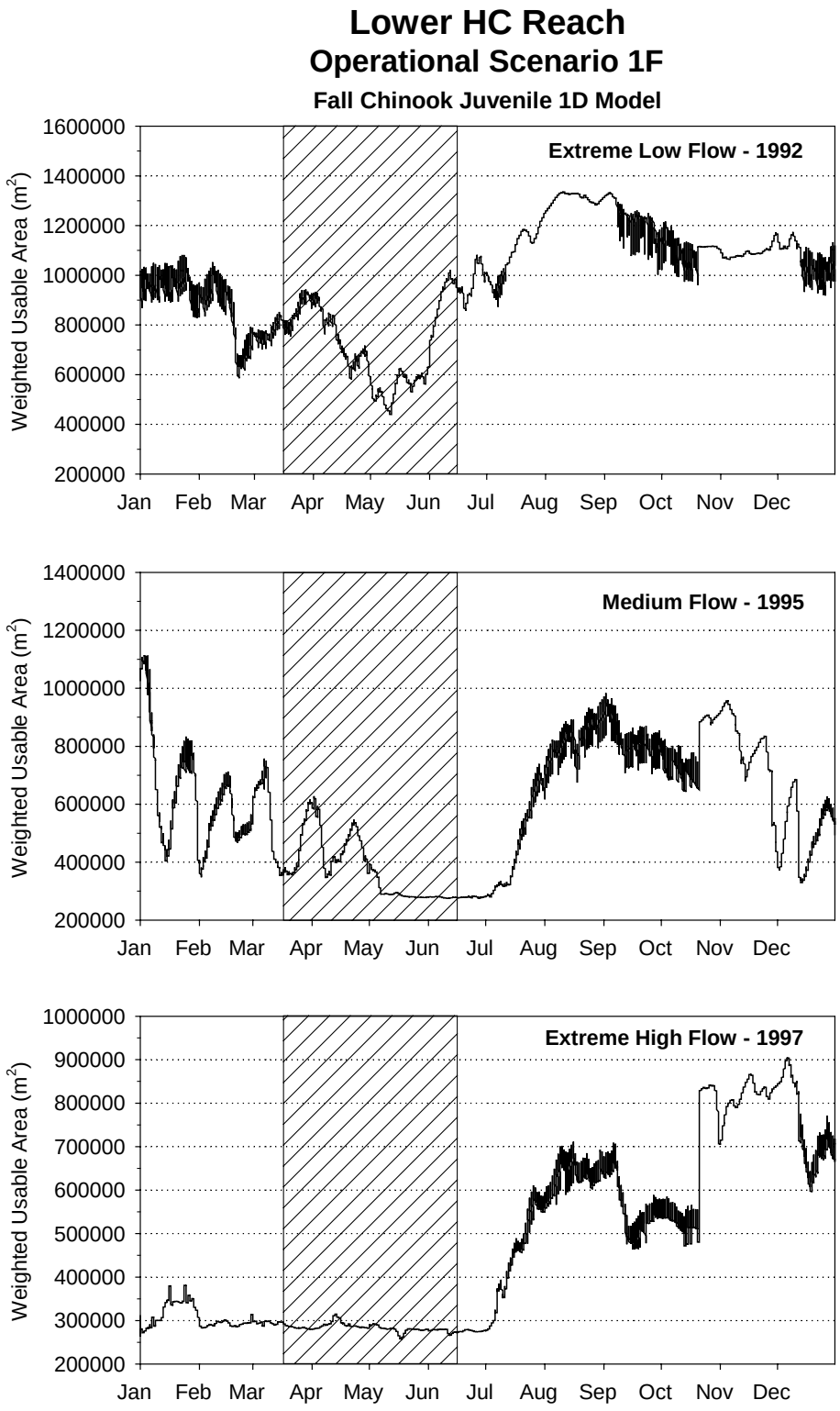


Figure 332. Total weighted usable area (WUA) under Operational Scenario 1F for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

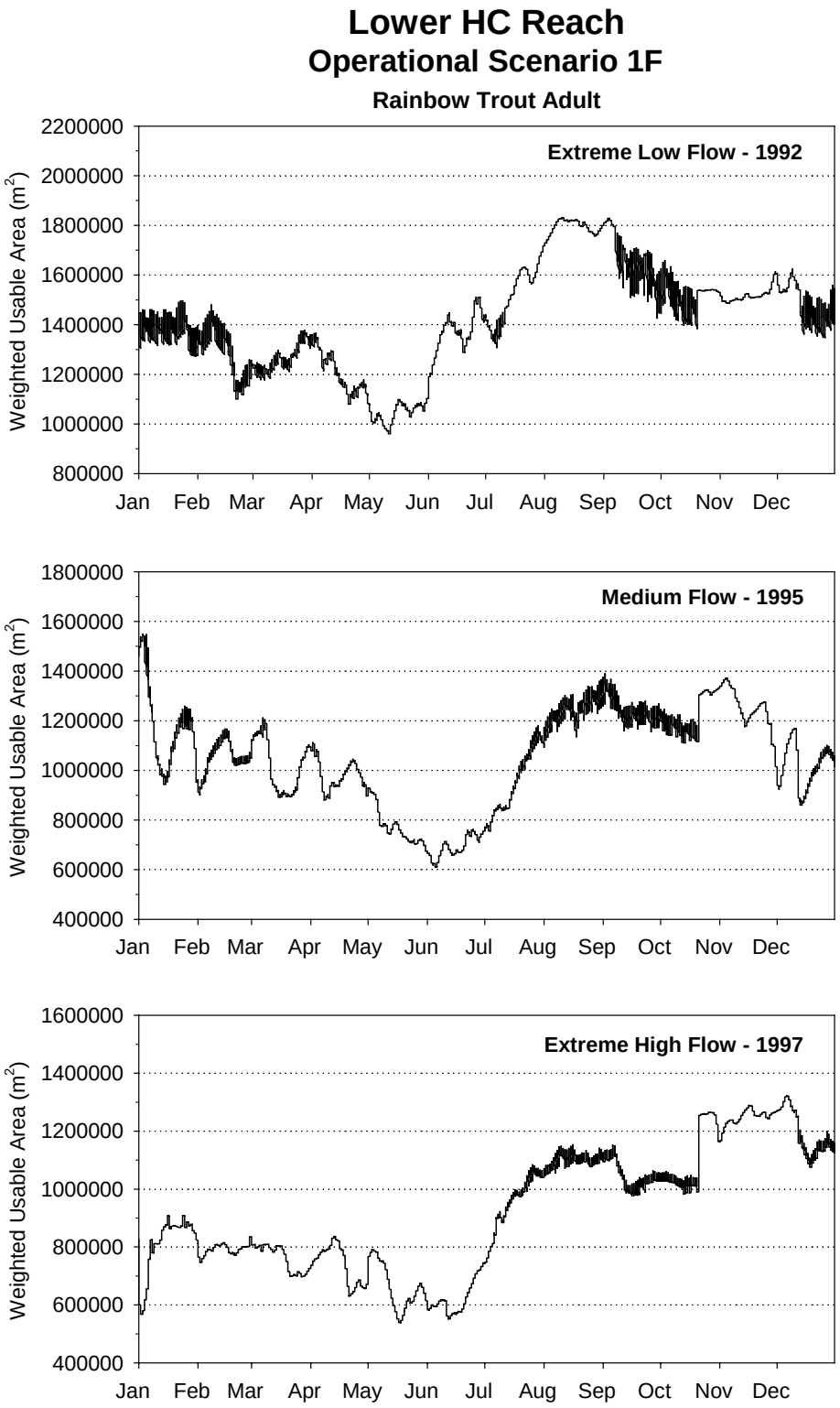


Figure 333. Total weighted usable area (WUA) under Operational Scenario 1F for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

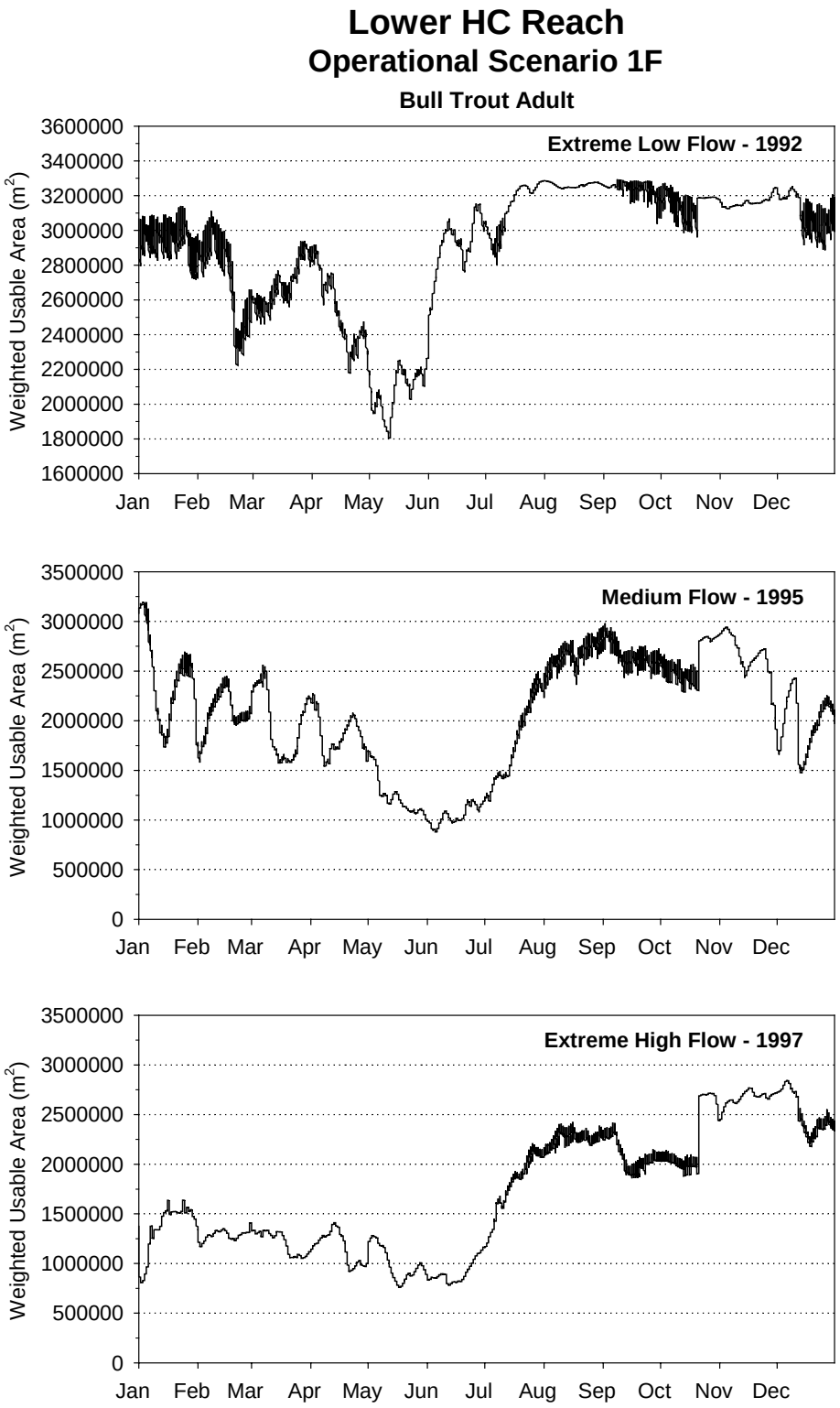


Figure 334. Total weighted usable area (WUA) under Operational Scenario 1F for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

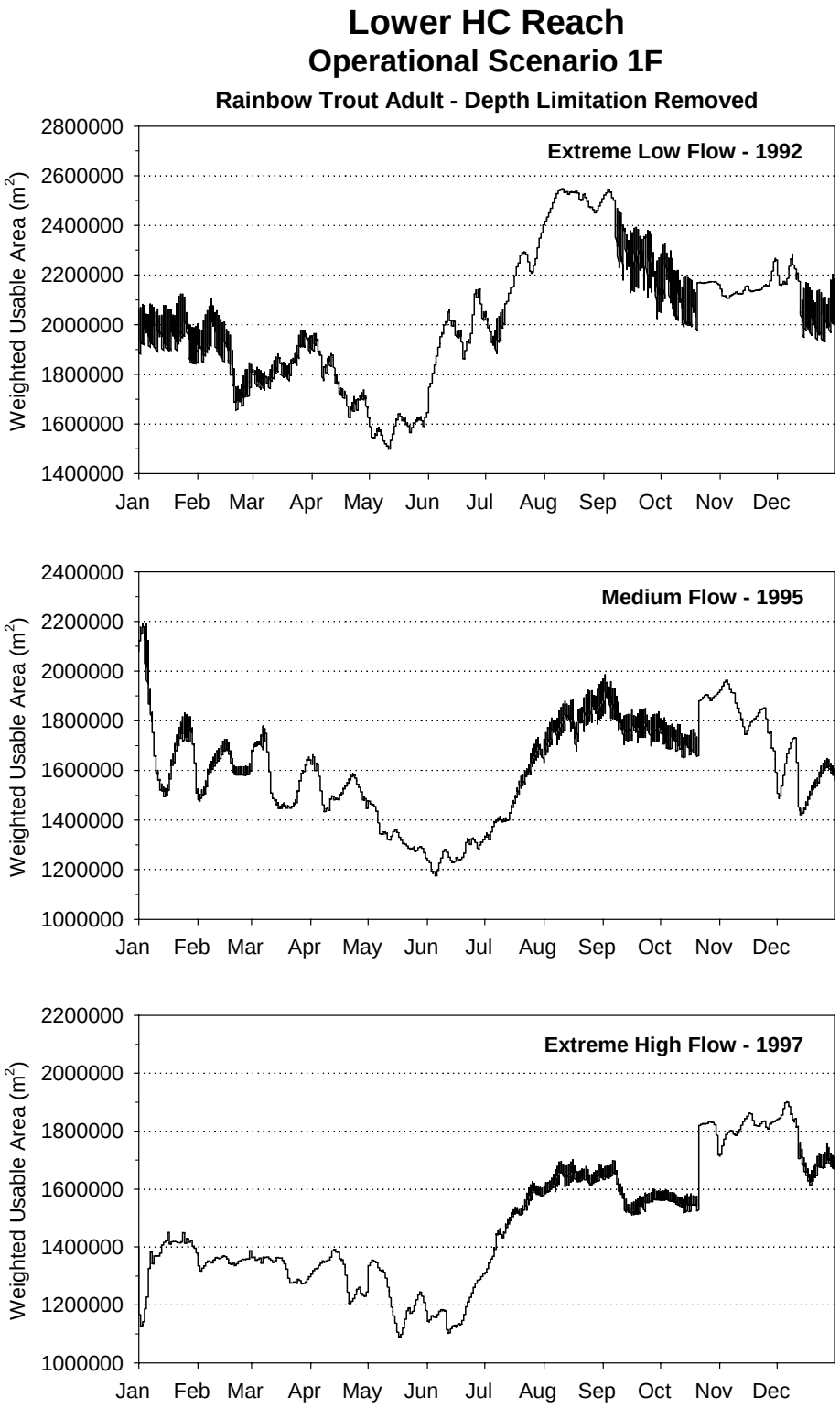


Figure 335. Total weighted usable area (WUA) under Operational Scenario 1F for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

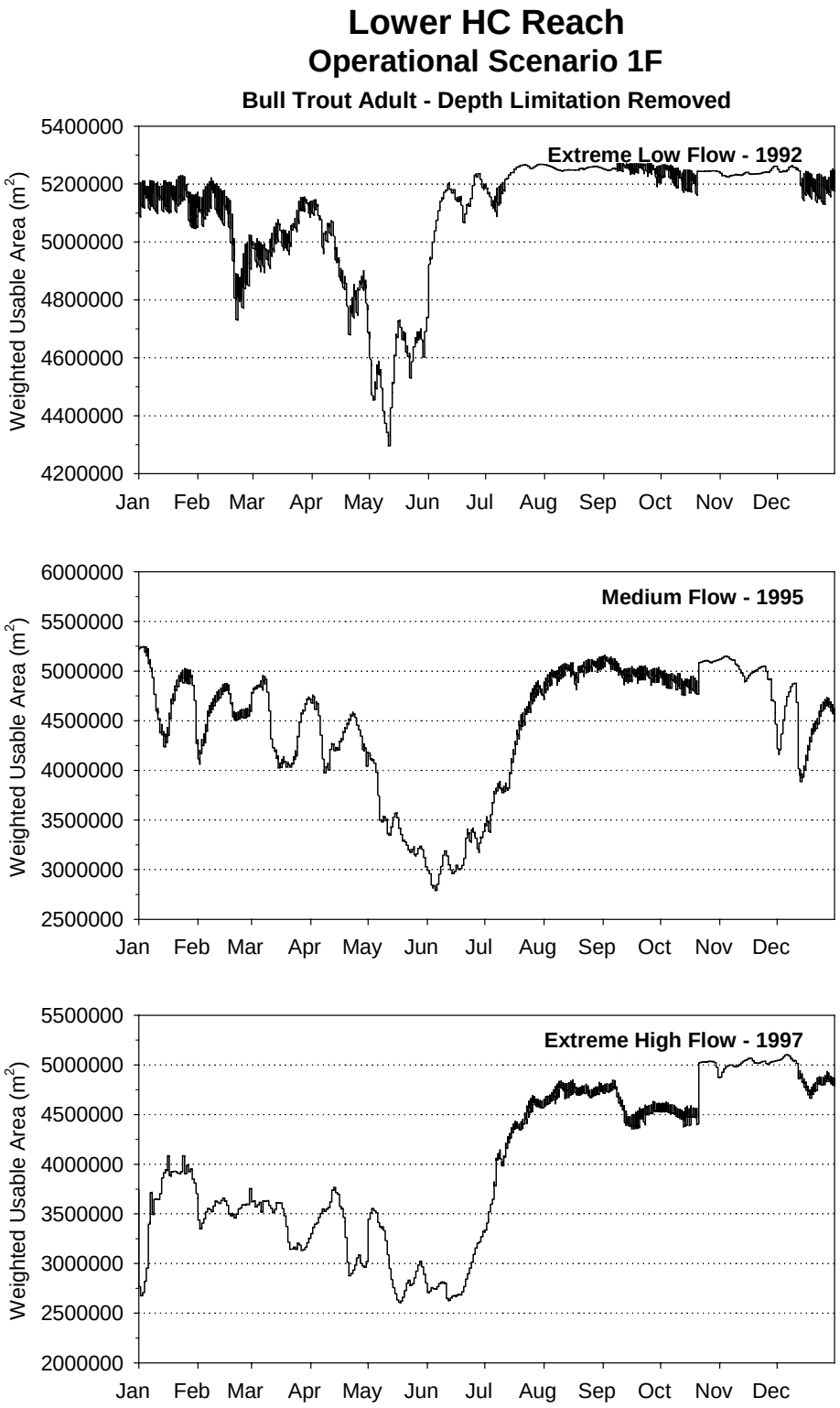


Figure 336. Total weighted usable area (WUA) under Operational Scenario 1F for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

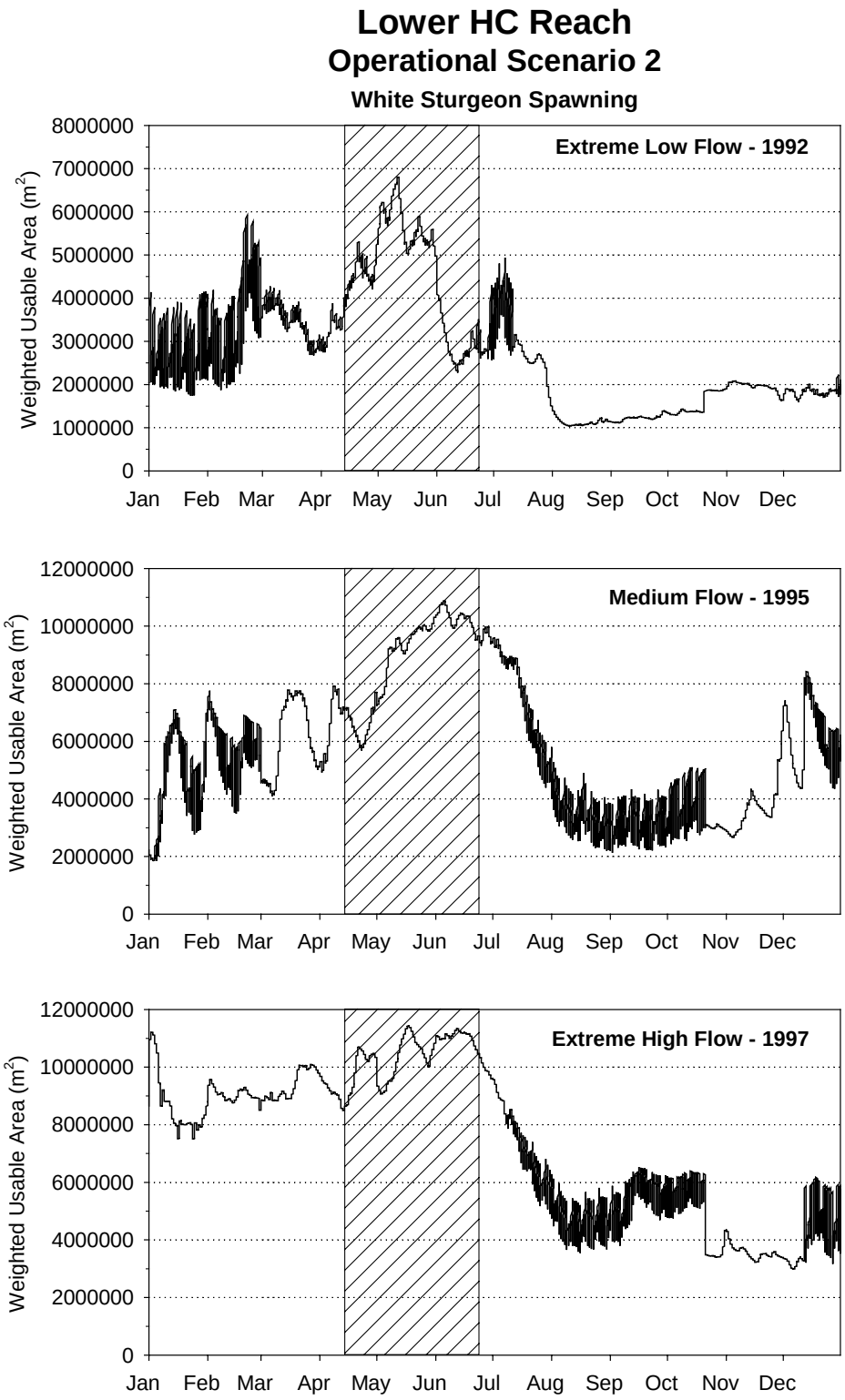


Figure 337. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

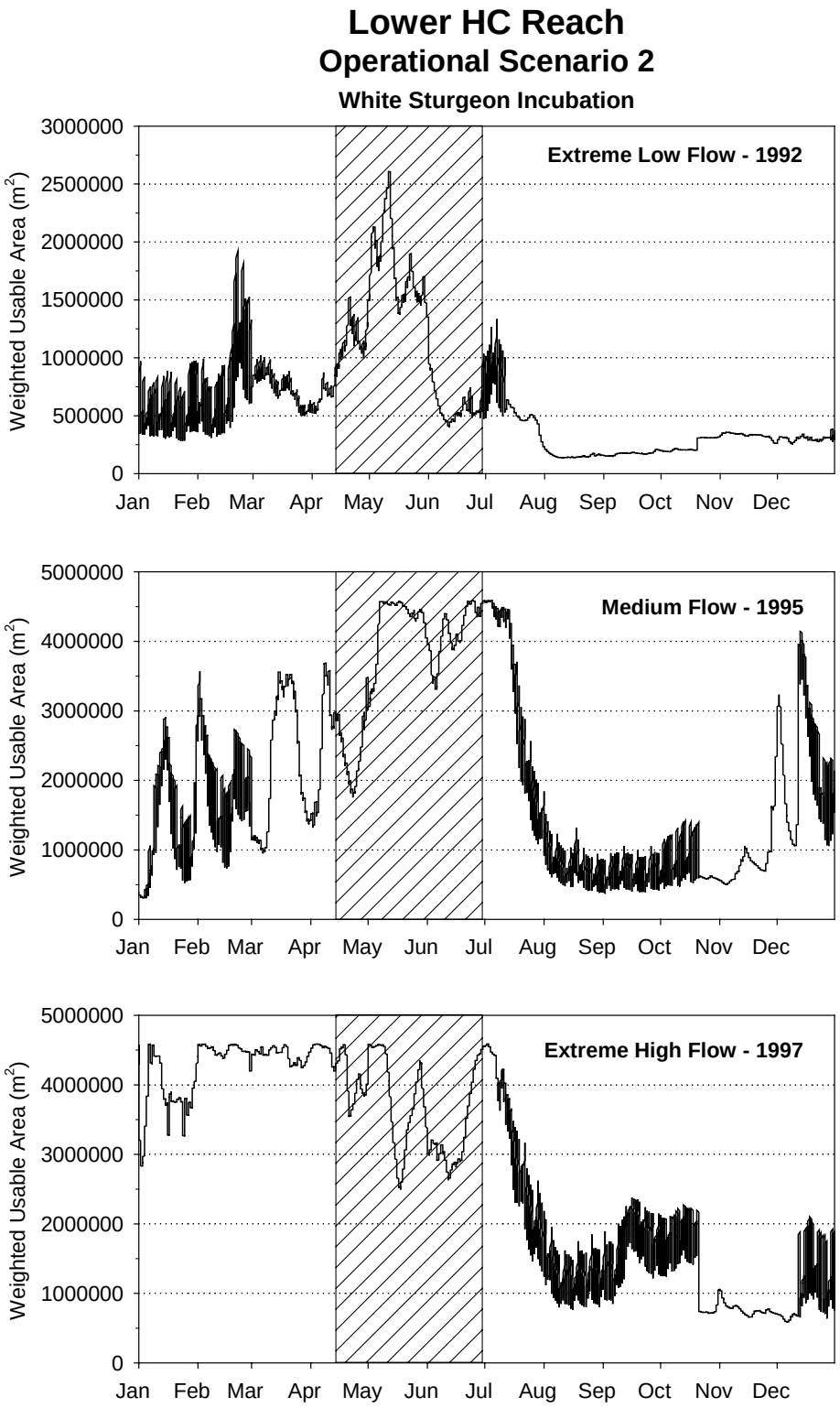


Figure 338. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

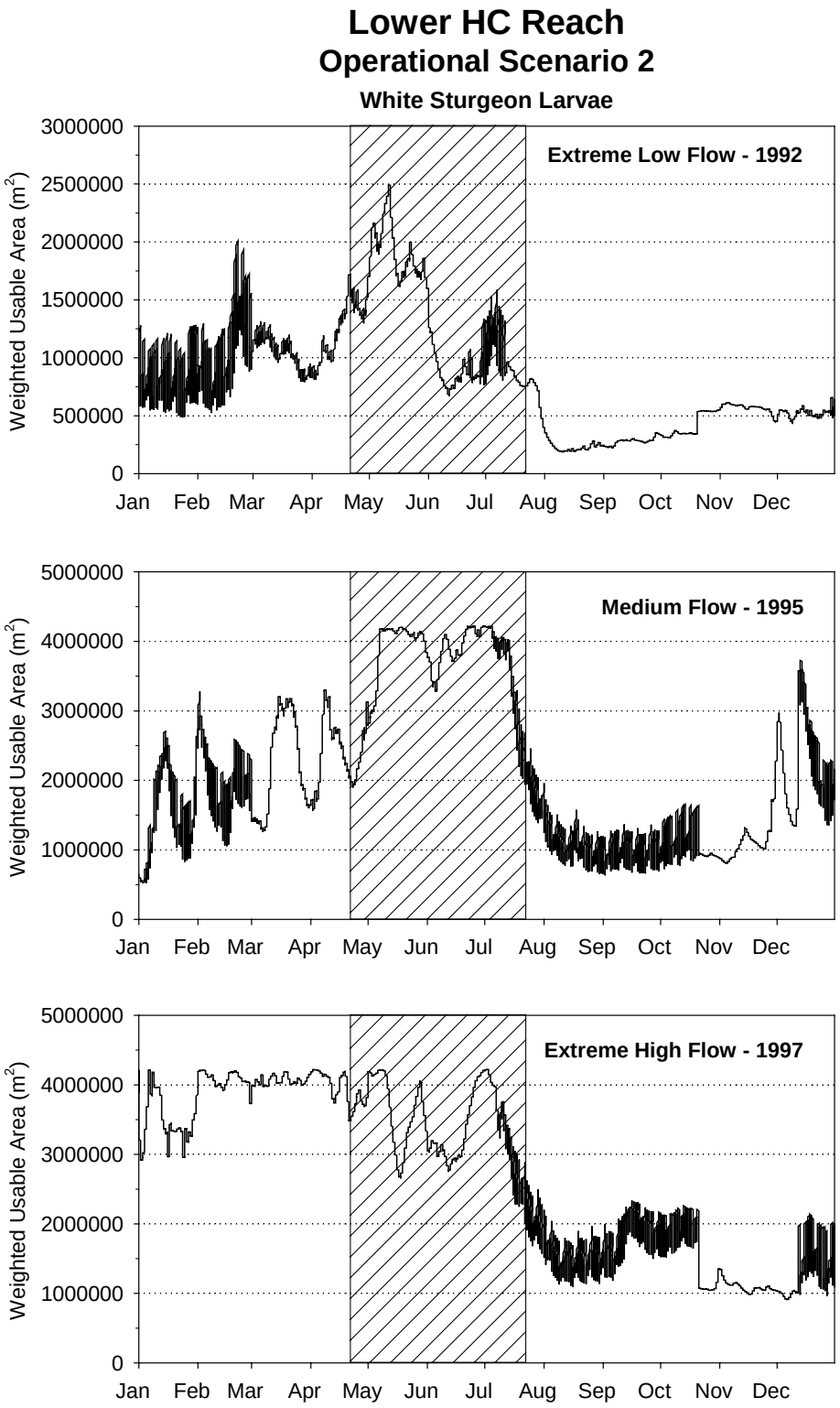


Figure 339. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

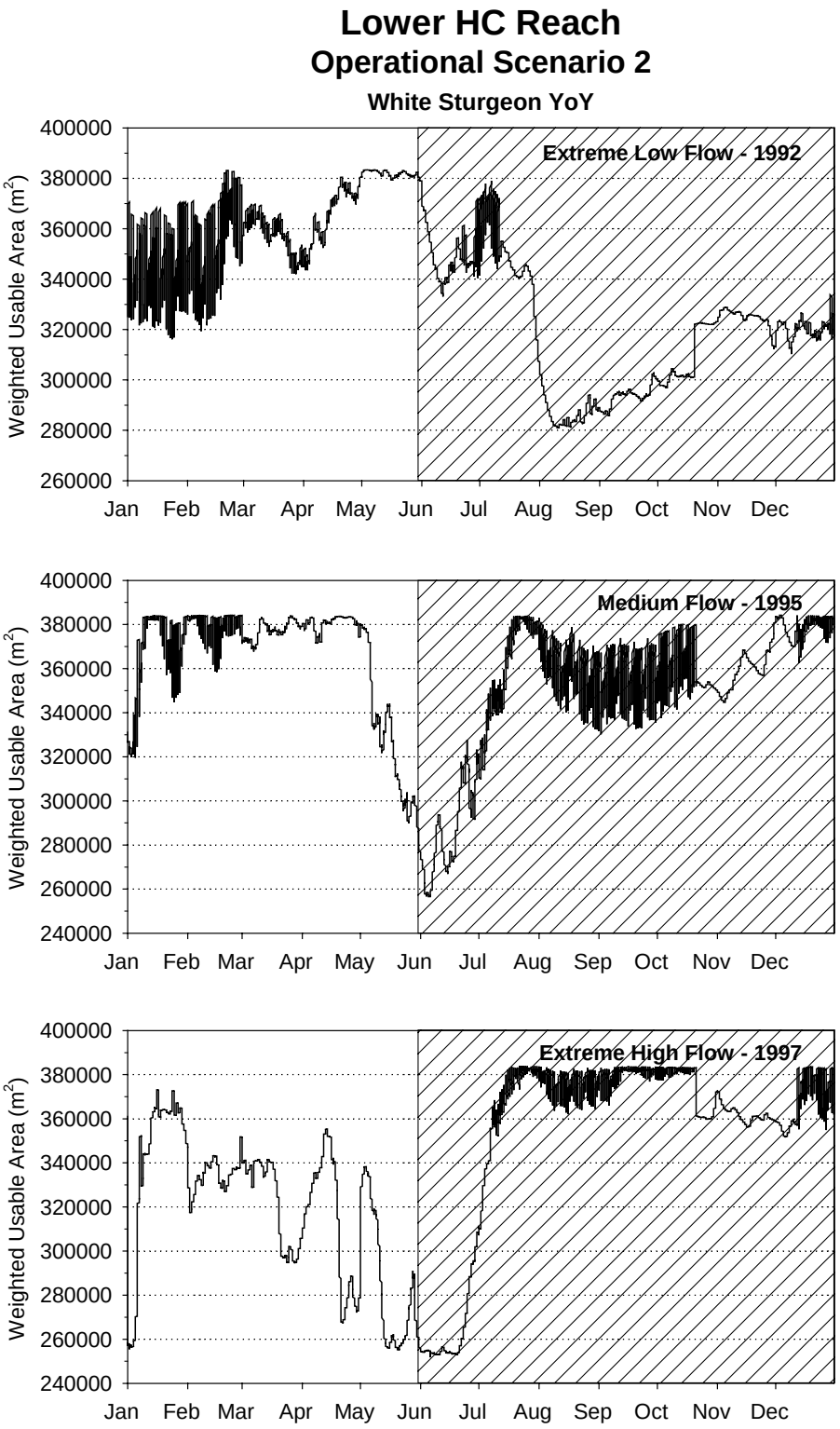


Figure 340. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

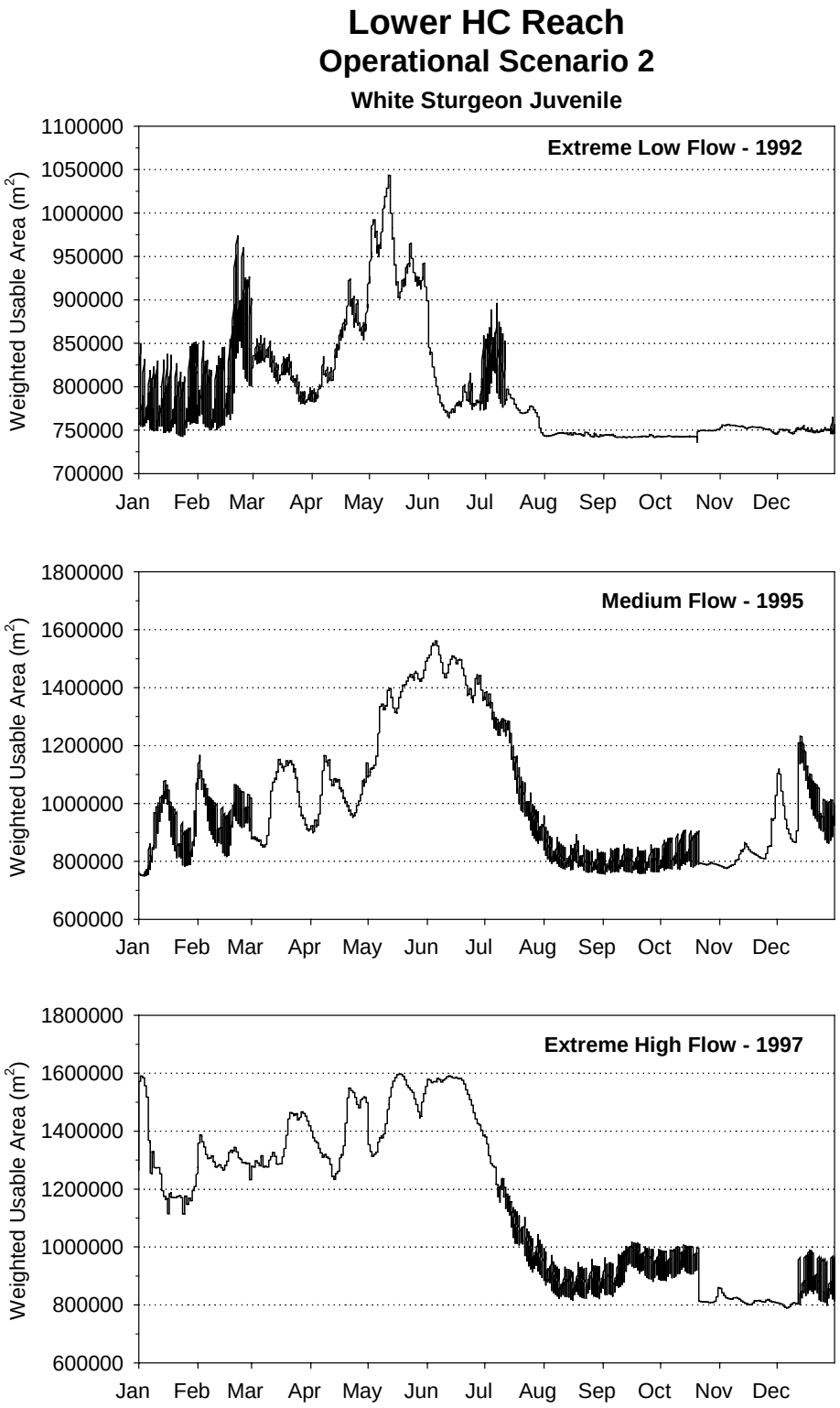


Figure 341. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

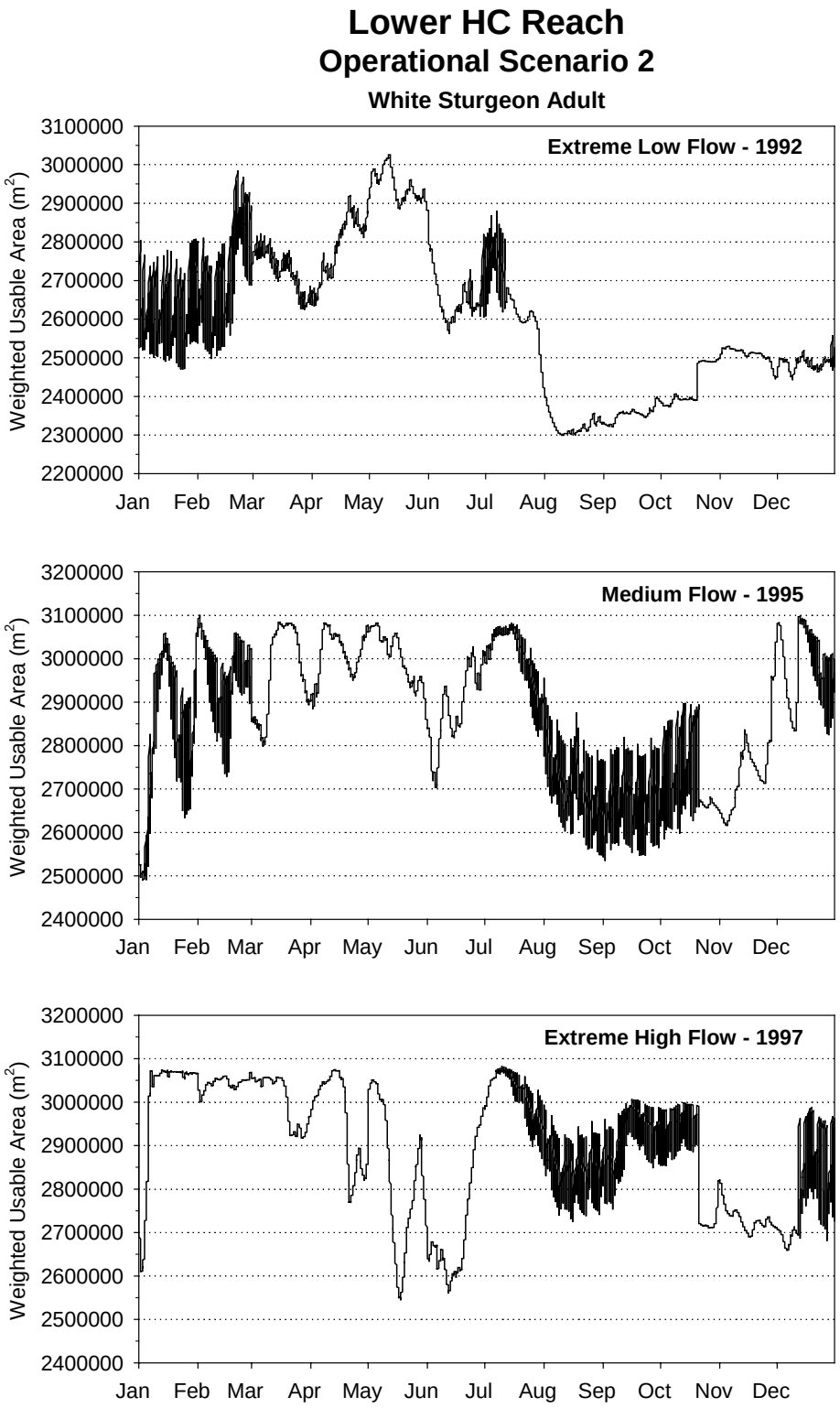


Figure 342. Total weighted usable area (WUA) under Operational Scenario 2 for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

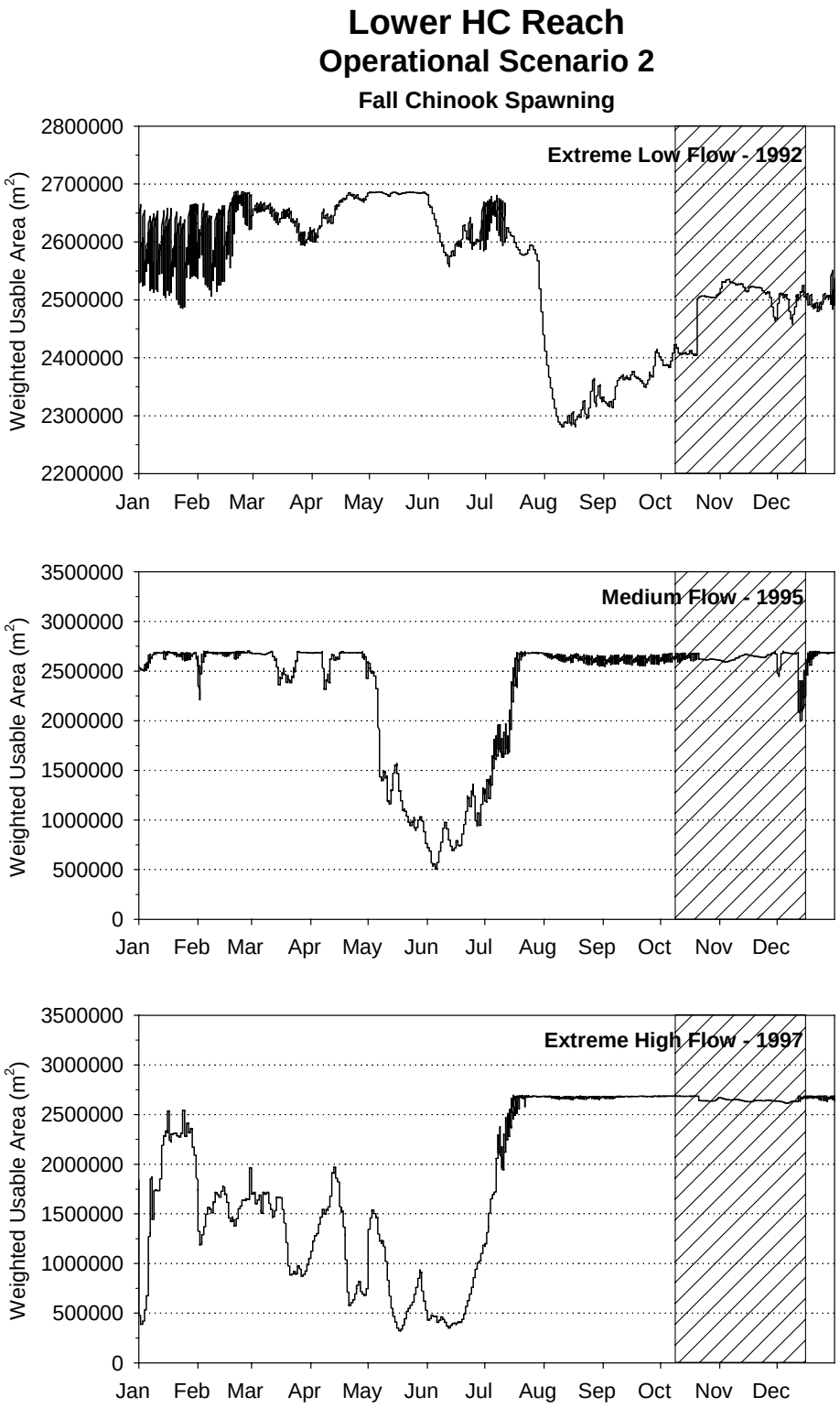


Figure 343. Total weighted usable area (WUA) under Operational Scenario 2 for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

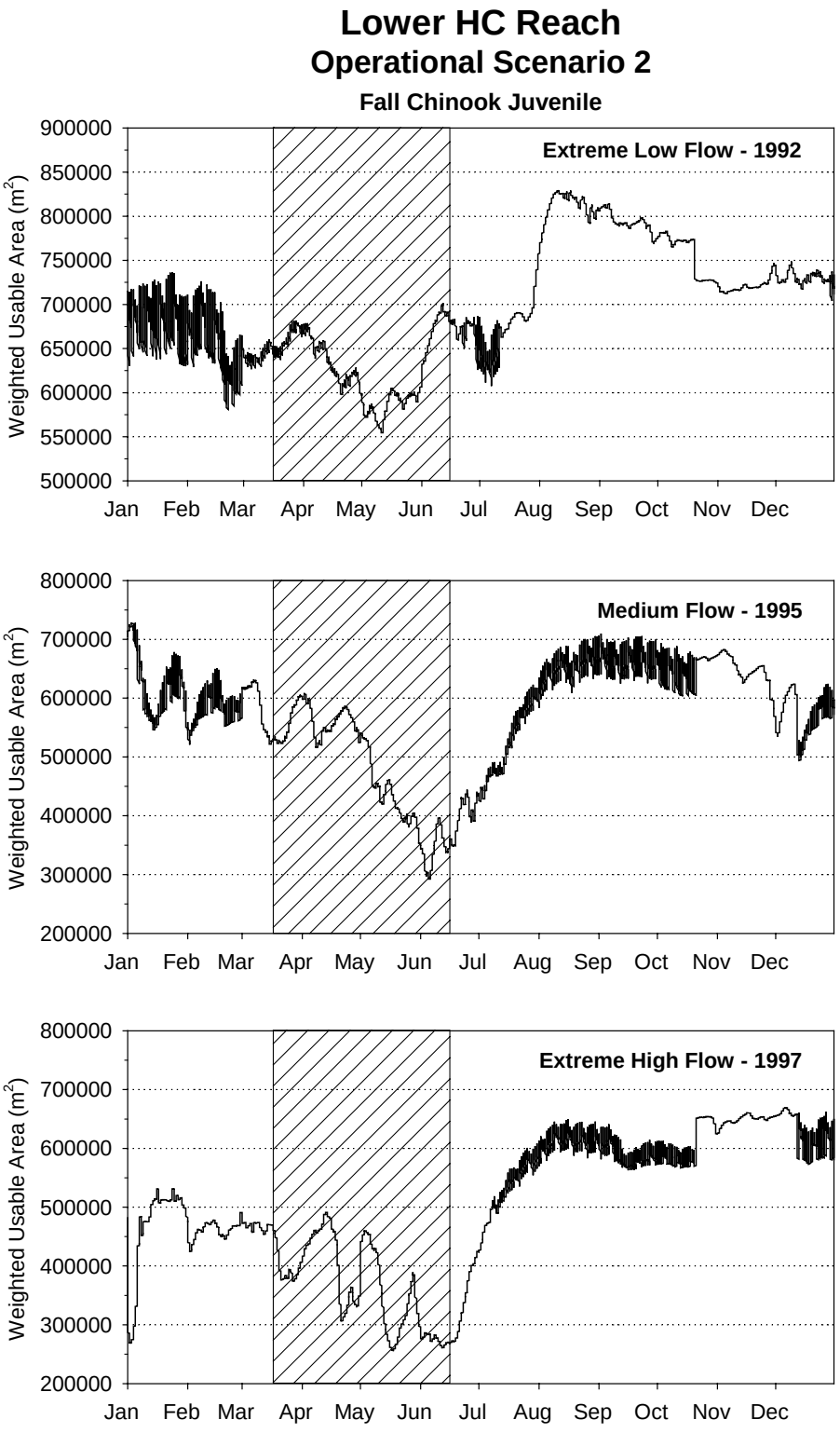


Figure 344. Total weighted usable area (WUA) under Operational Scenario 2 for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

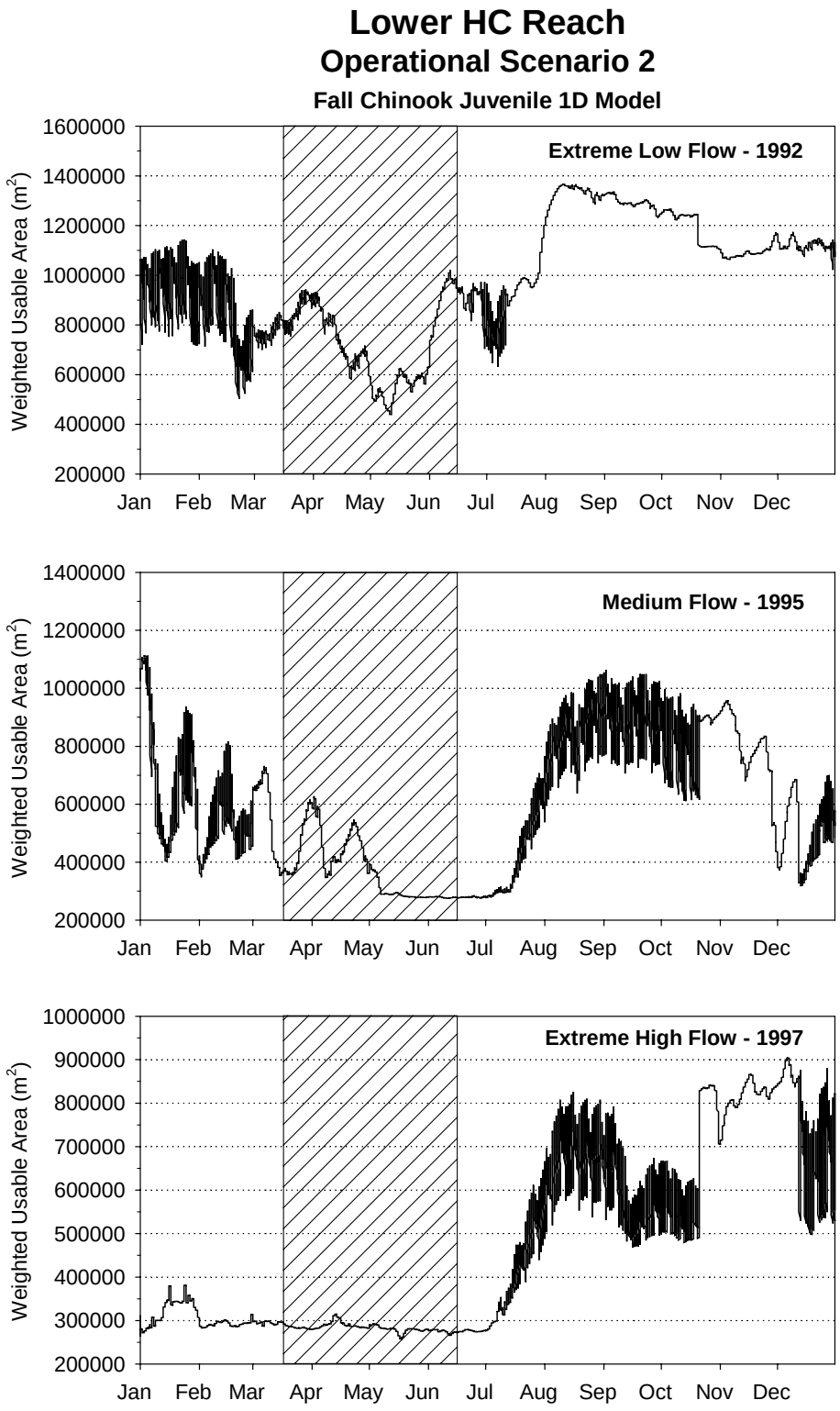


Figure 345. Total weighted usable area (WUA) under Operational Scenario 2 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

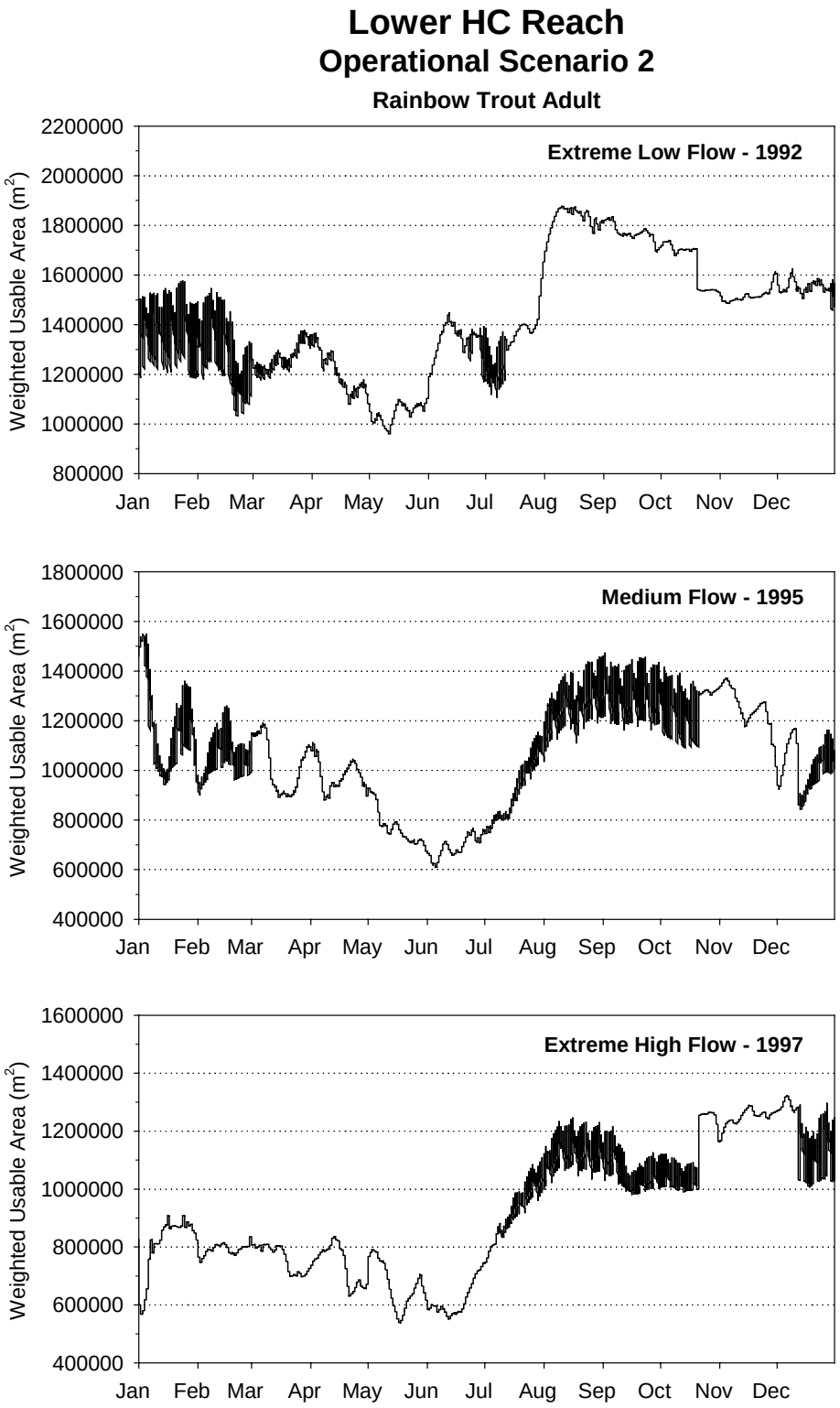


Figure 346. Total weighted usable area (WUA) under Operational Scenario 2 for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

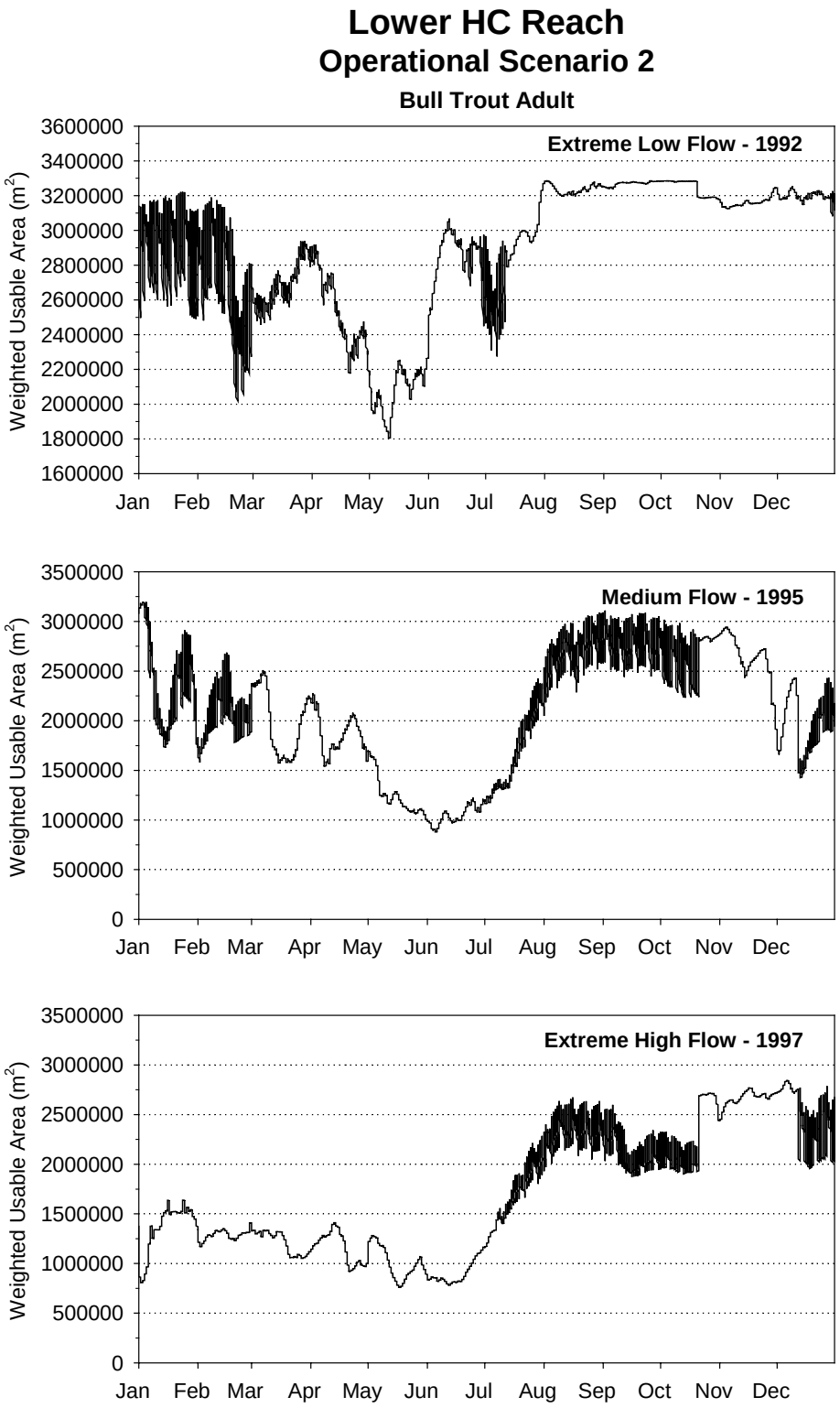


Figure 347. Total weighted usable area (WUA) under Operational Scenario 2 for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

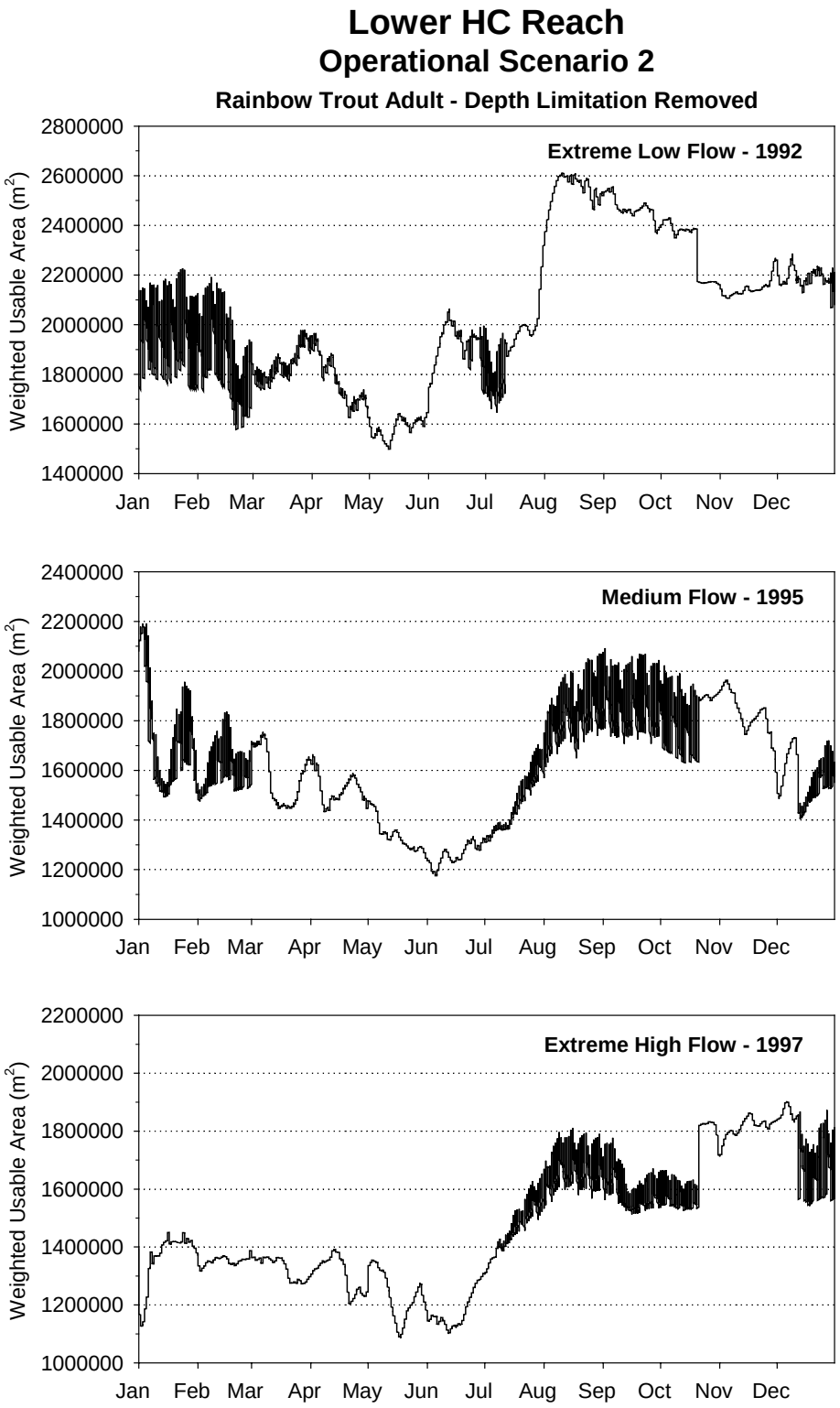


Figure 348. Total weighted usable area (WUA) under Operational Scenario 2 for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

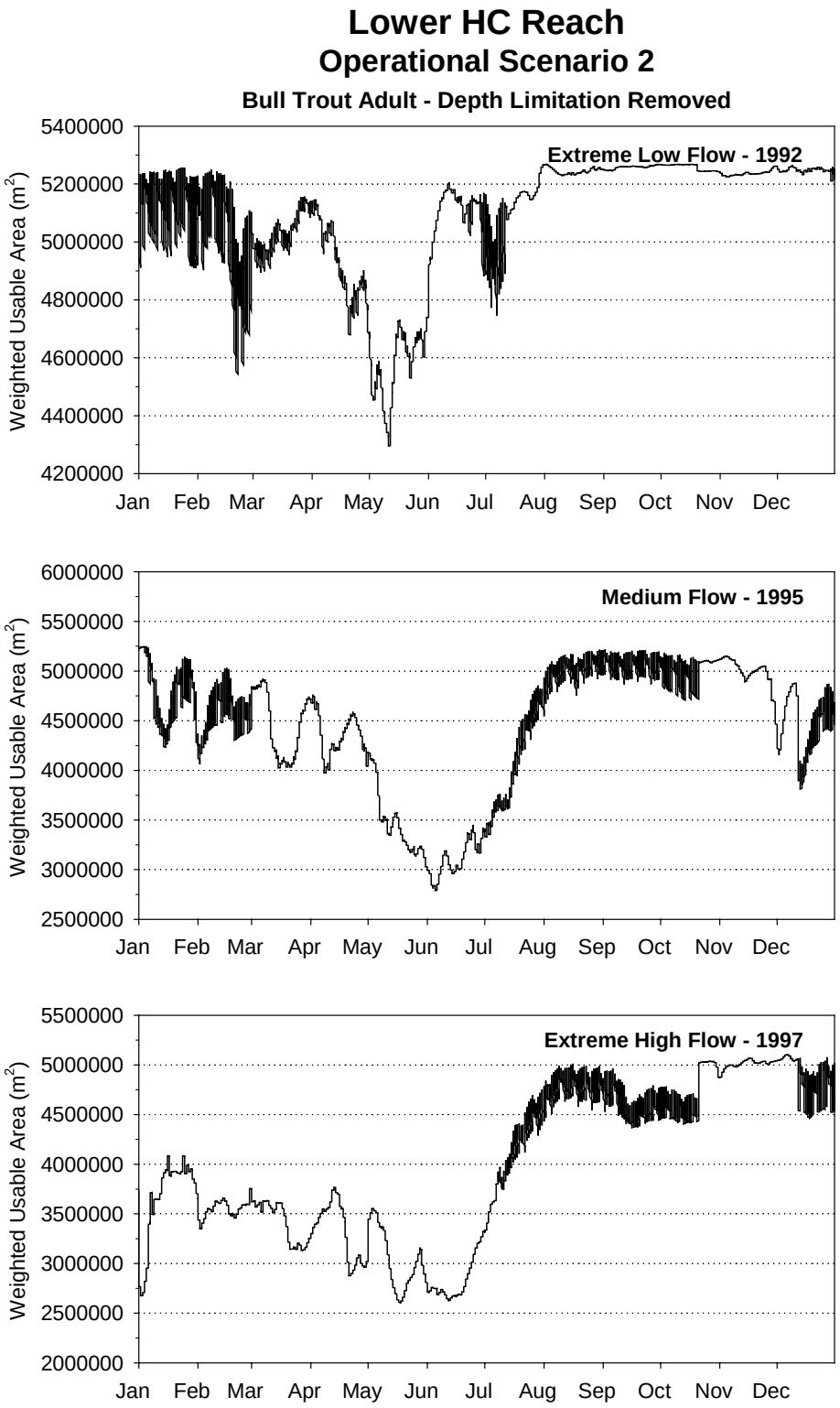


Figure 349. Total weighted usable area (WUA) under Operational Scenario 2 for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

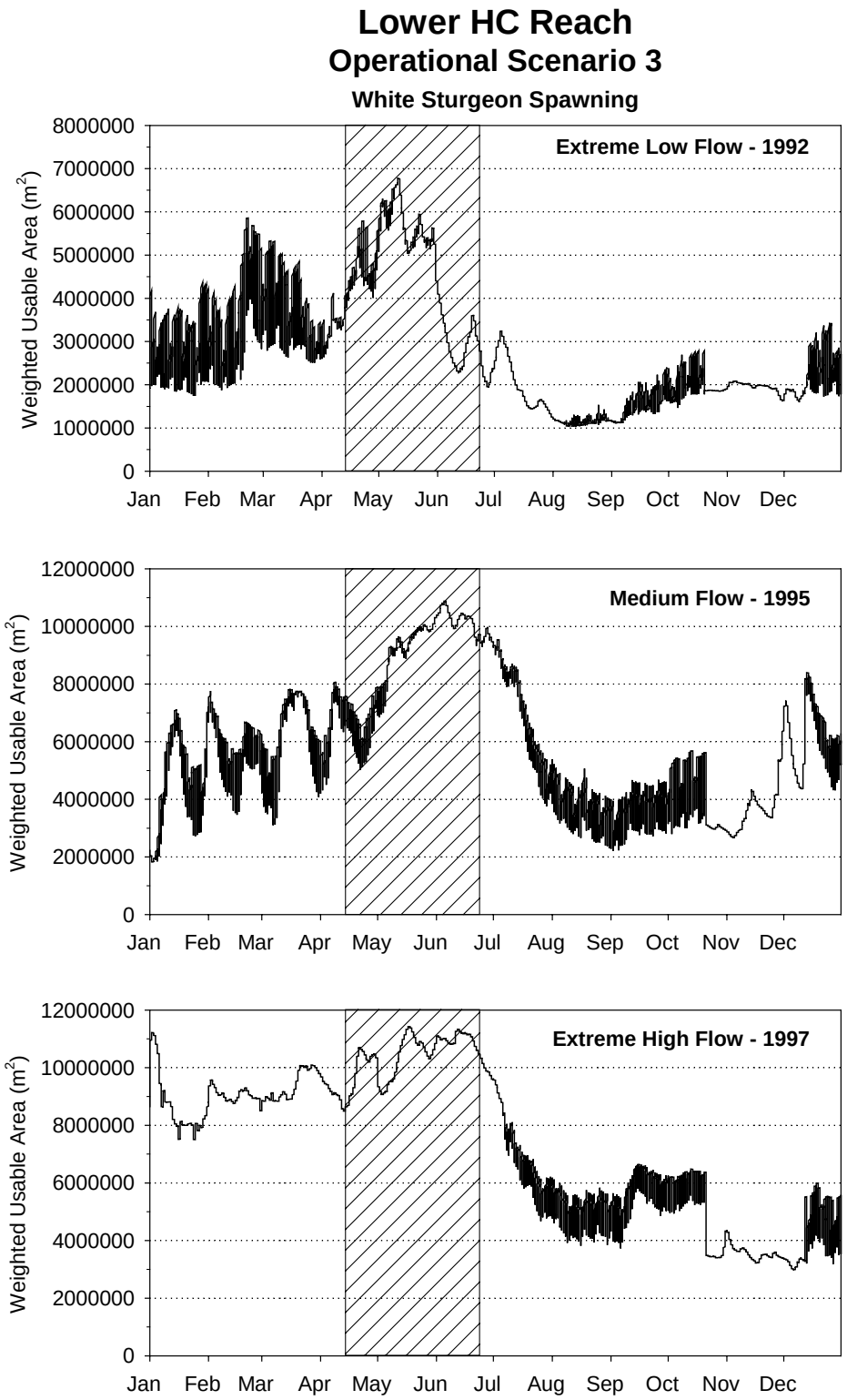


Figure 350. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

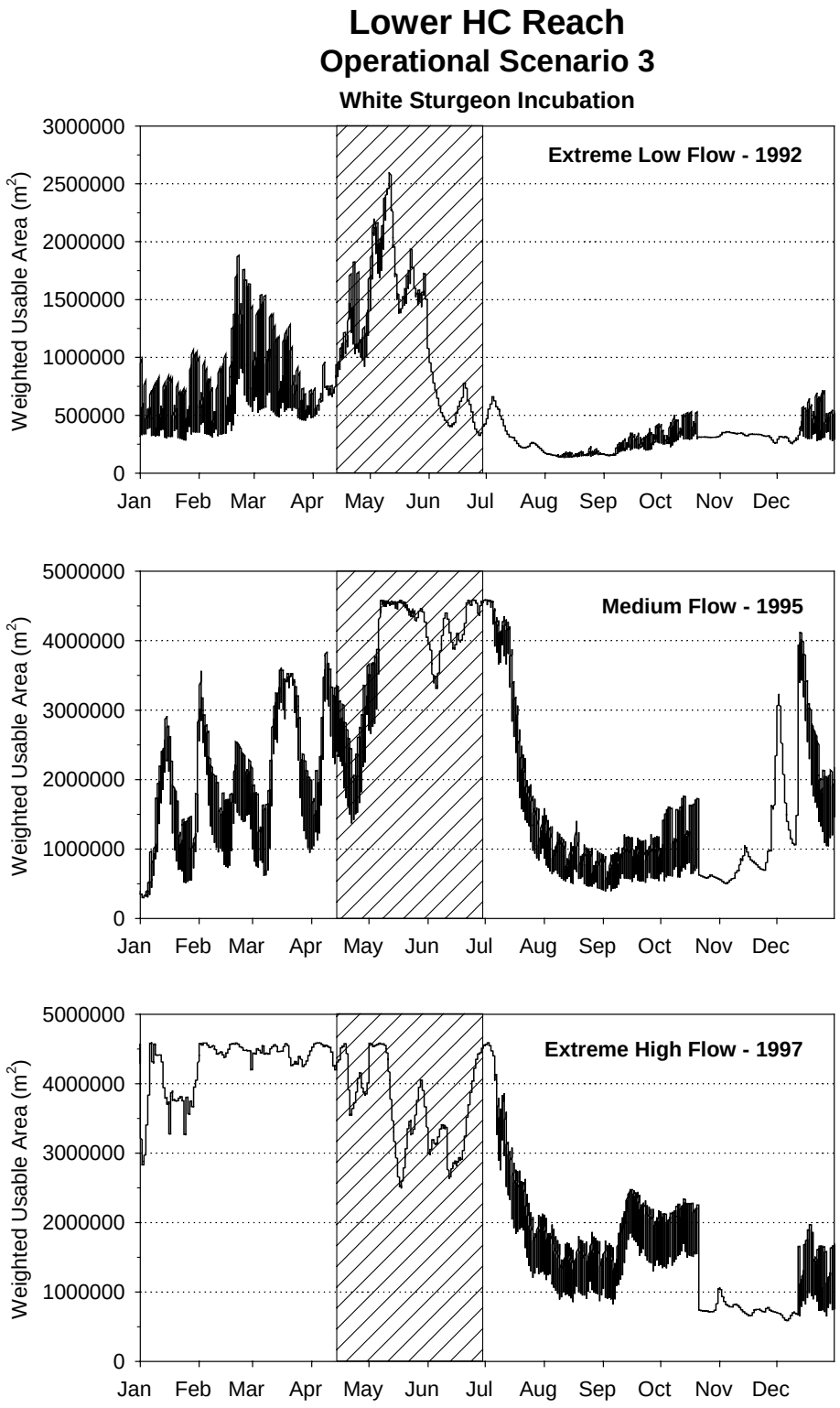


Figure 351. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

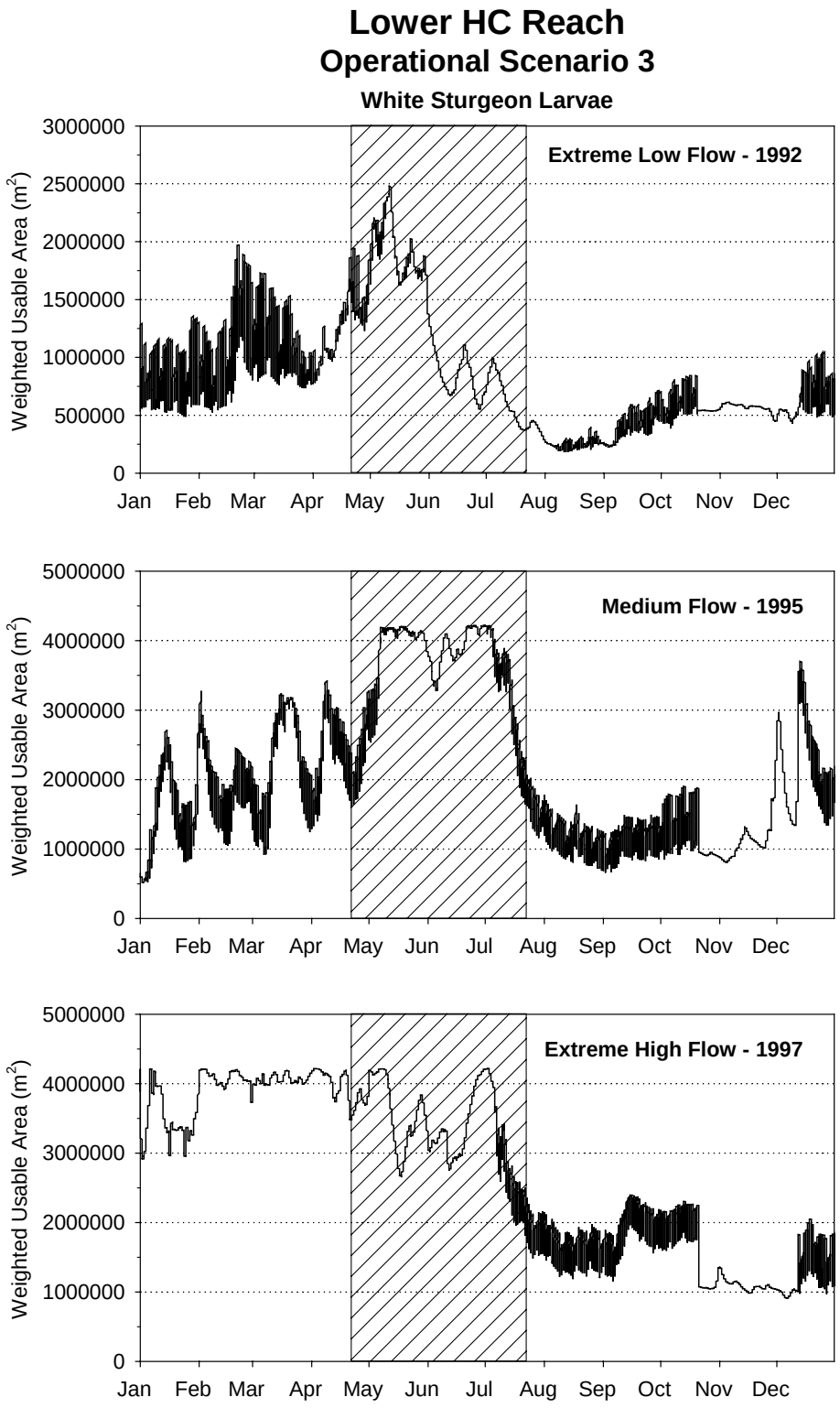


Figure 352. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

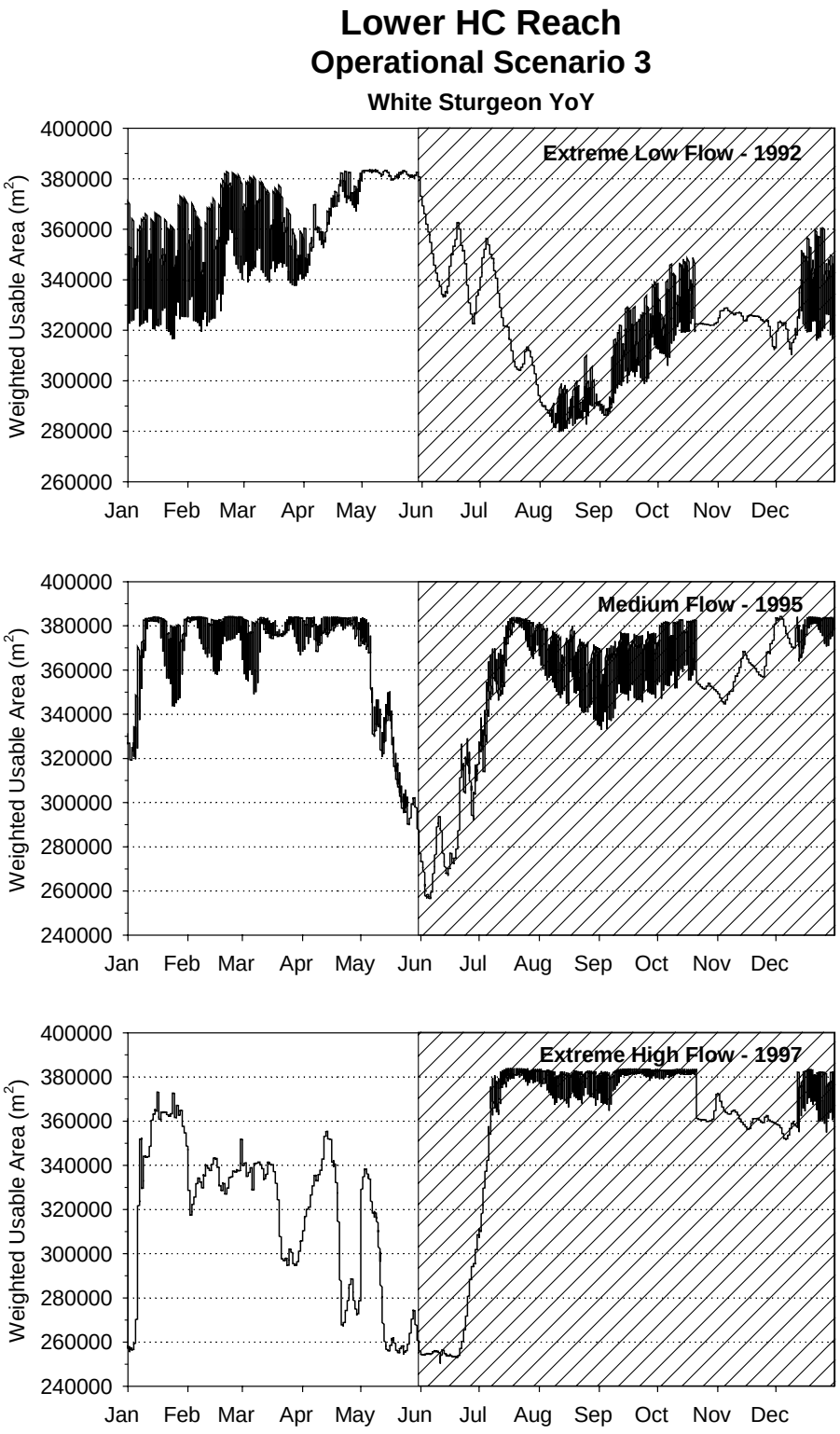


Figure 353. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

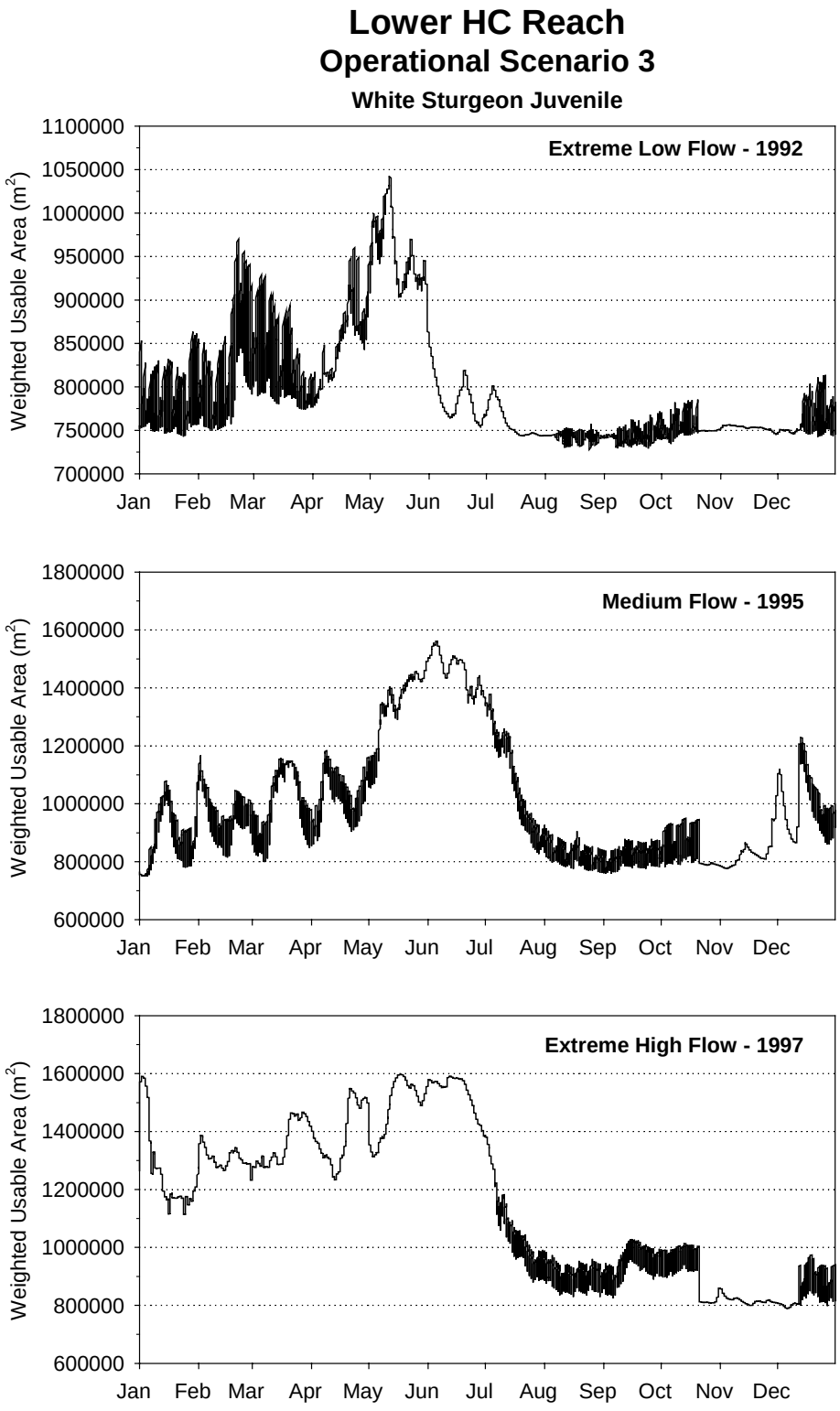


Figure 354. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

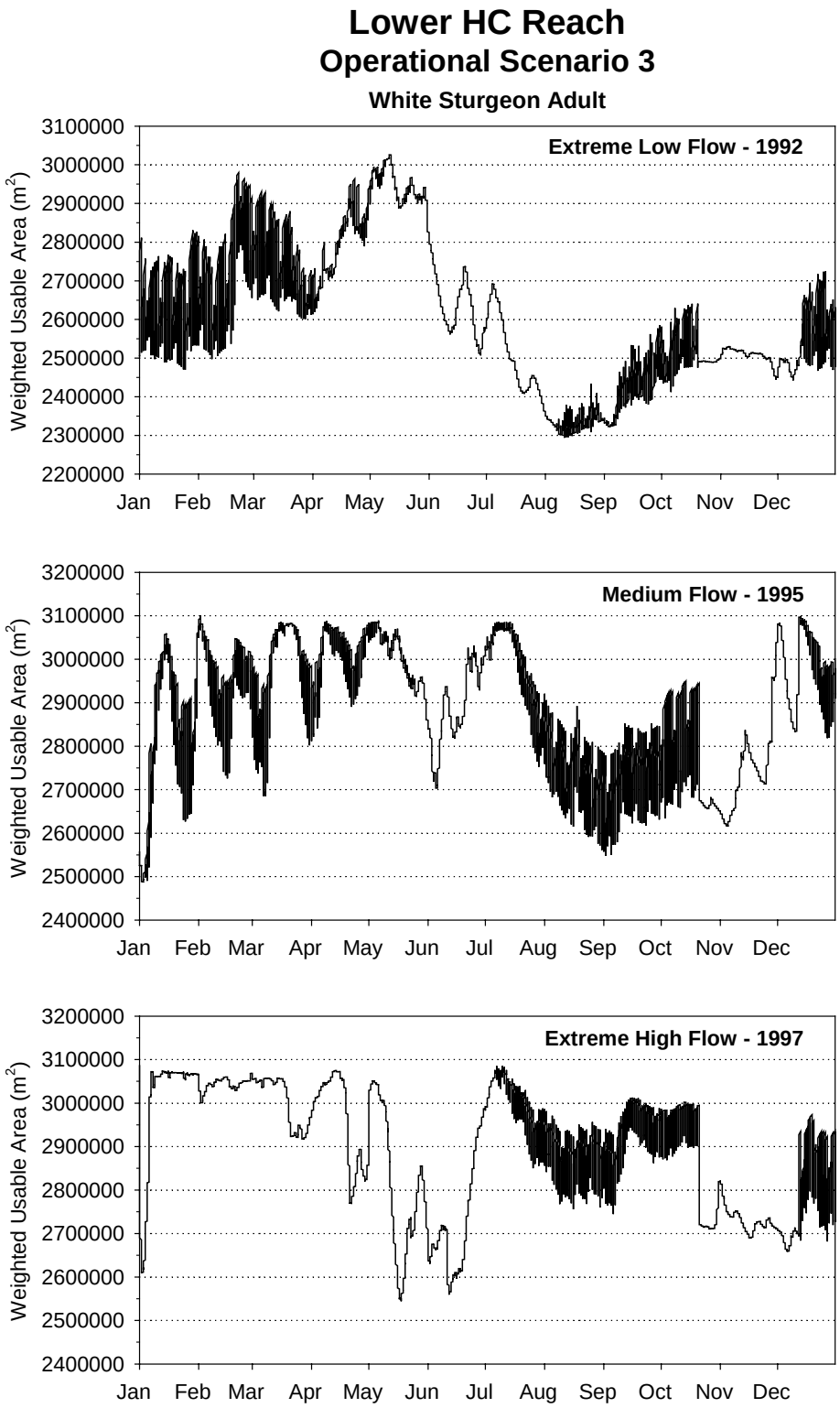


Figure 355. Total weighted usable area (WUA) under Operational Scenario 3 for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

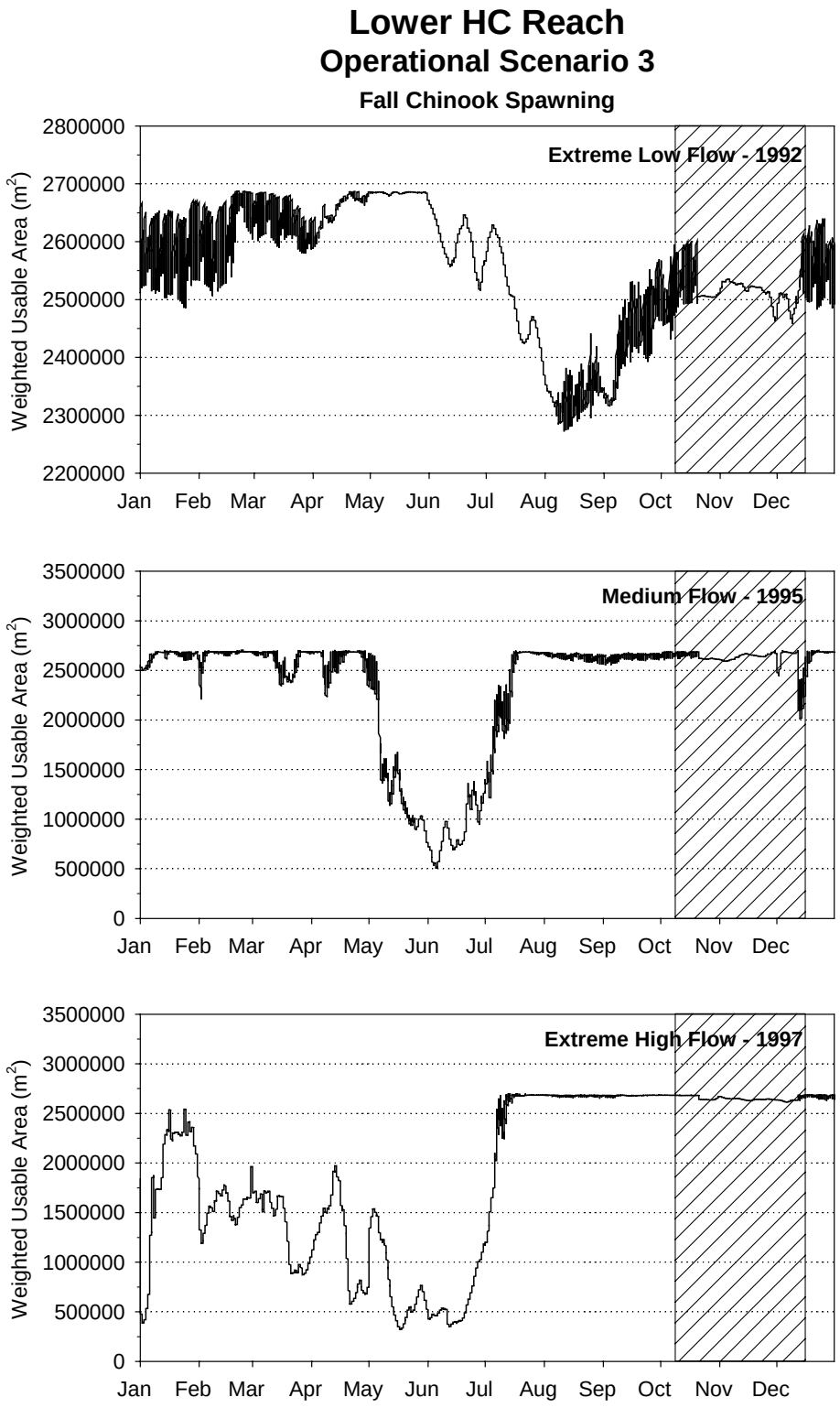


Figure 356. Total weighted usable area (WUA) under Operational Scenario 3 for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

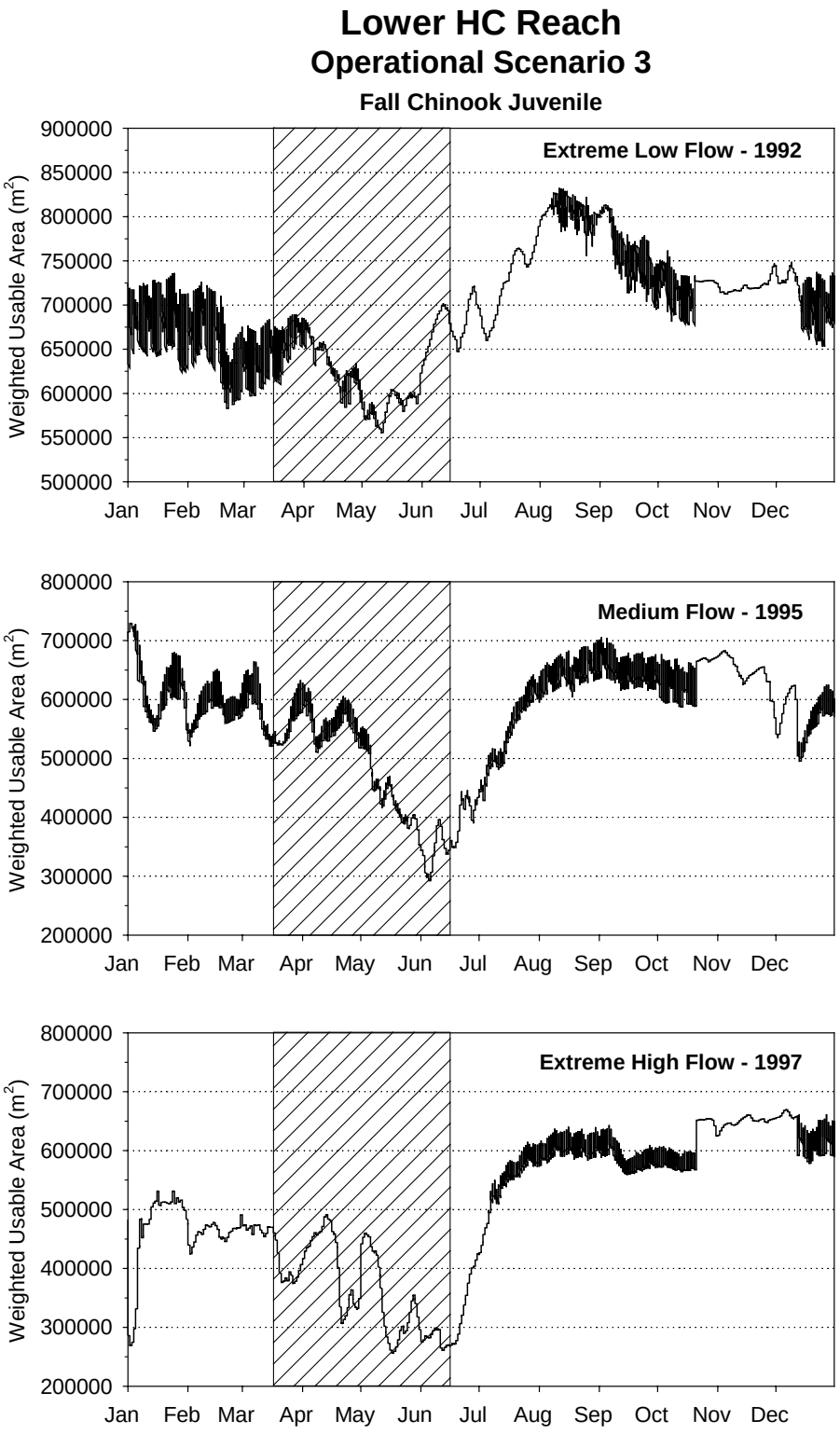


Figure 357. Total weighted usable area (WUA) under Operational Scenario 3 for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

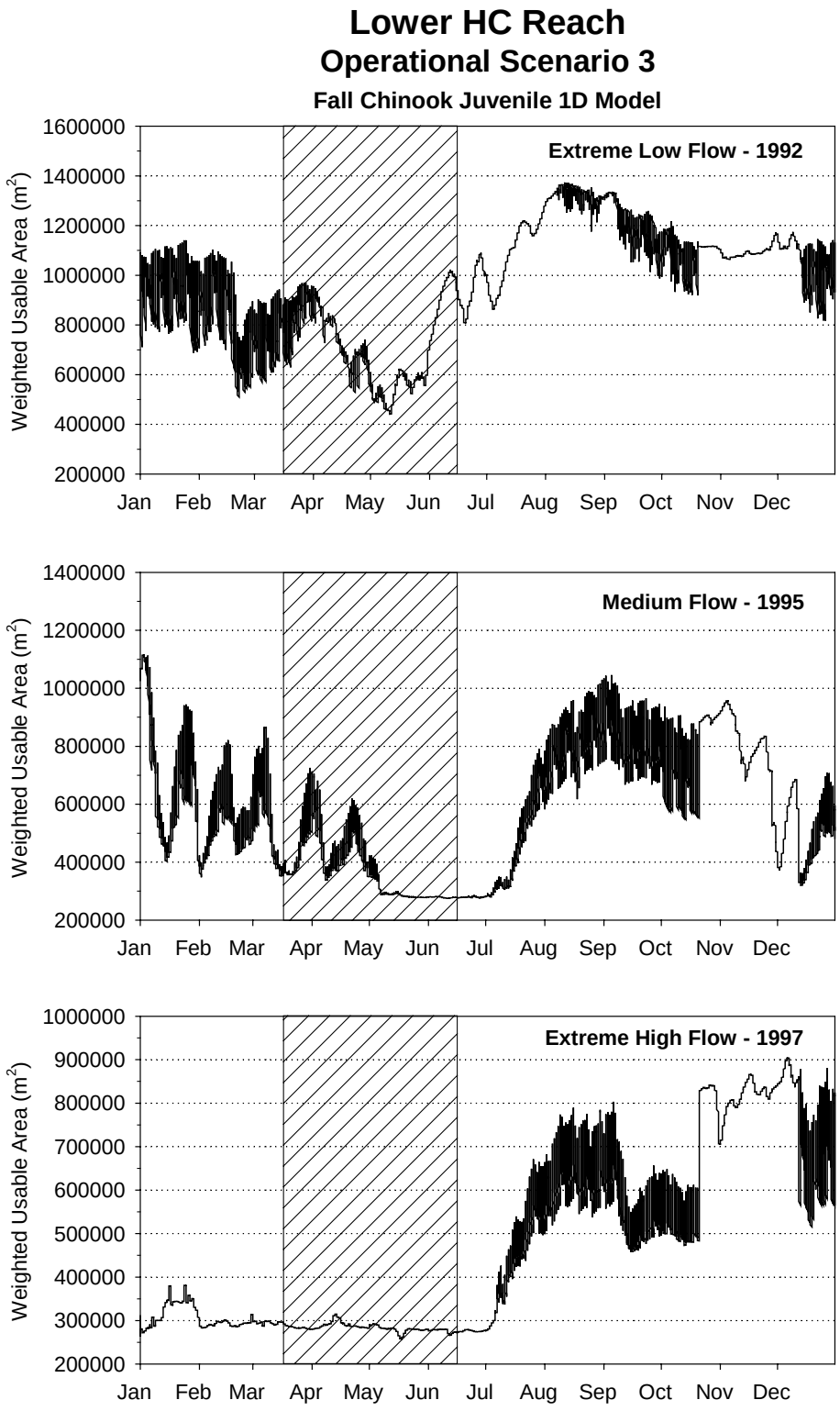


Figure 358. Total weighted usable area (WUA) under Operational Scenario 3 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

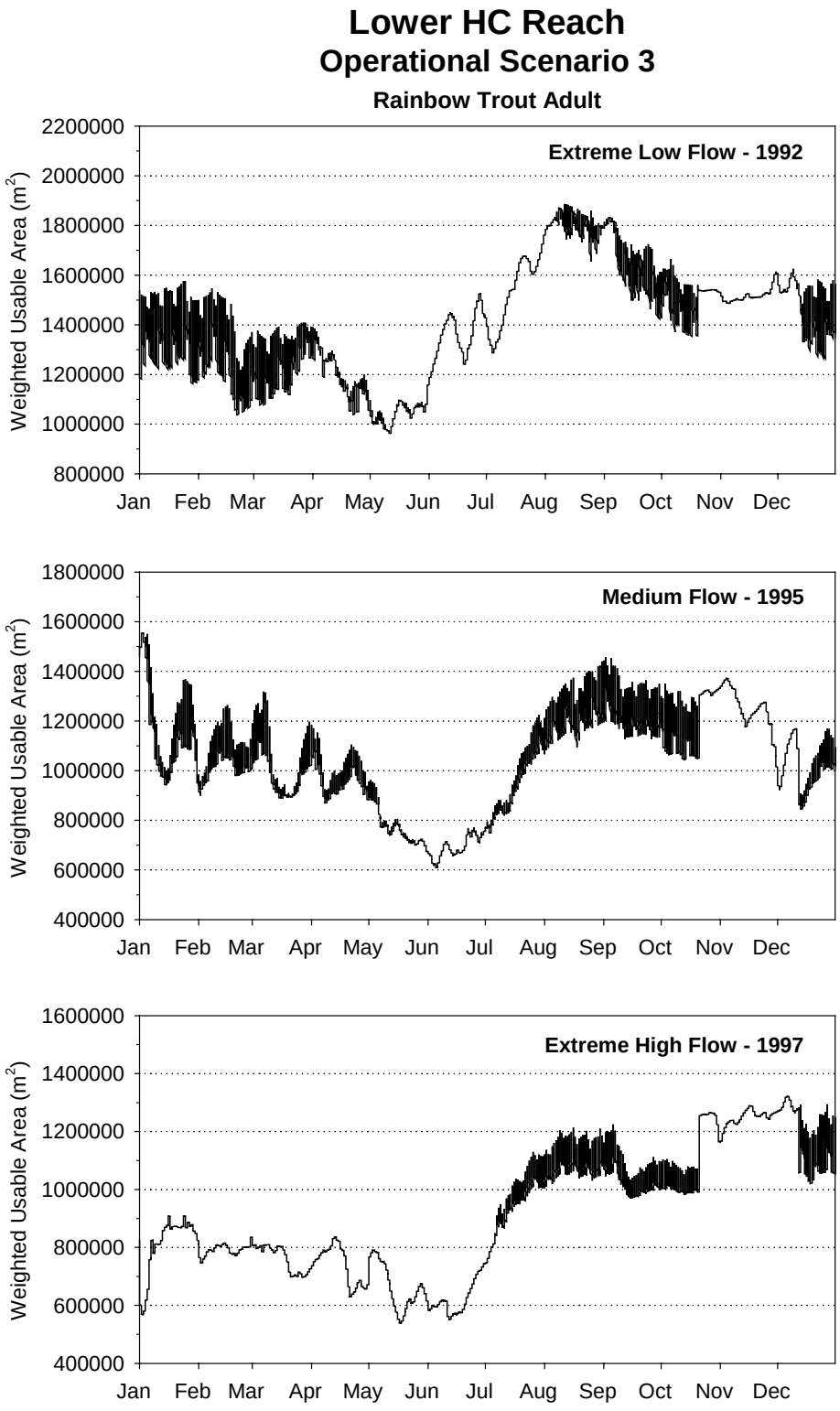


Figure 359. Total weighted usable area (WUA) under Operational Scenario 3 for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

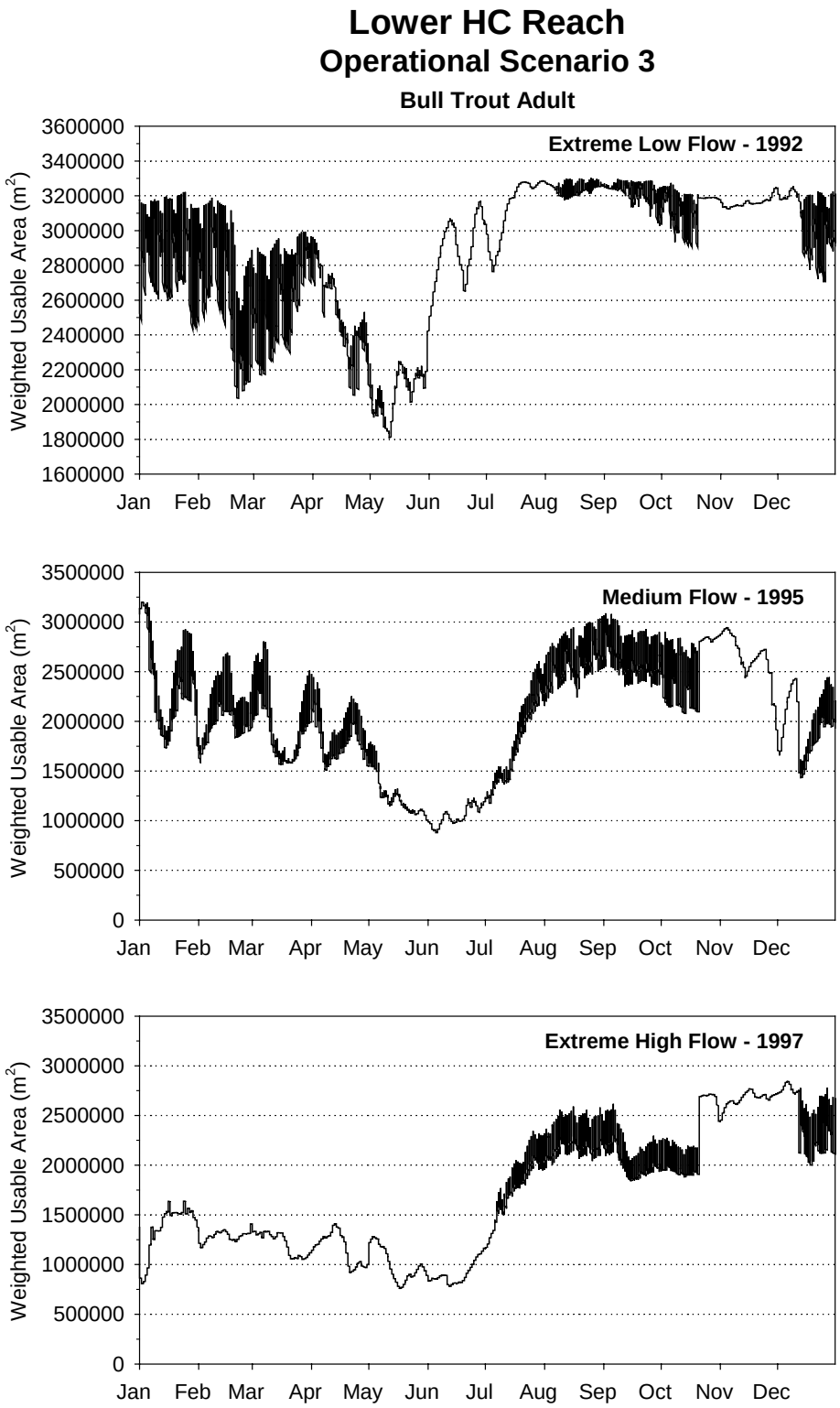


Figure 360. Total weighted usable area (WUA) under Operational Scenario 3 for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

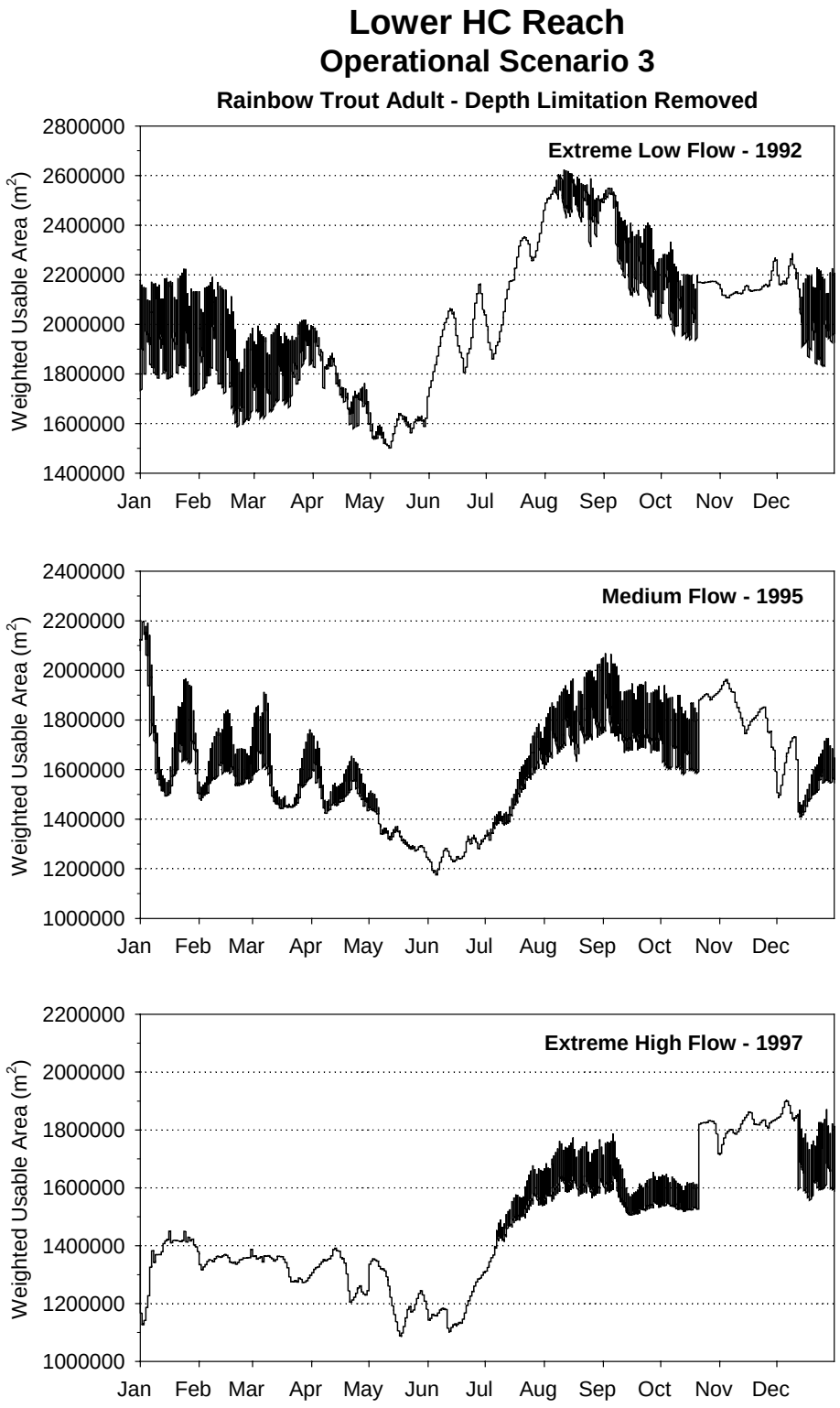


Figure 361. Total weighted usable area (WUA) under Operational Scenario 3 for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

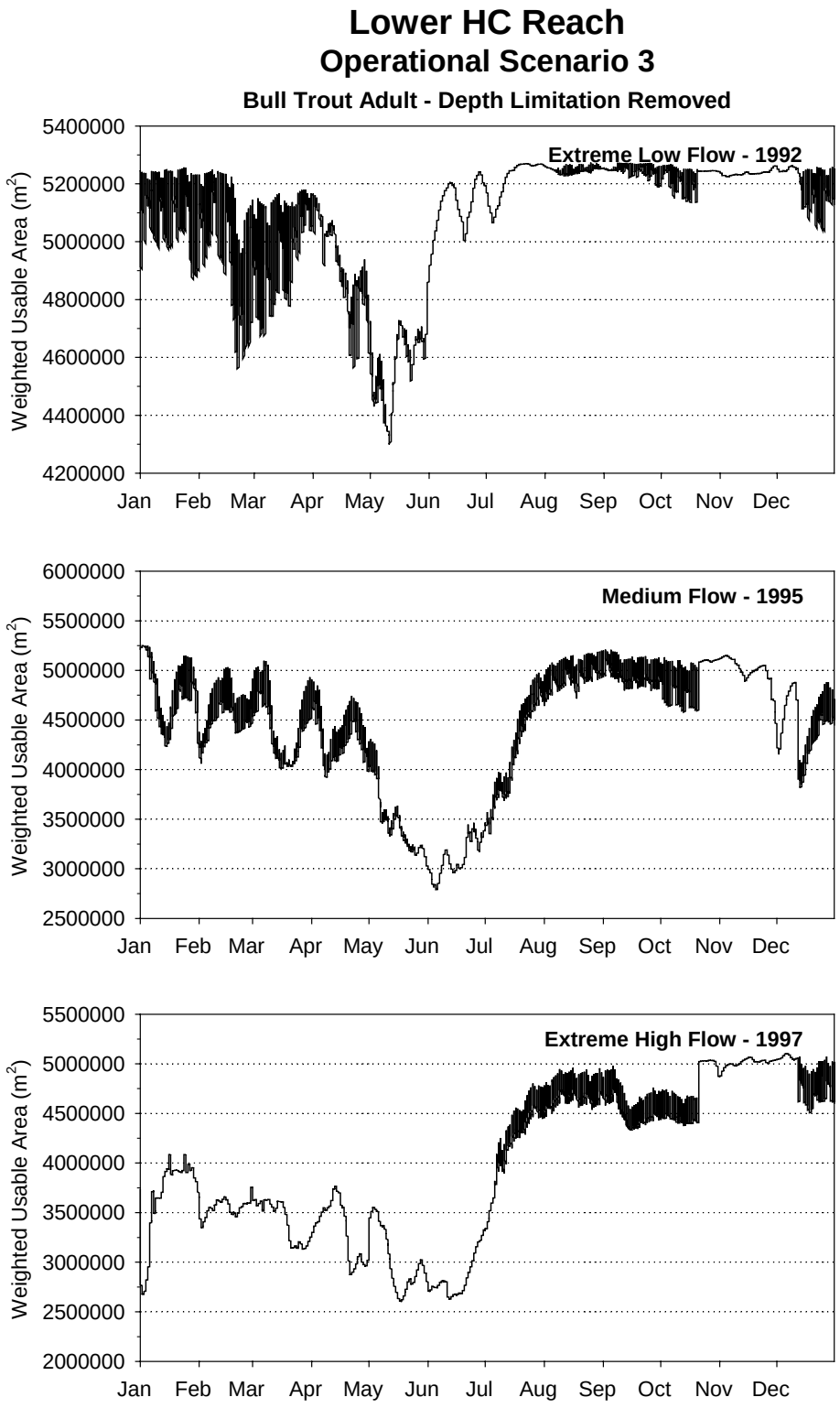


Figure 362. Total weighted usable area (WUA) under Operational Scenario 3 for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

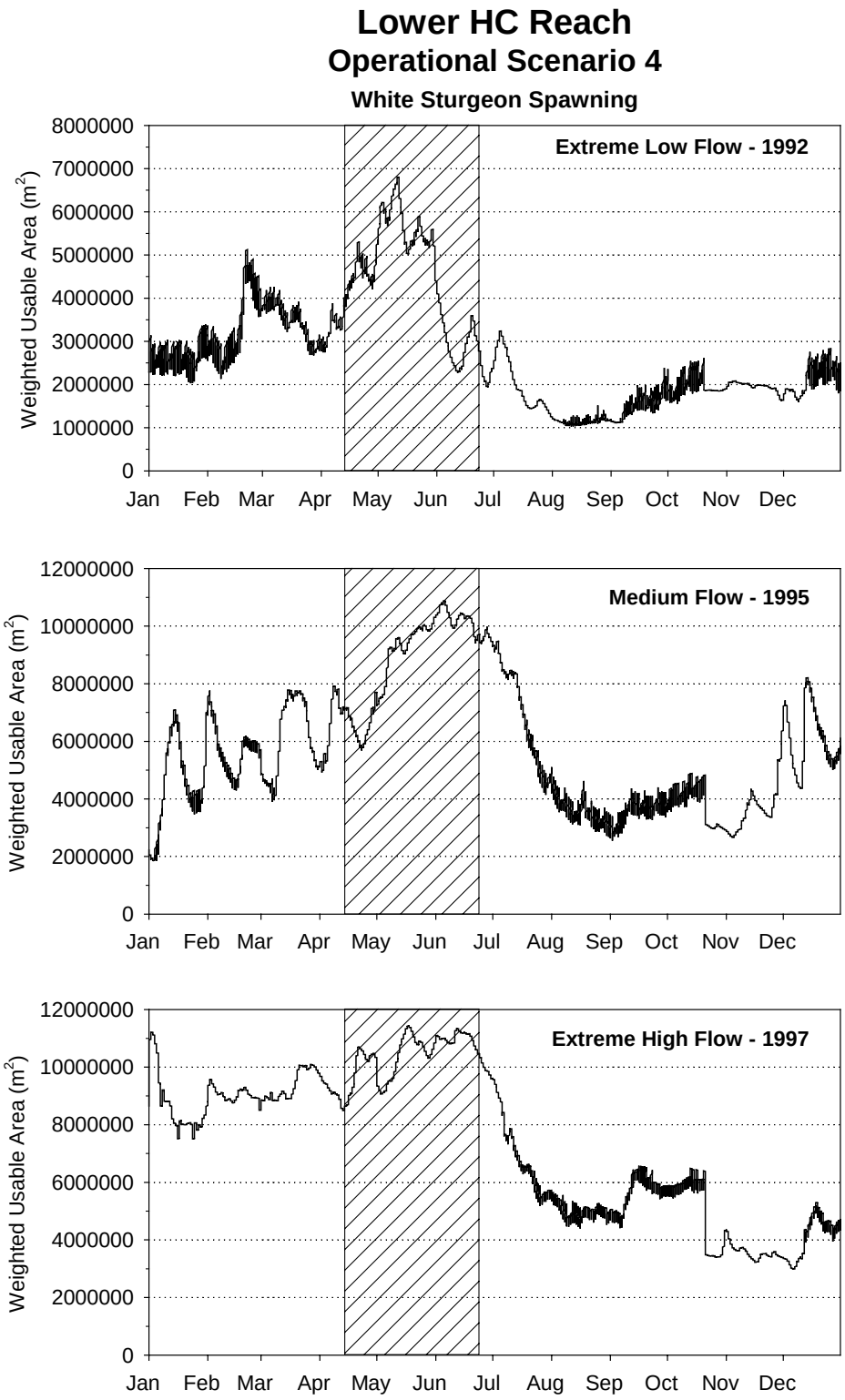


Figure 363. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

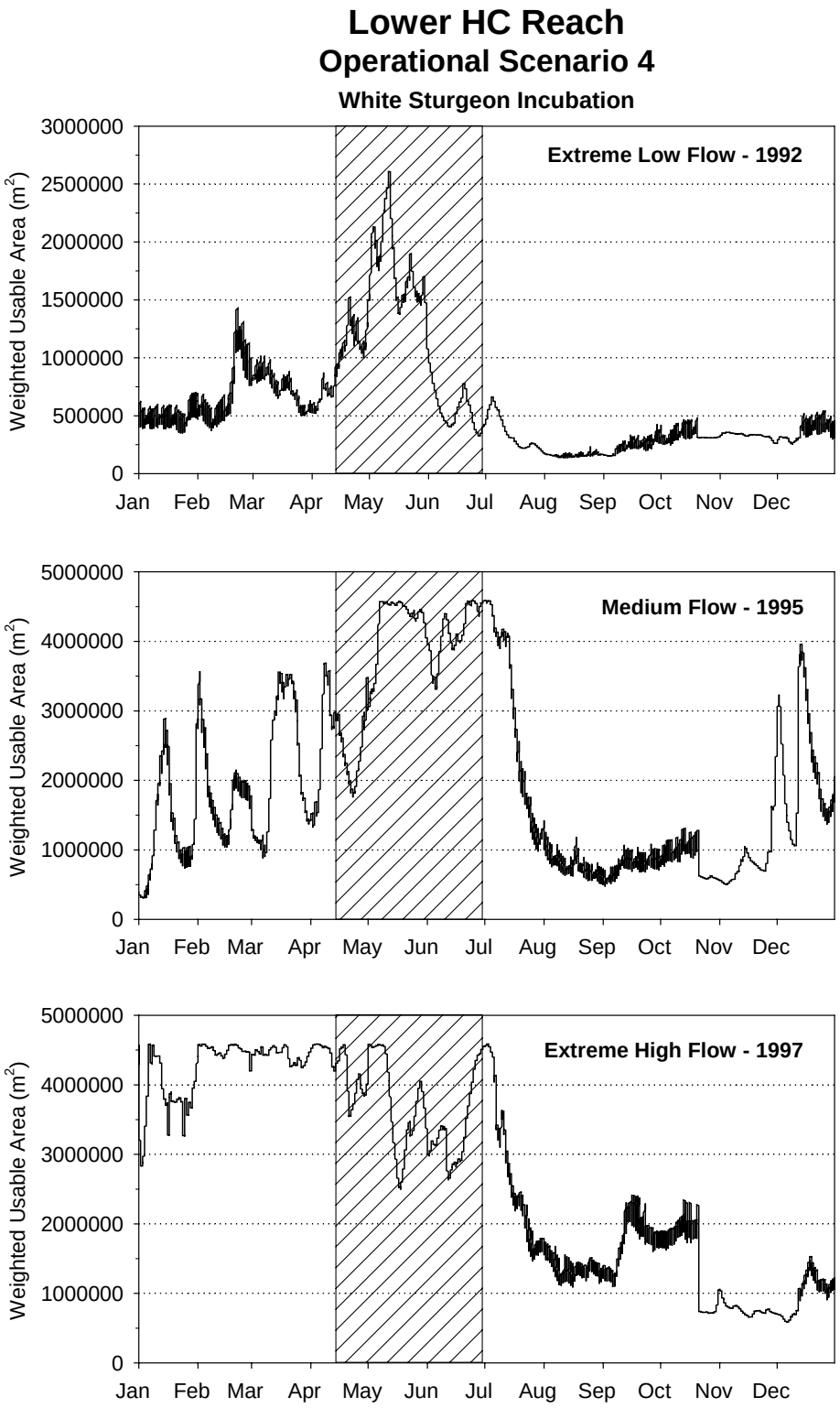


Figure 364. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

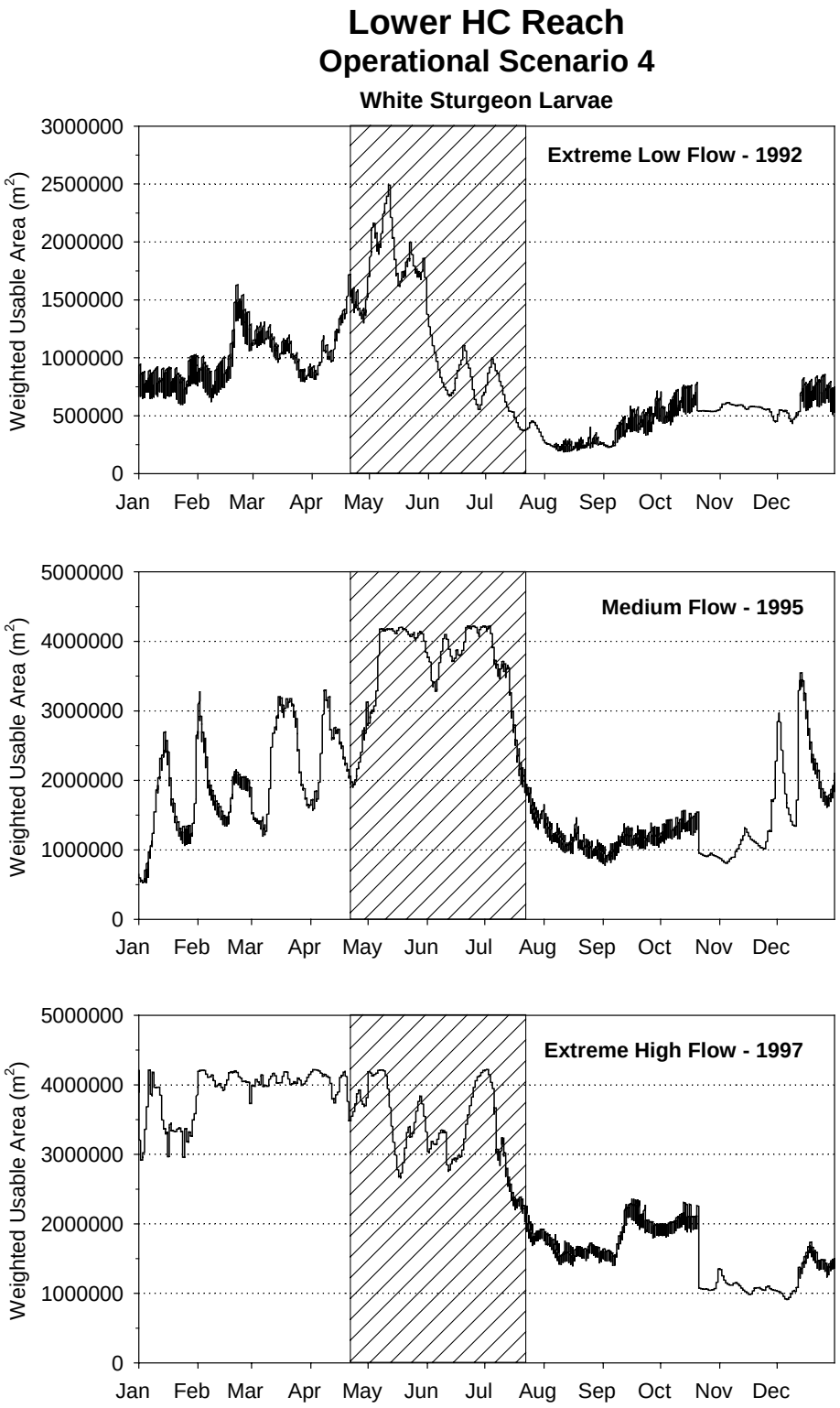


Figure 365. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

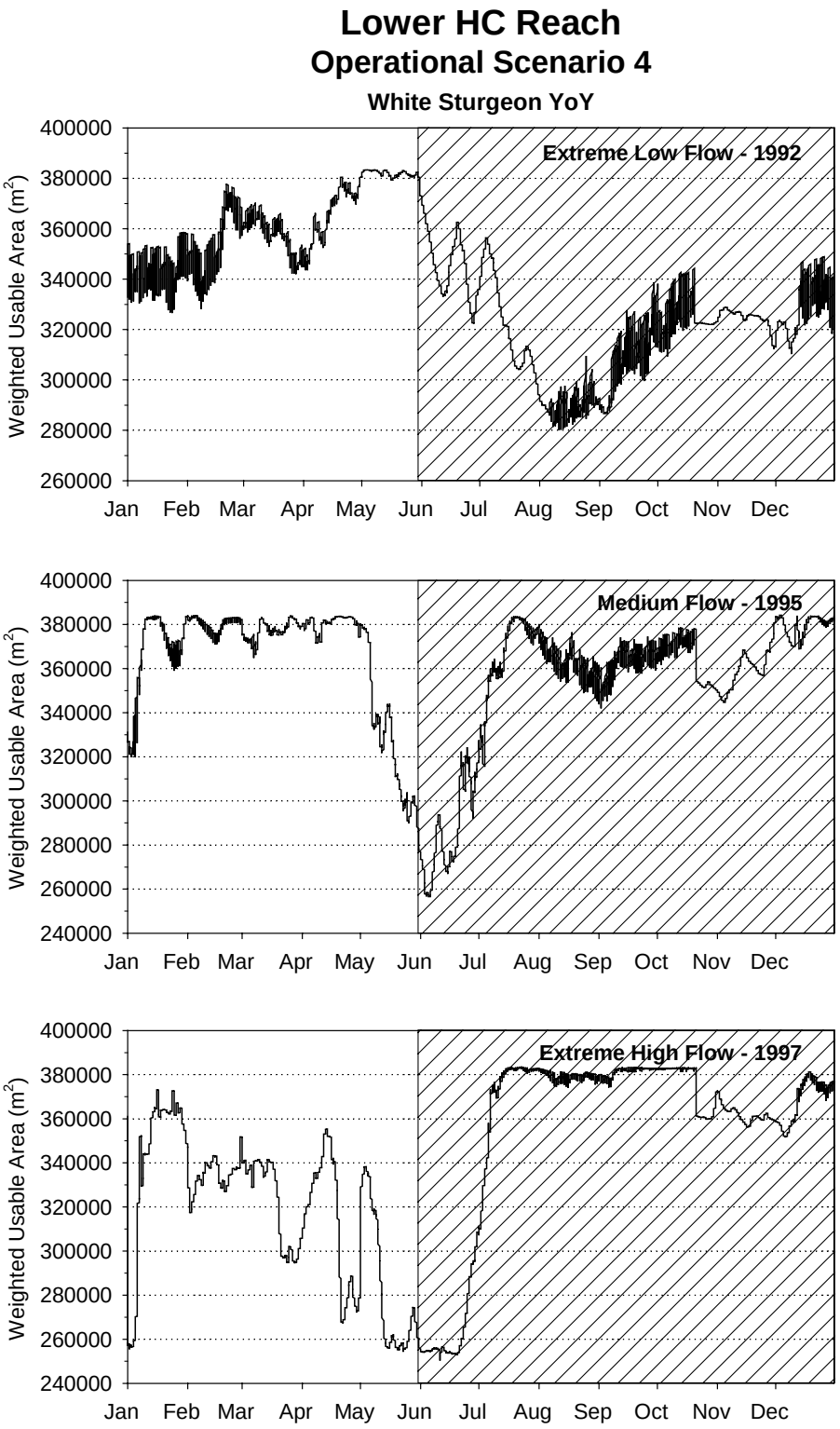


Figure 366. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

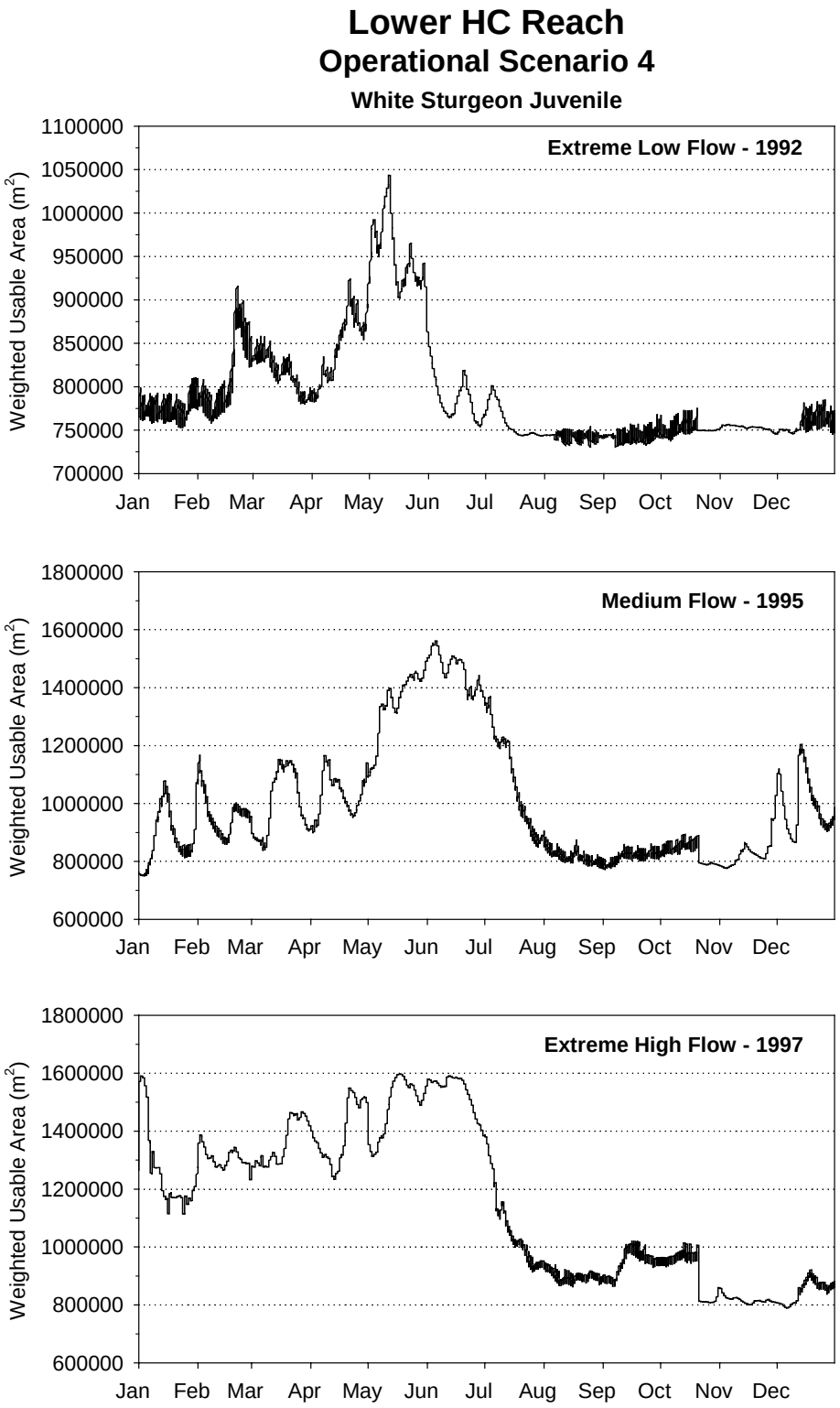


Figure 367. Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

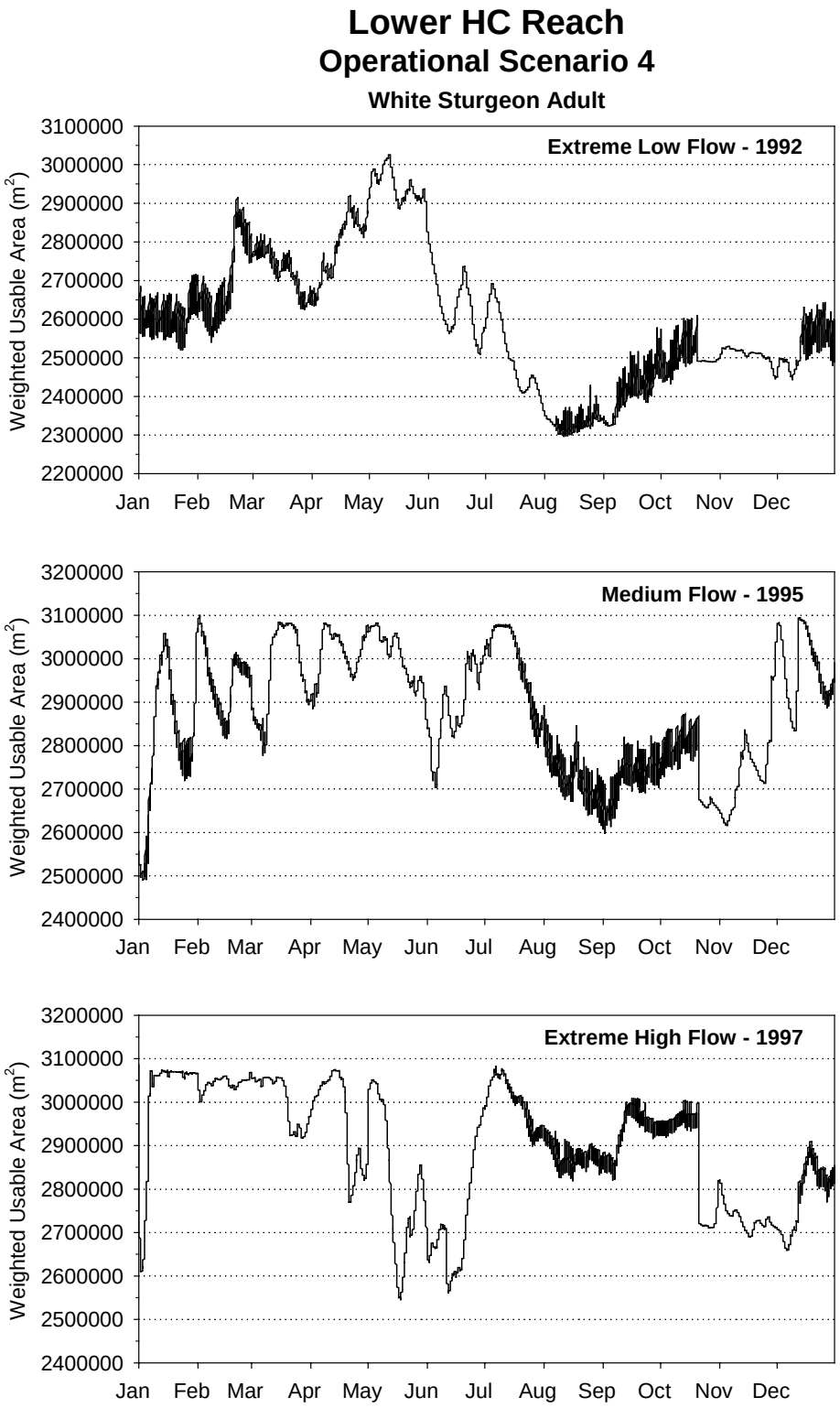


Figure 368 Total weighted usable area (WUA) under Operational Scenario 4 for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

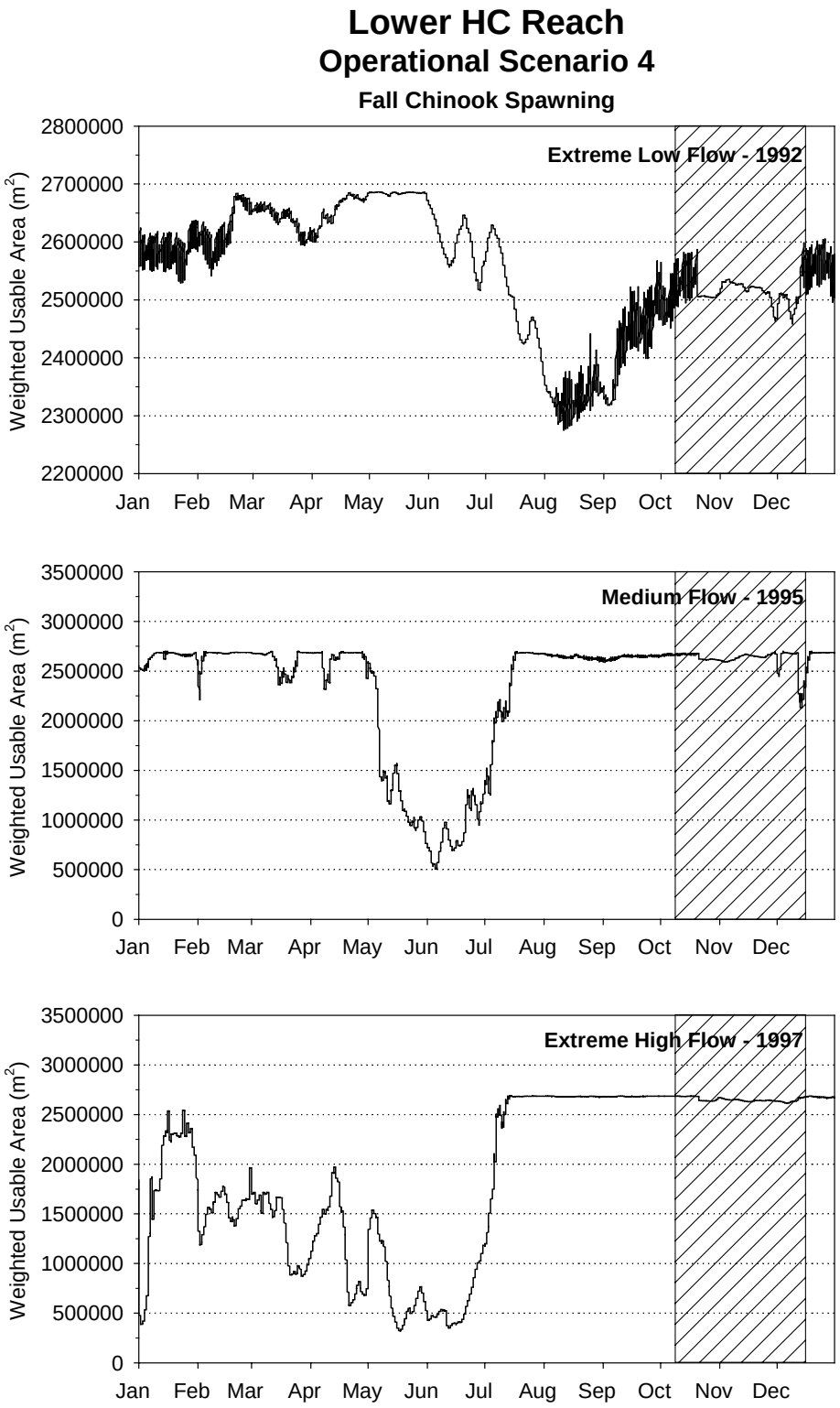


Figure 369. Total weighted usable area (WUA) under Operational Scenario 4 for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

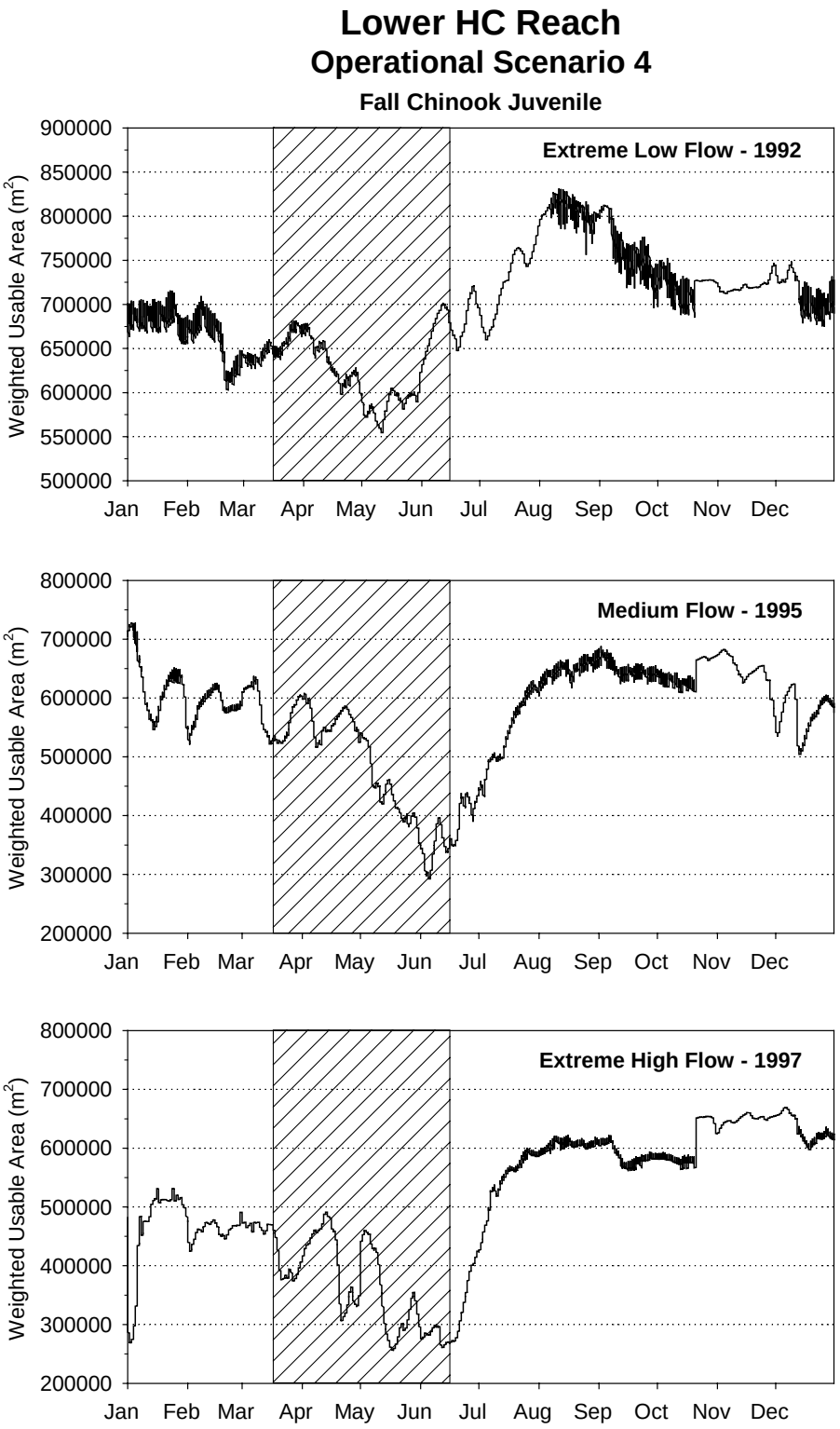


Figure 370. Total weighted usable area (WUA) under Operational Scenario 4 for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

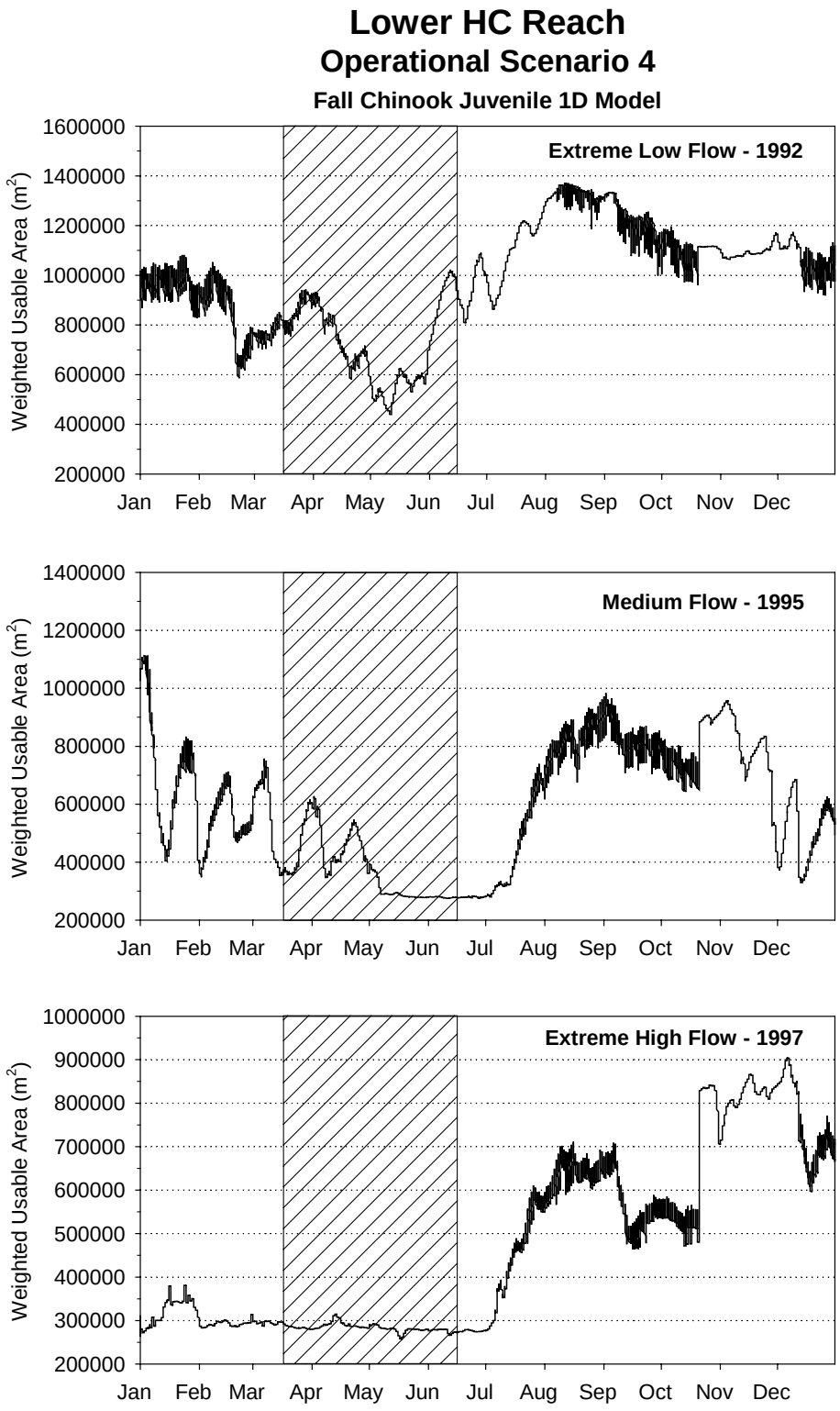


Figure 371. Total weighted usable area (WUA) under Operational Scenario 4 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

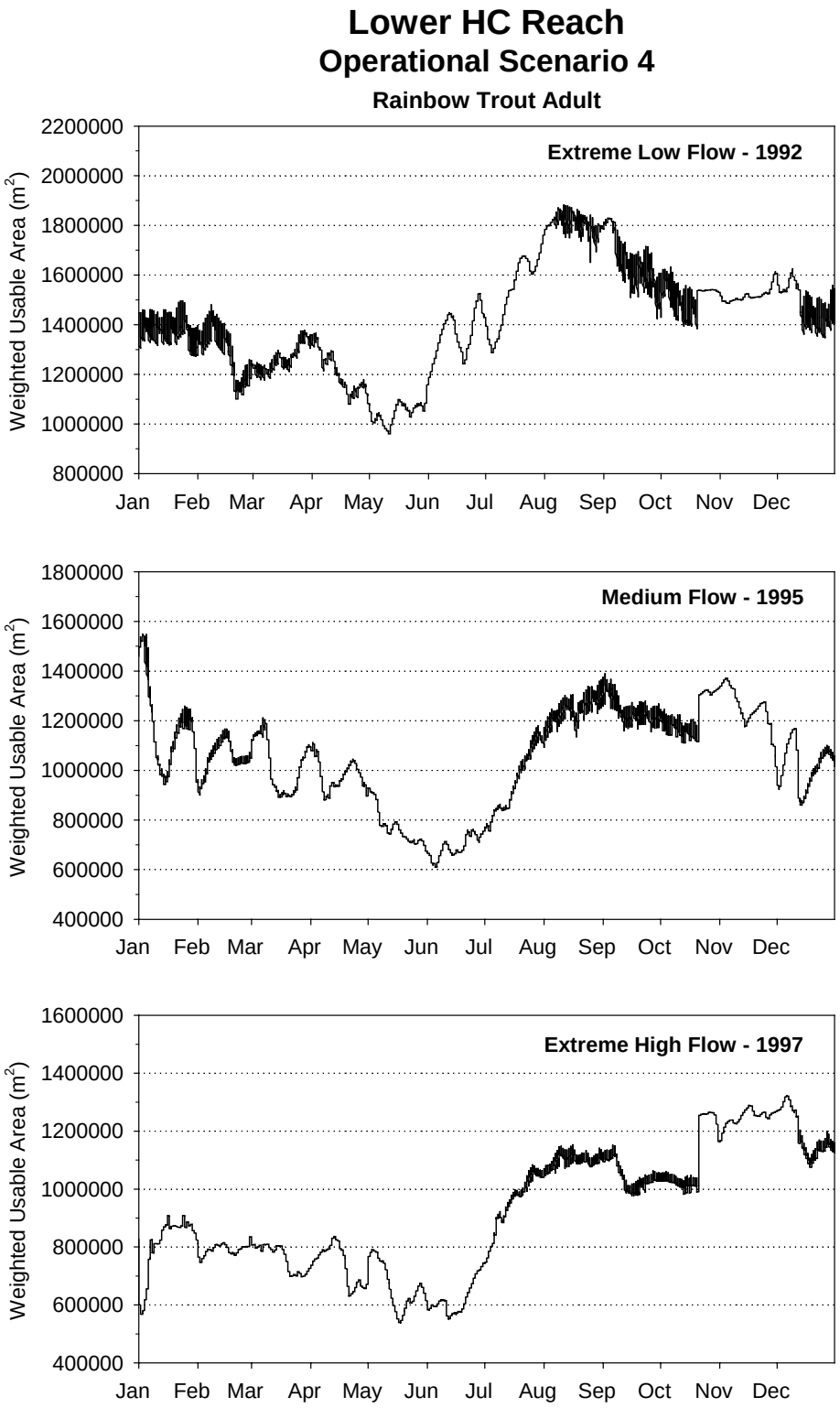


Figure 372. Total weighted usable area (WUA) under Operational Scenario 4 for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

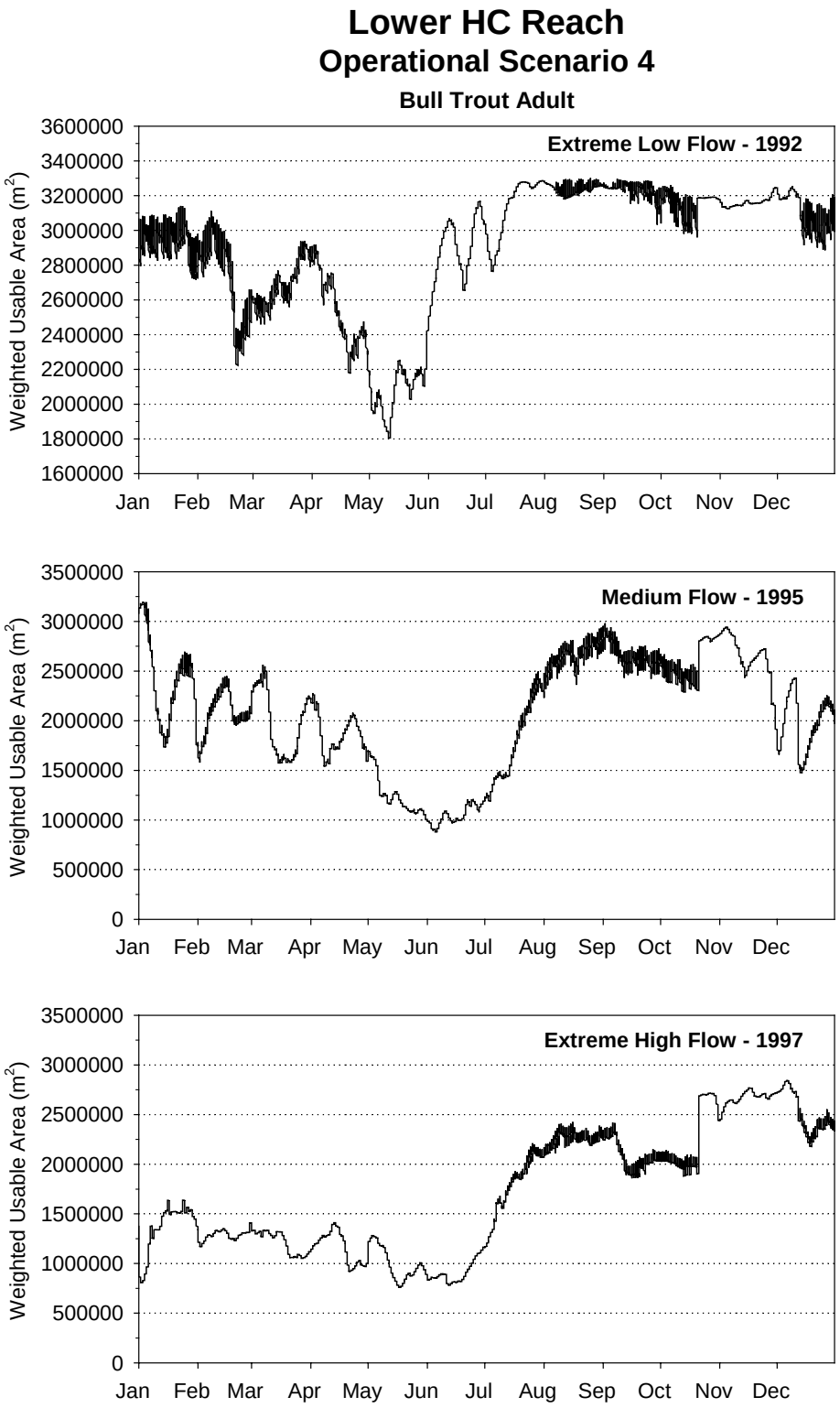


Figure 373. Total weighted usable area (WUA) under Operational Scenario 4 for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

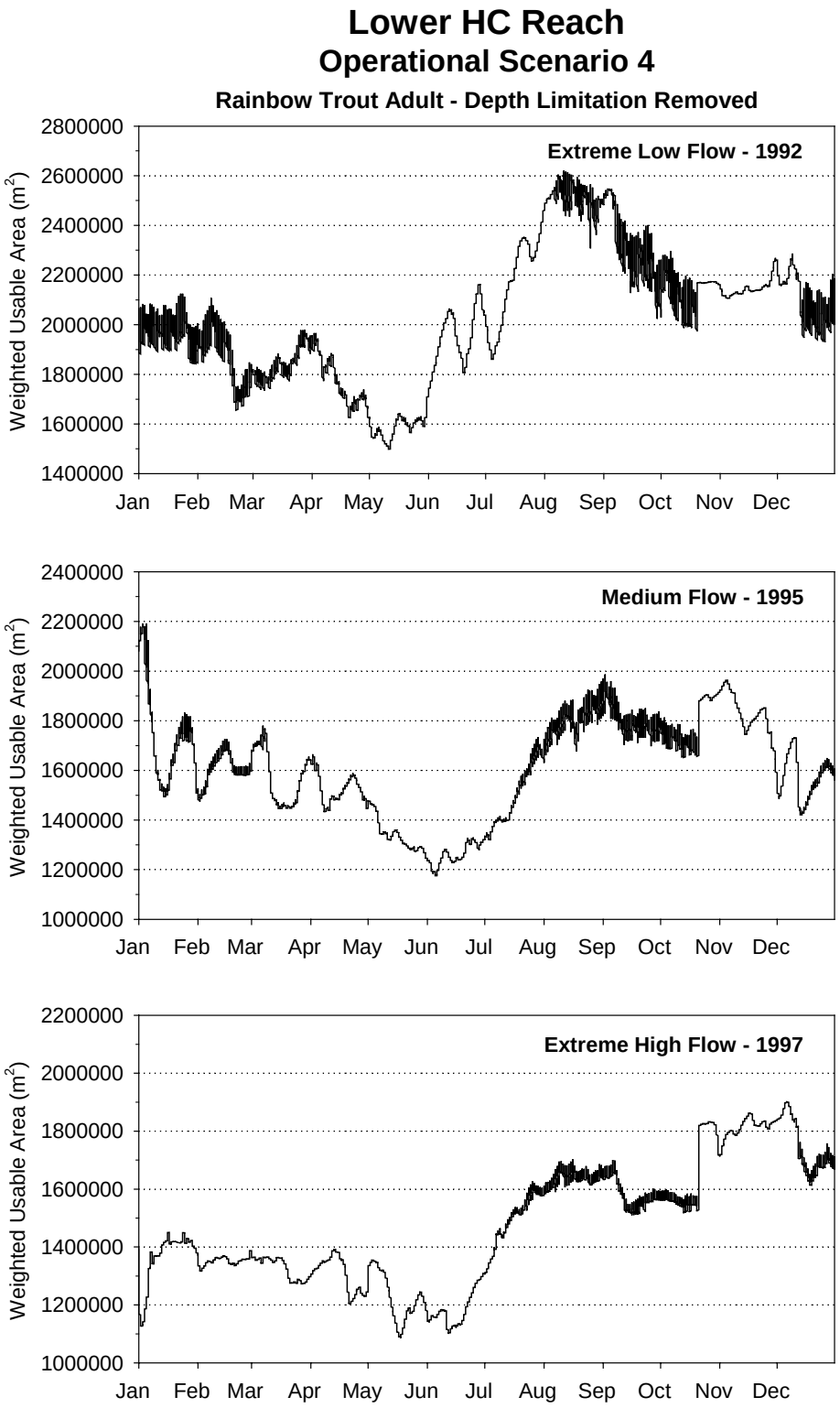


Figure 374 Total weighted usable area (WUA) under Operational Scenario 4 for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

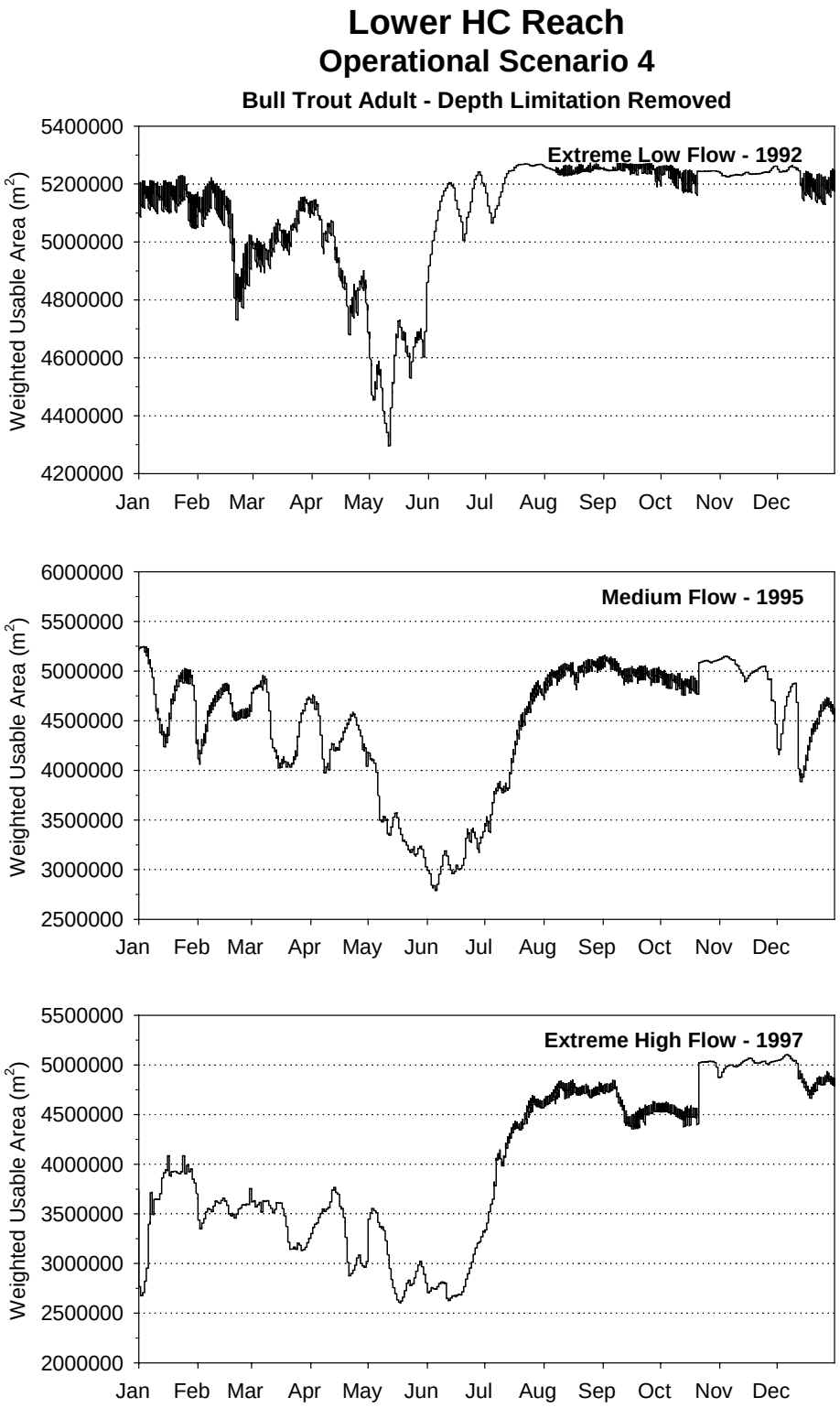


Figure 375. Total weighted usable area (WUA) under Operational Scenario 4 for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

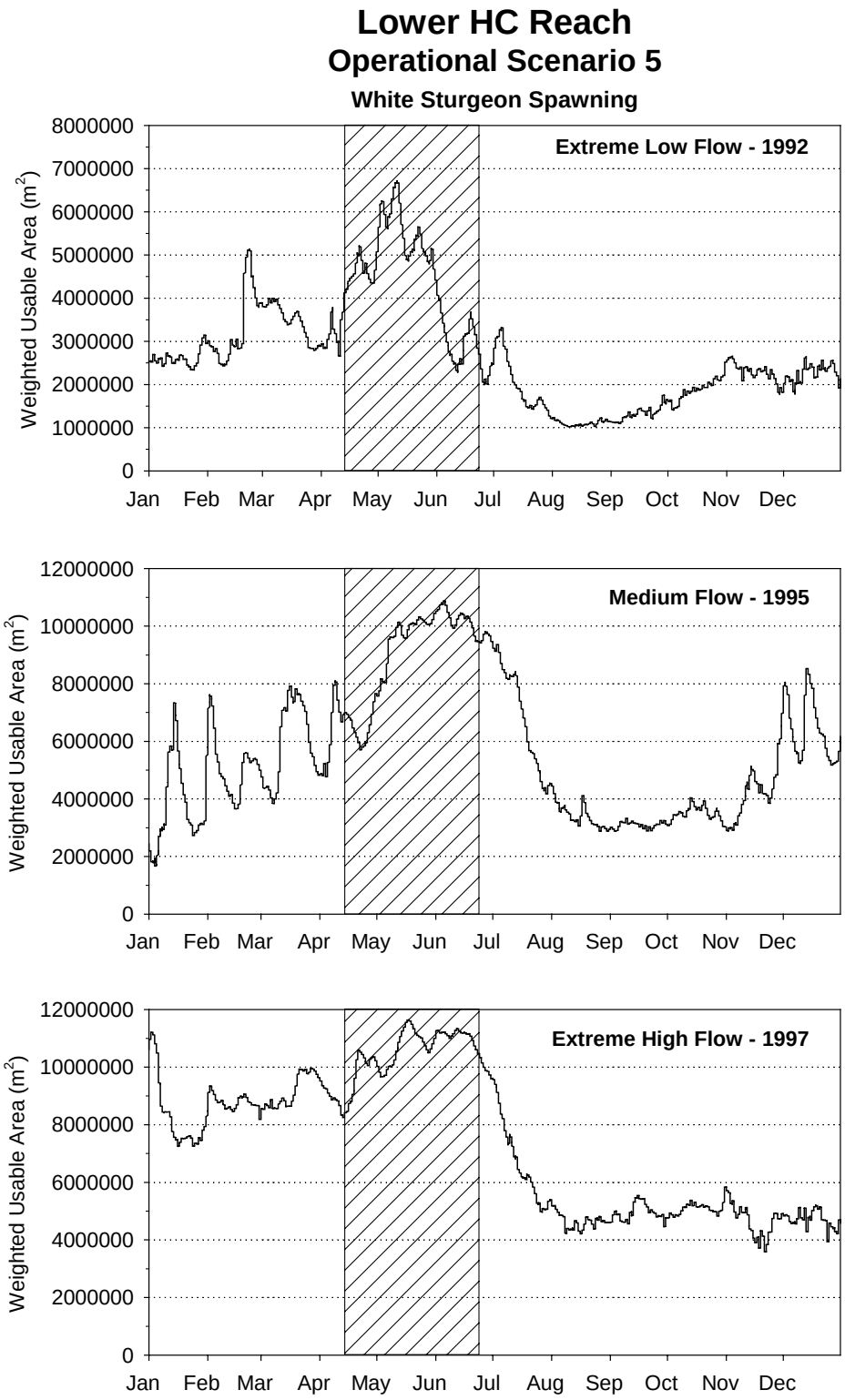


Figure 376. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

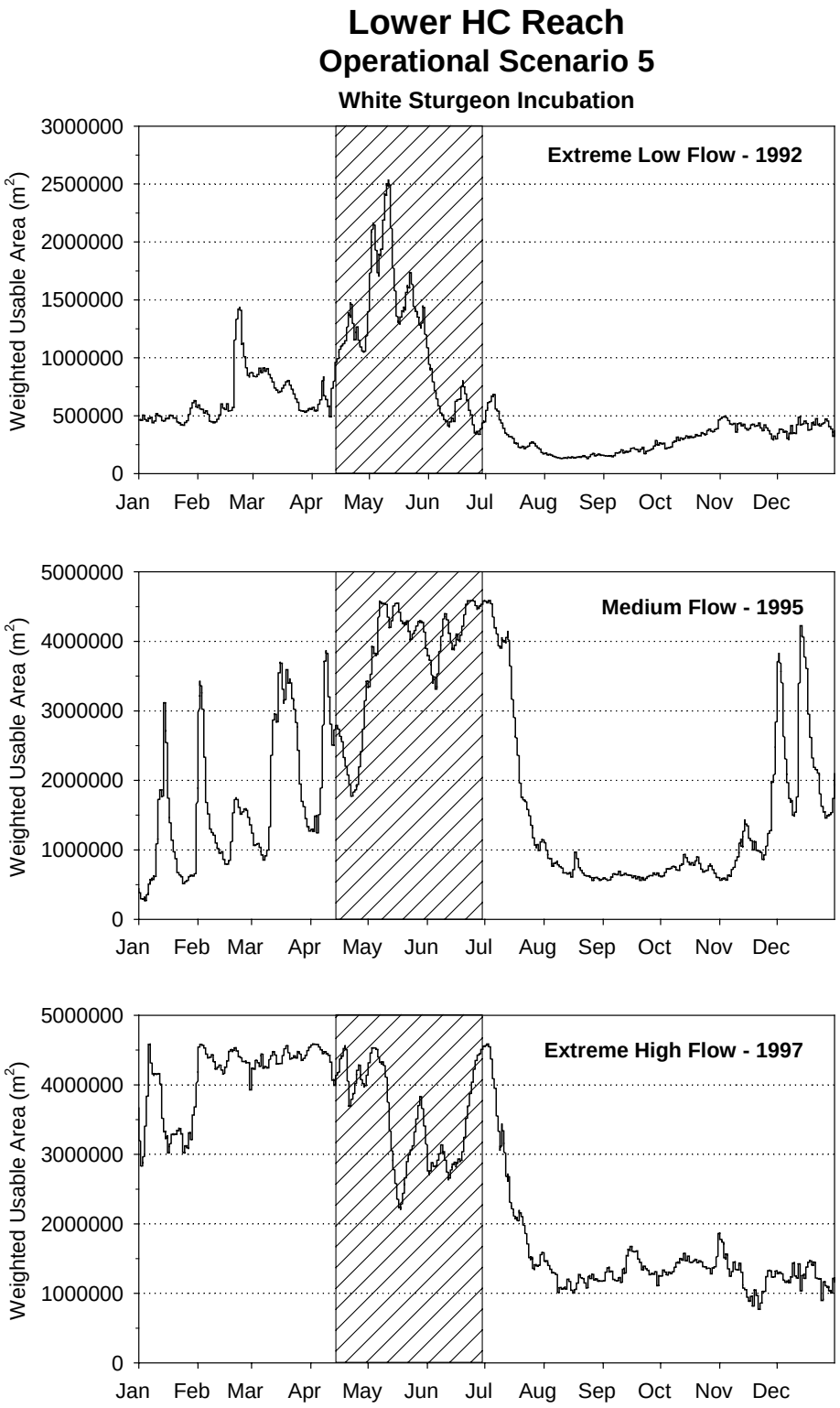


Figure 377. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

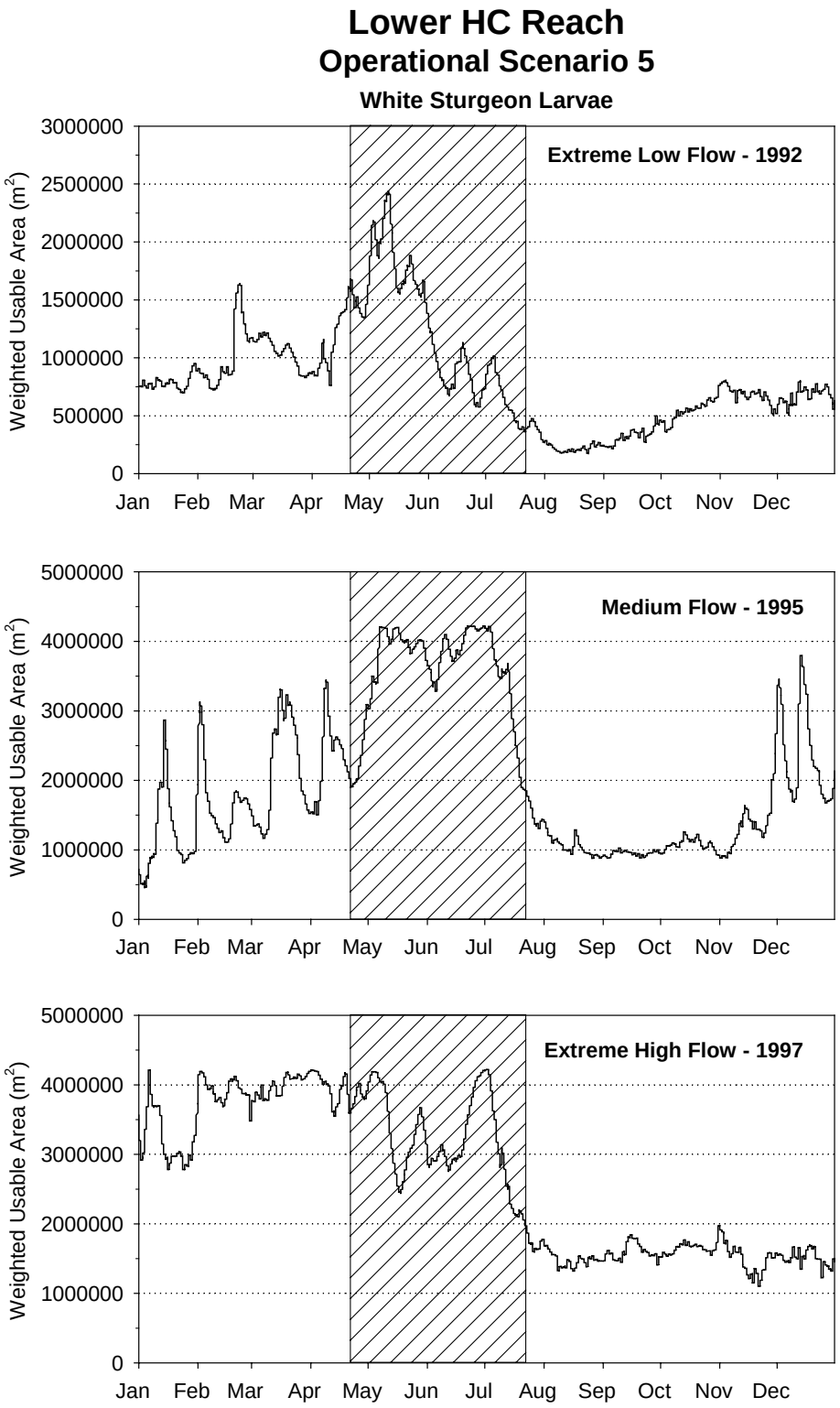


Figure 378. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

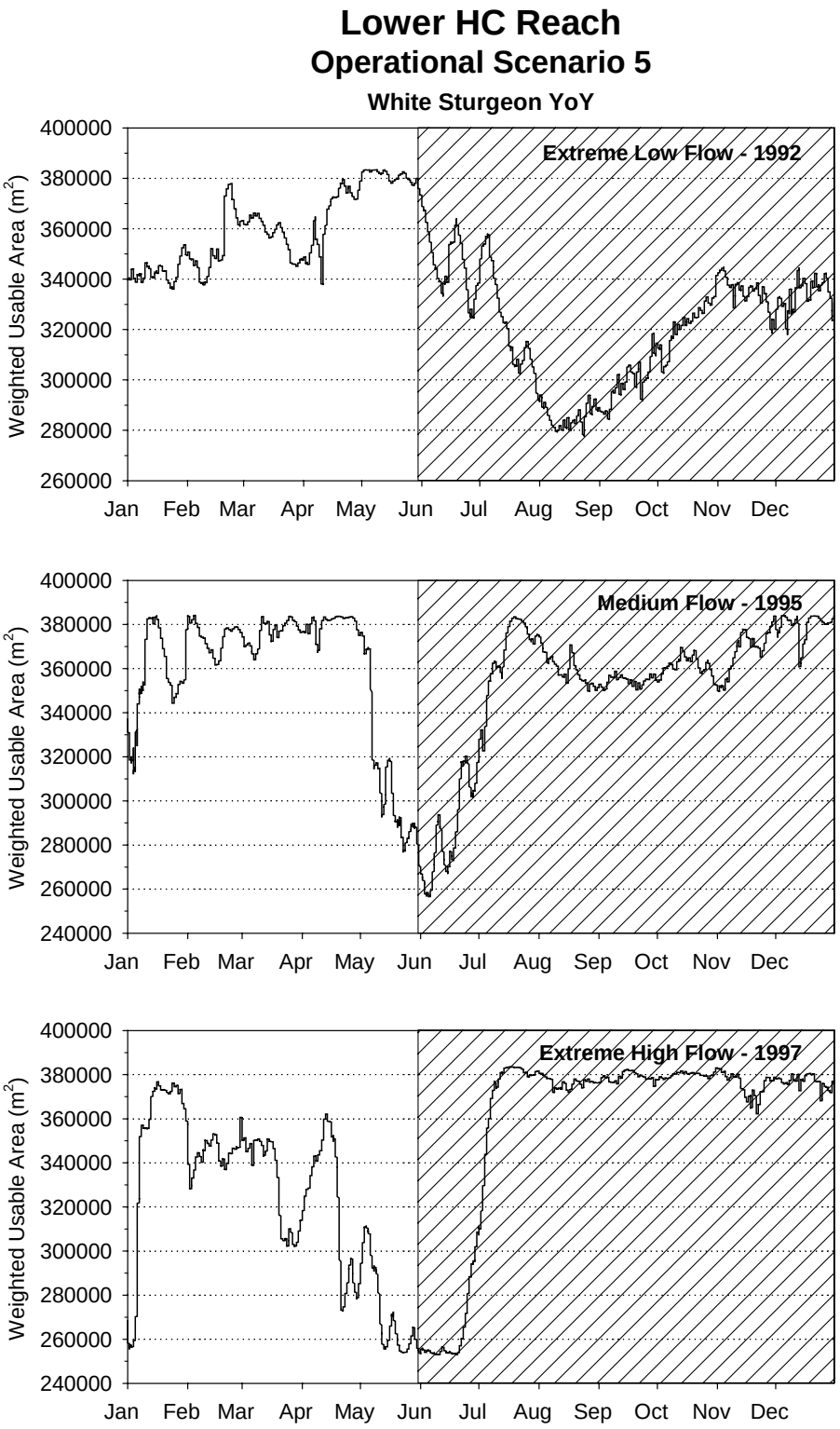


Figure 379. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

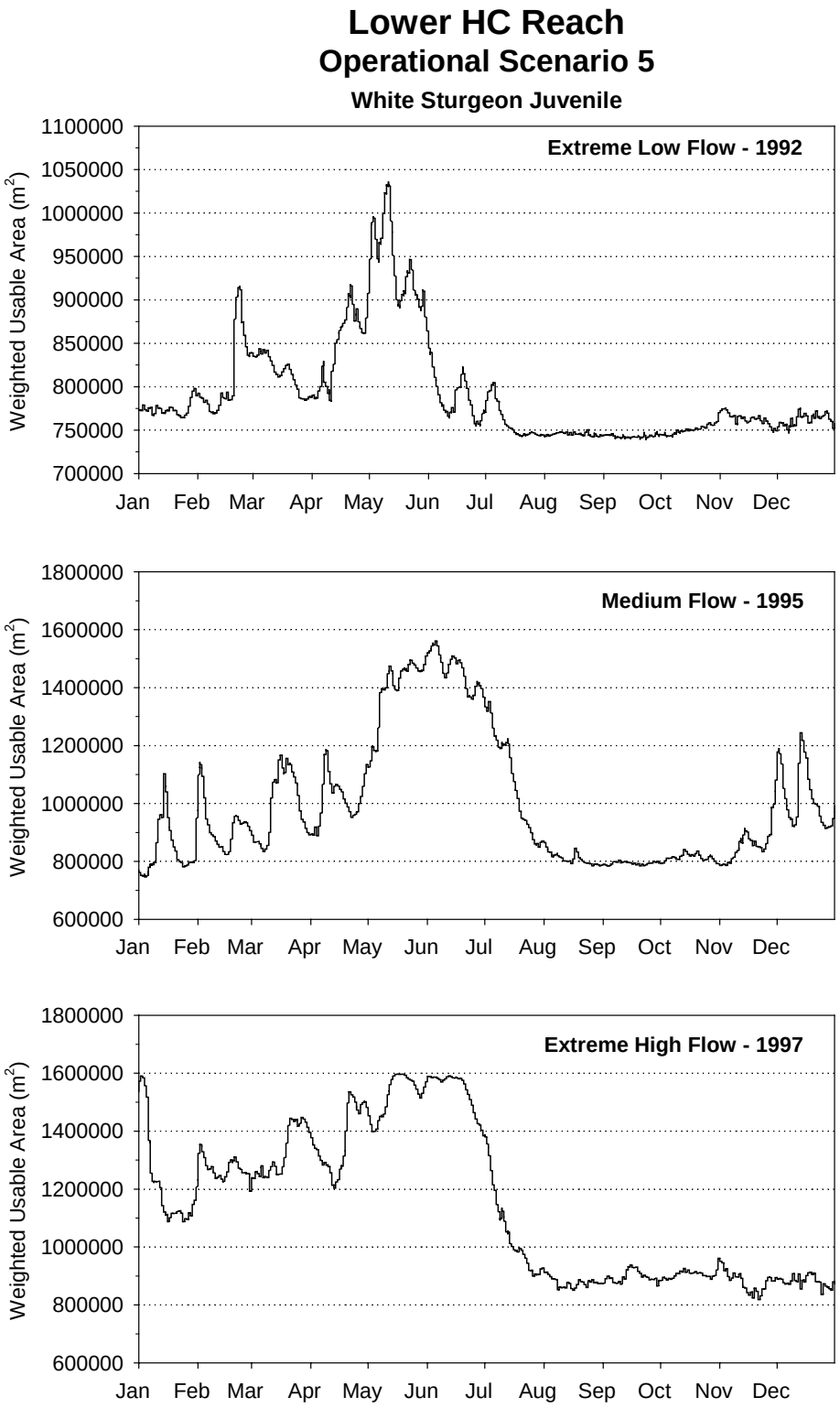


Figure 380. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

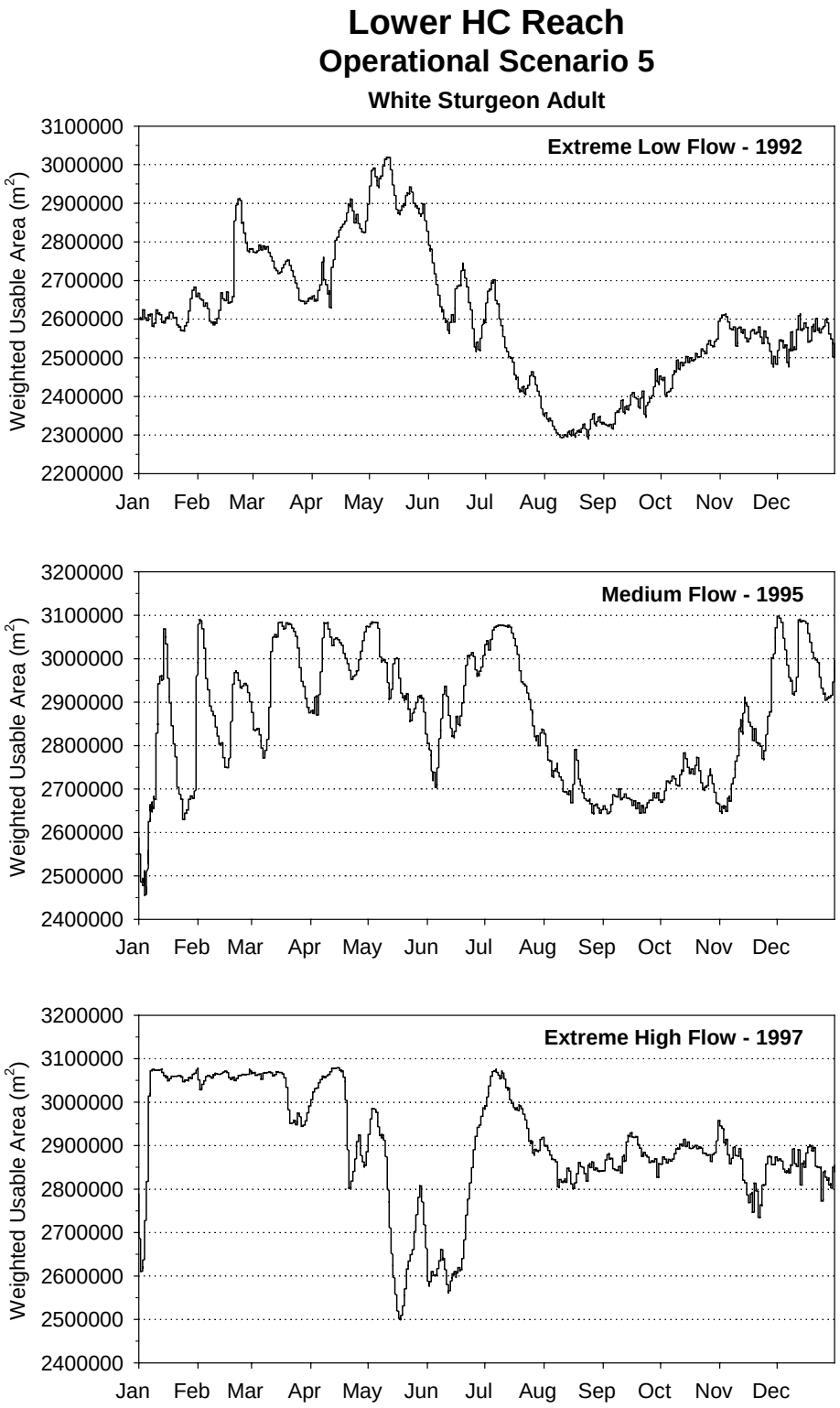


Figure 381. Total weighted usable area (WUA) under Operational Scenario 5 for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

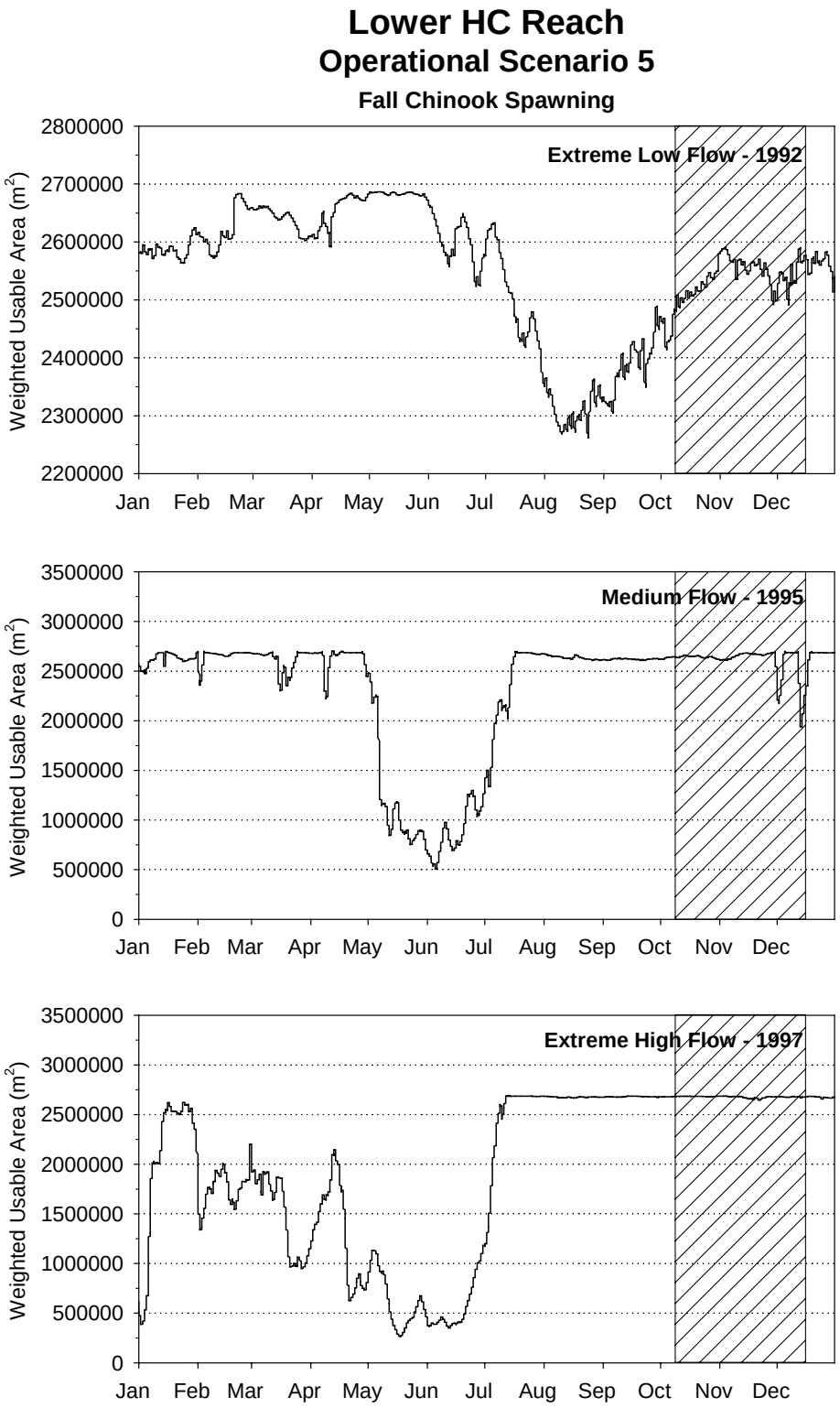


Figure 382. Total weighted usable area (WUA) under Operational Scenario 5 for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

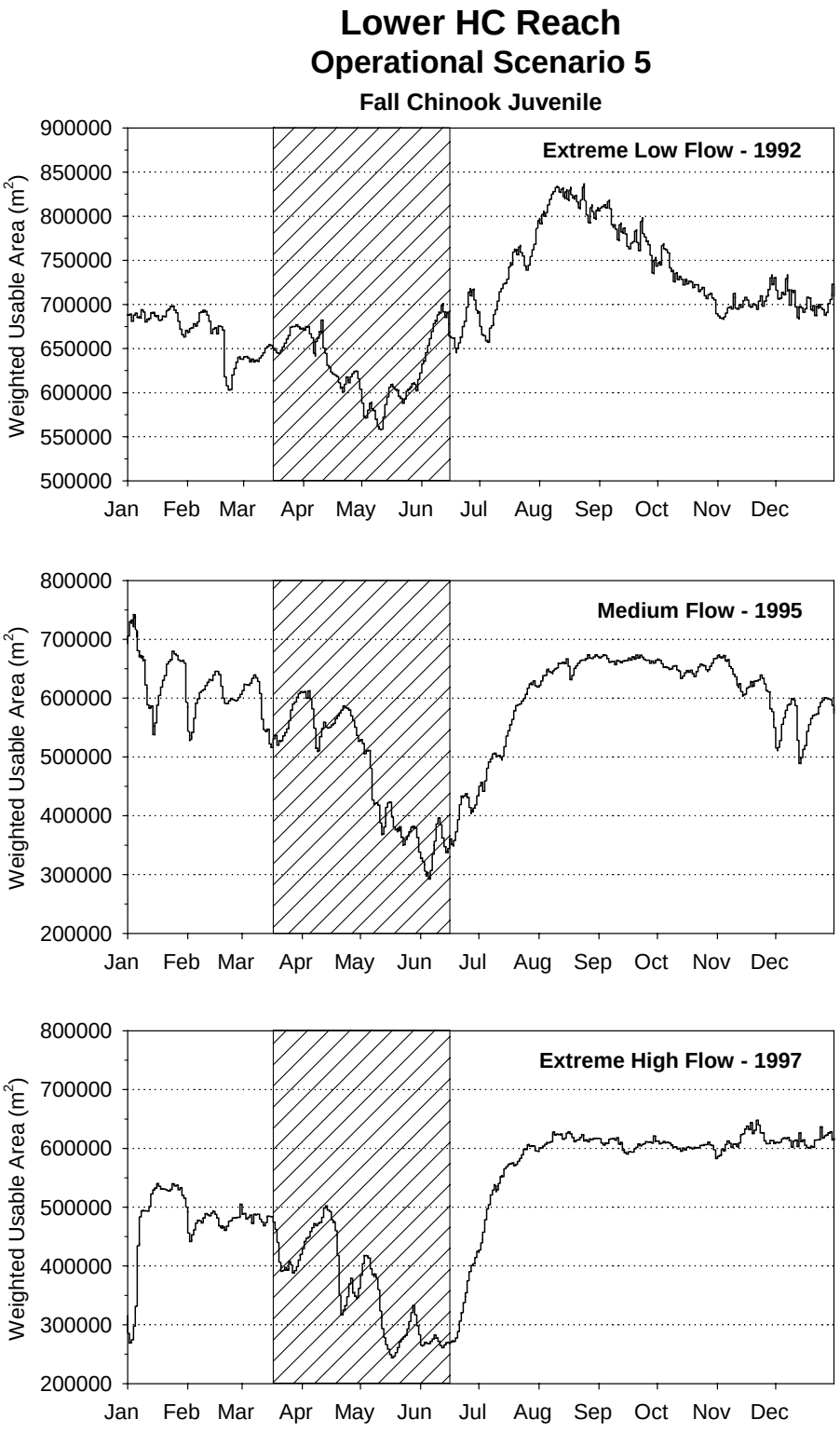


Figure 383. Total weighted usable area (WUA) under Operational Scenario 5 for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

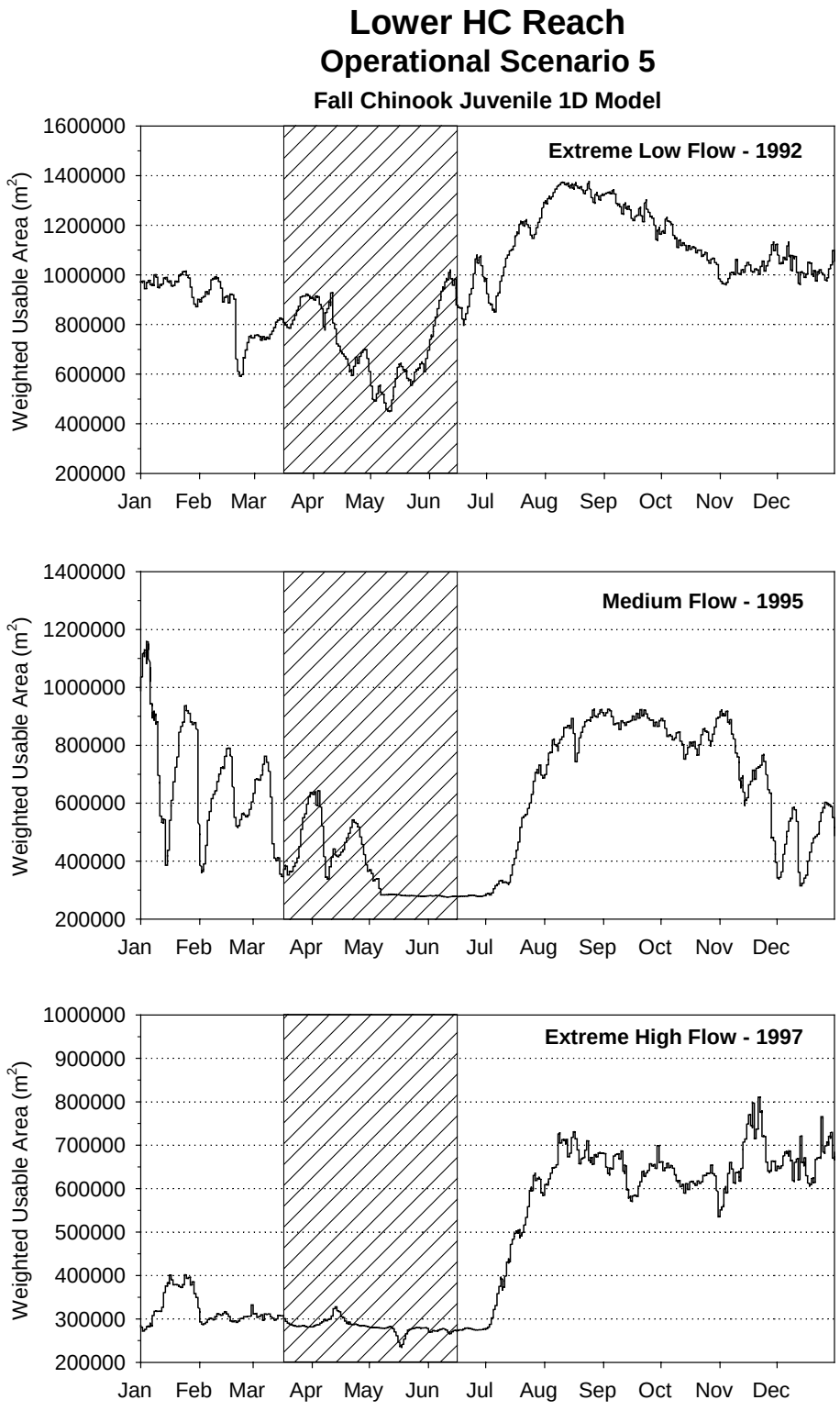


Figure 384. Total weighted usable area (WUA) under Operational Scenario 5 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

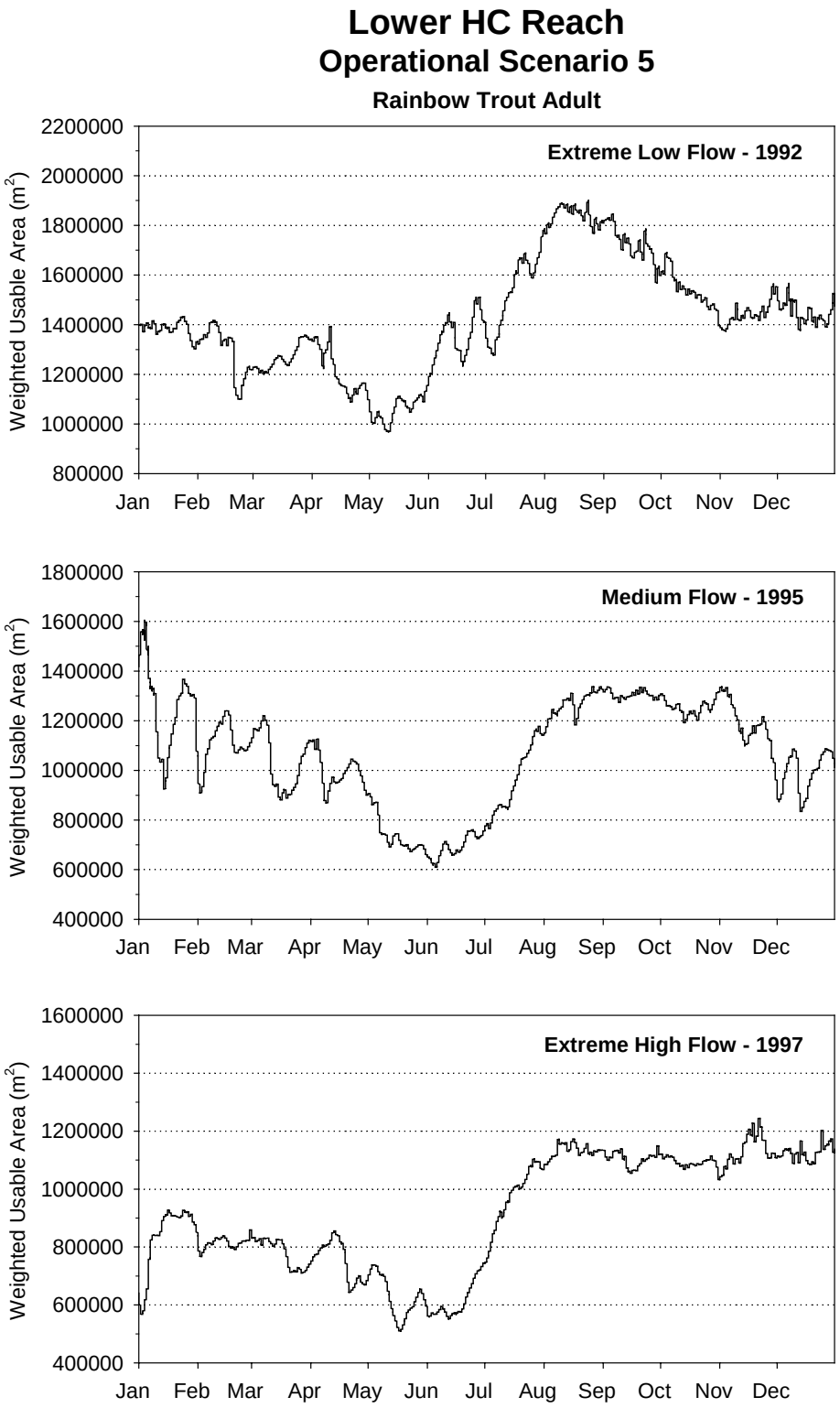


Figure 385. Total weighted usable area (WUA) under Operational Scenario 5 for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

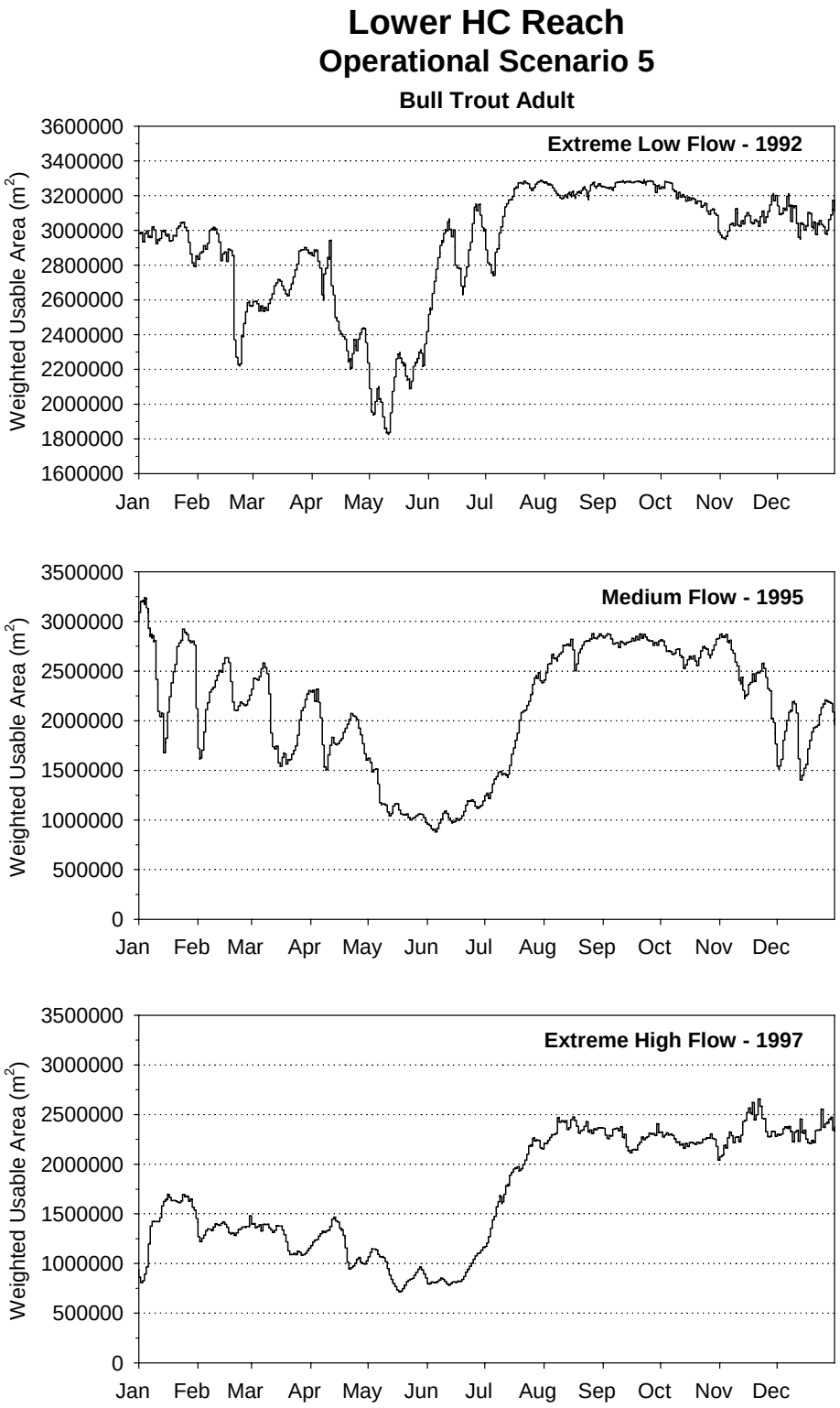


Figure 386. Total weighted usable area (WUA) under Operational Scenario 5 for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

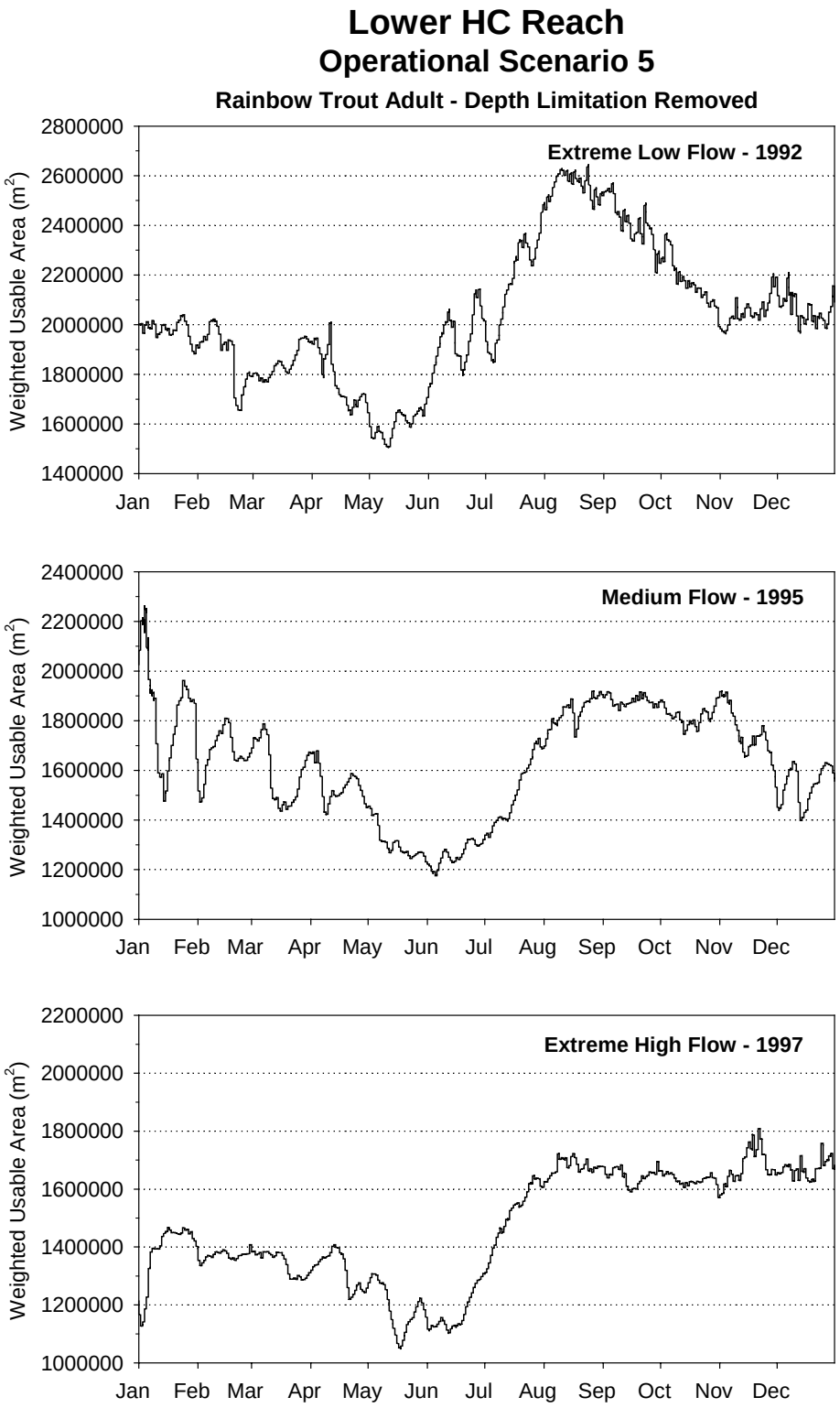


Figure 387. Total weighted usable area (WUA) under Operational Scenario 5 for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

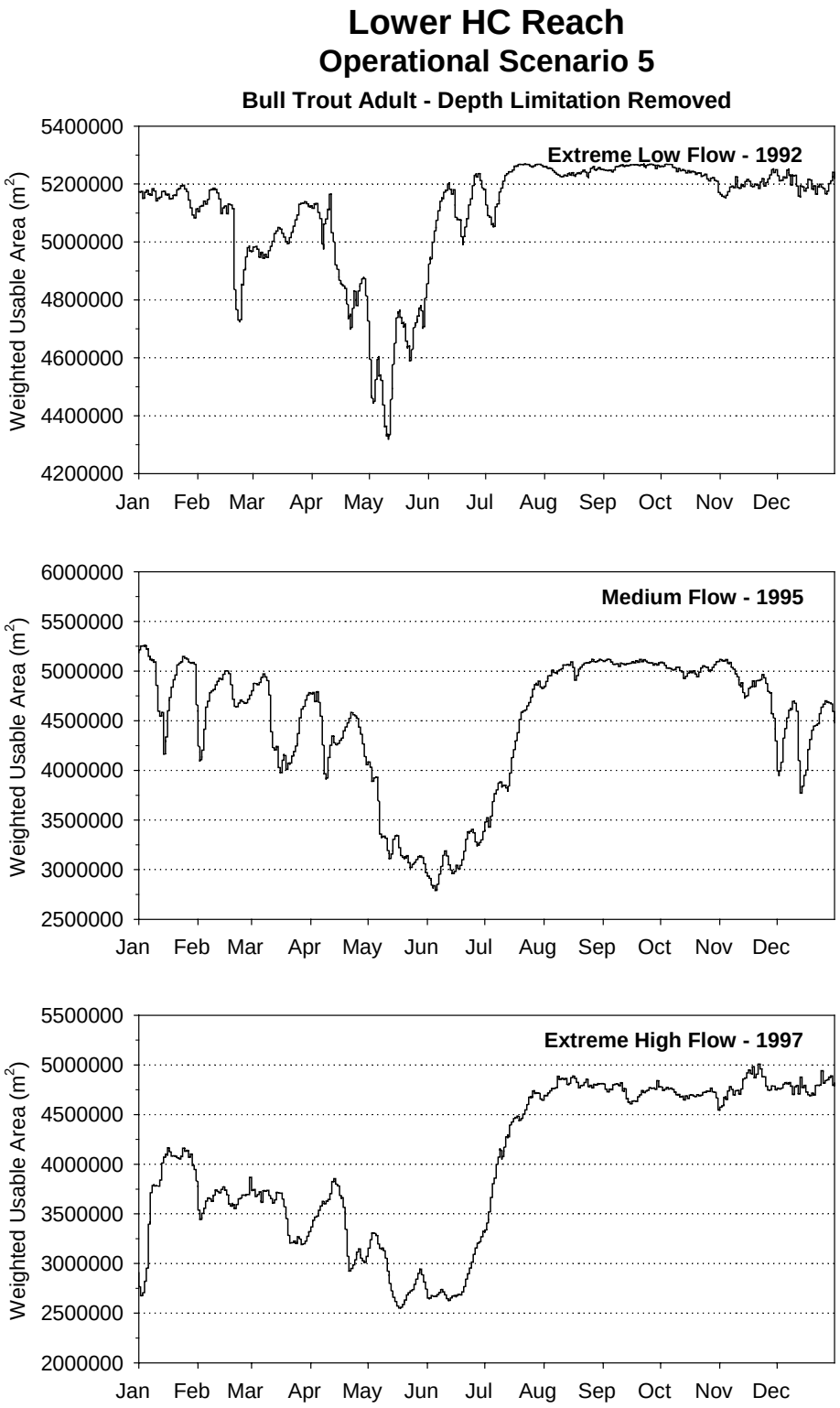


Figure 388. Total weighted usable area (WUA) under Operational Scenario 5 for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

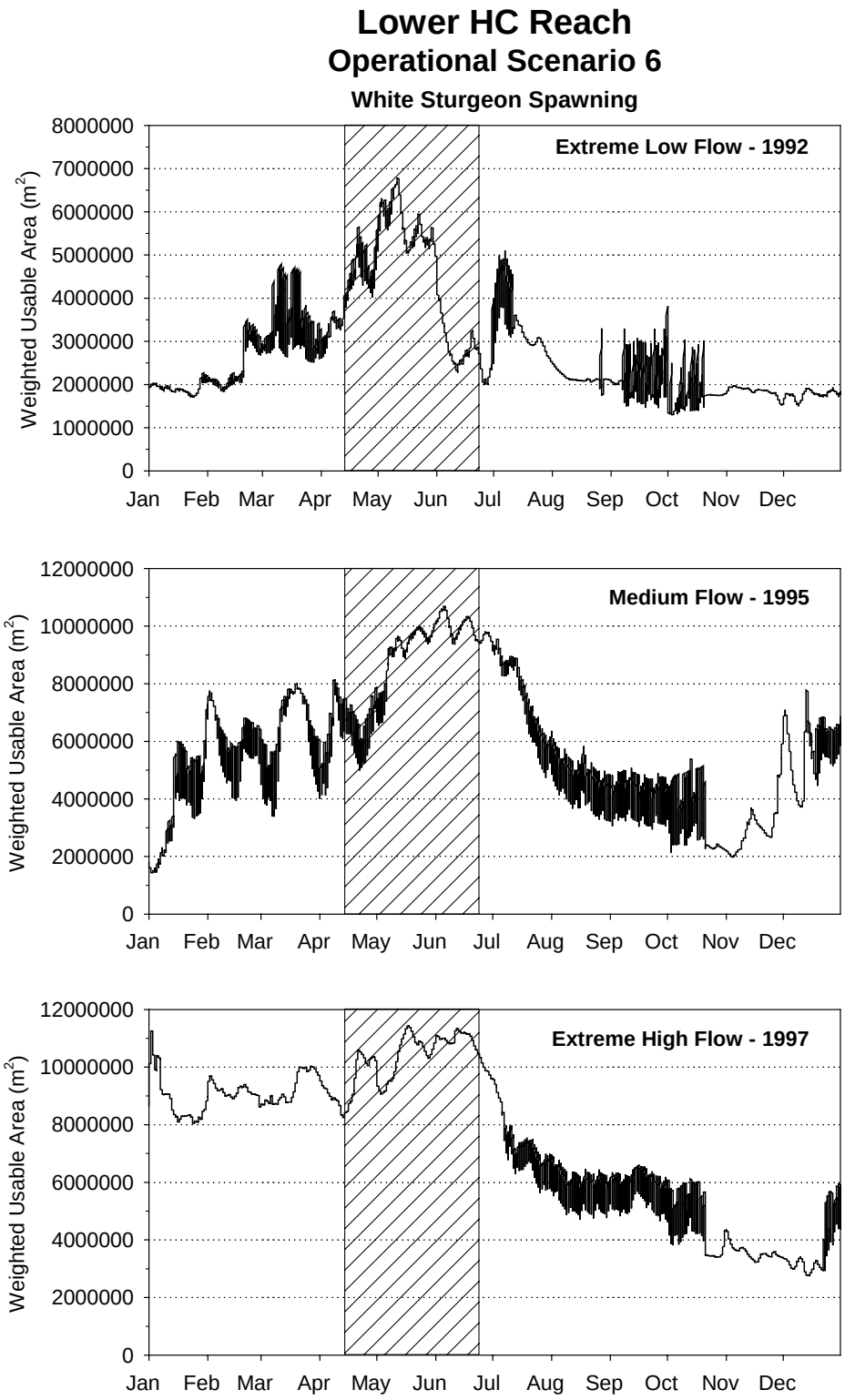


Figure 389. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

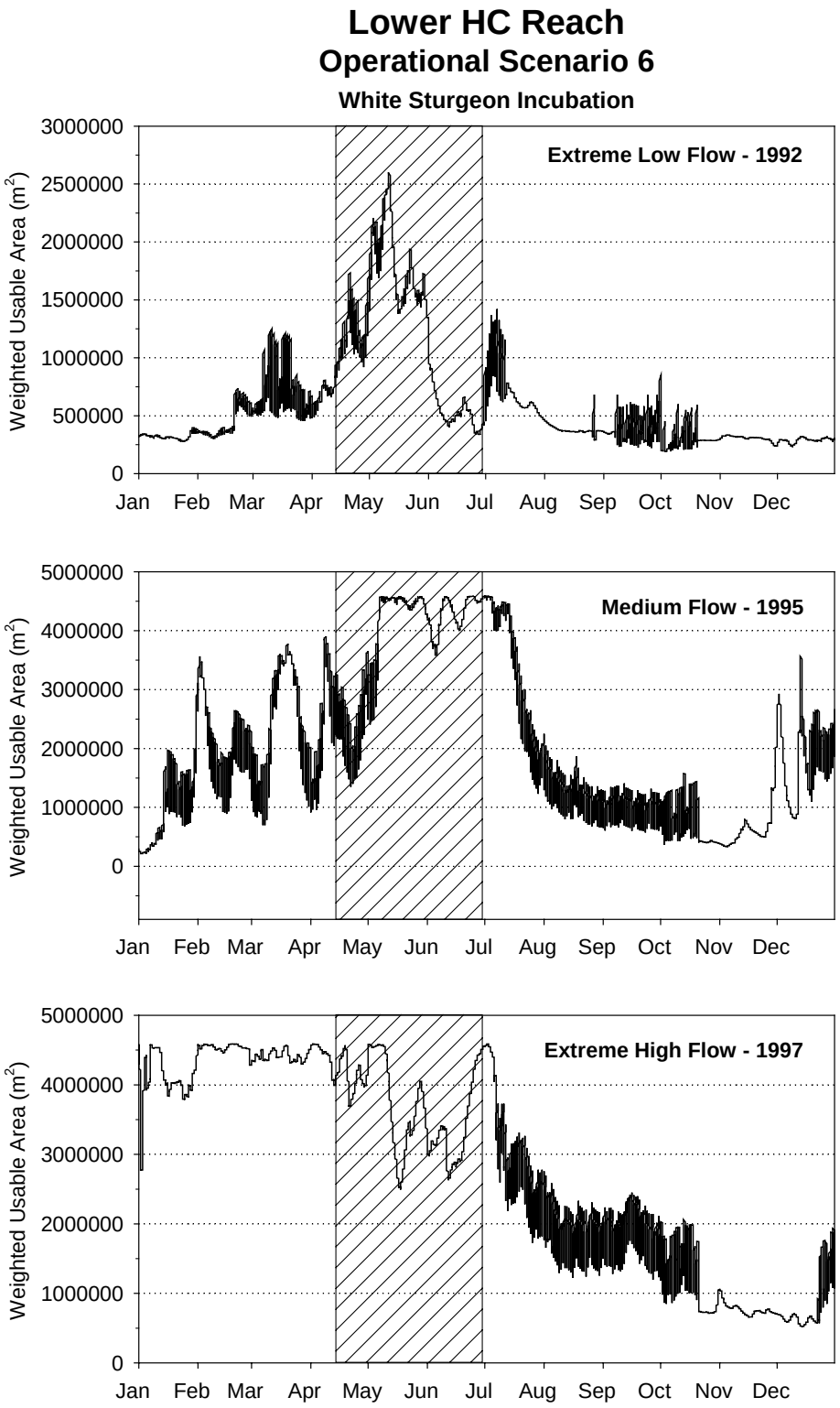


Figure 390. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

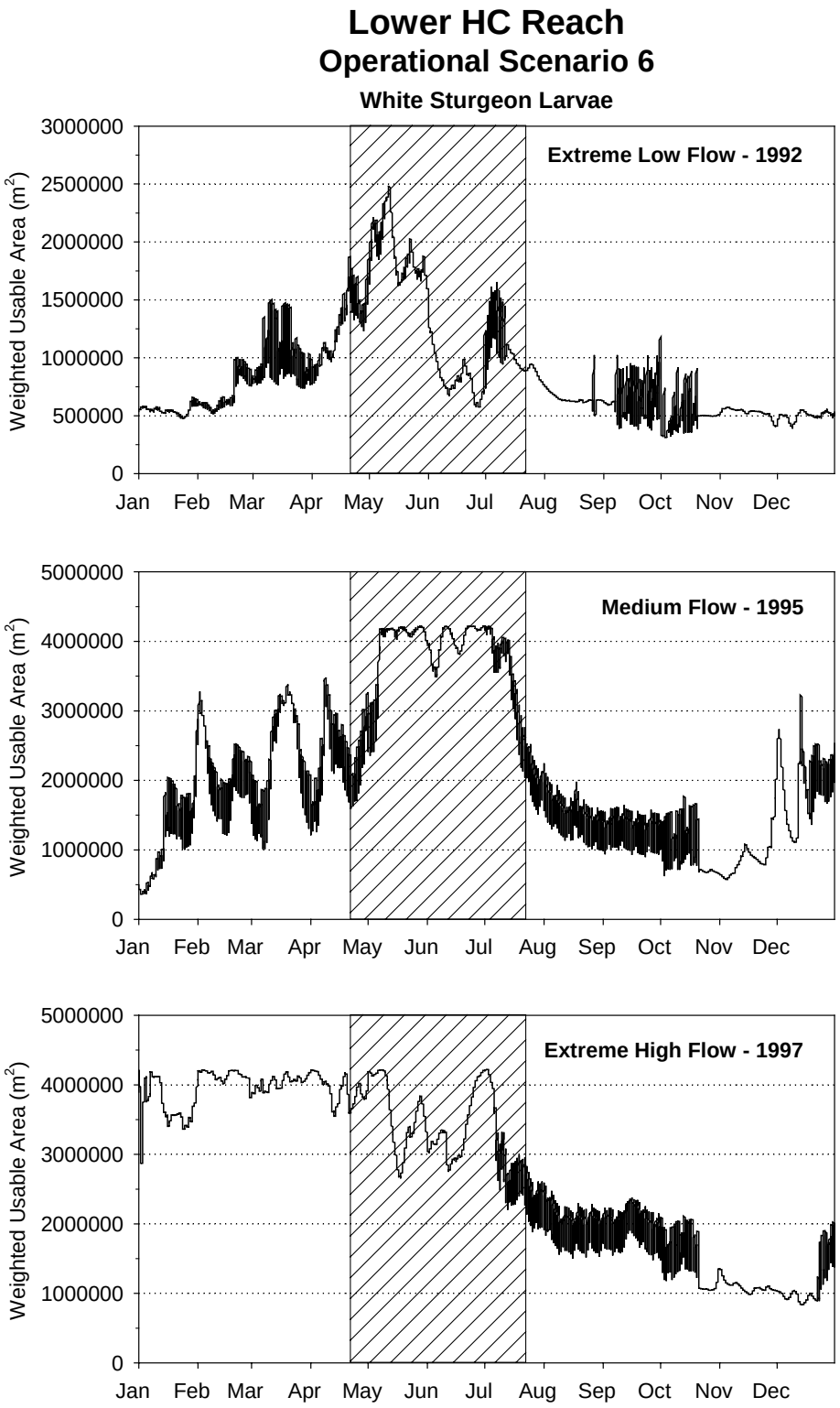


Figure 391. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

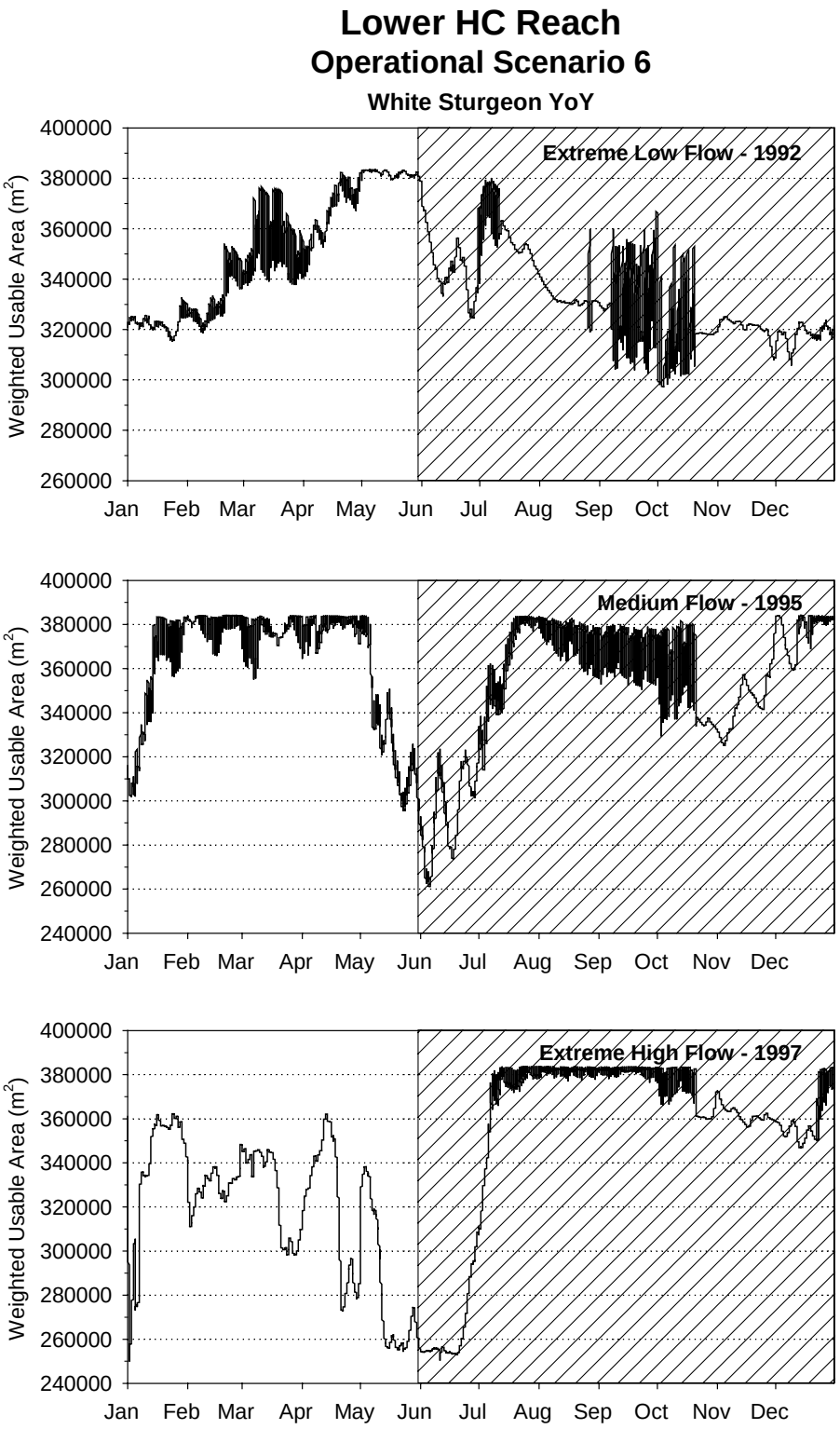


Figure 392. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

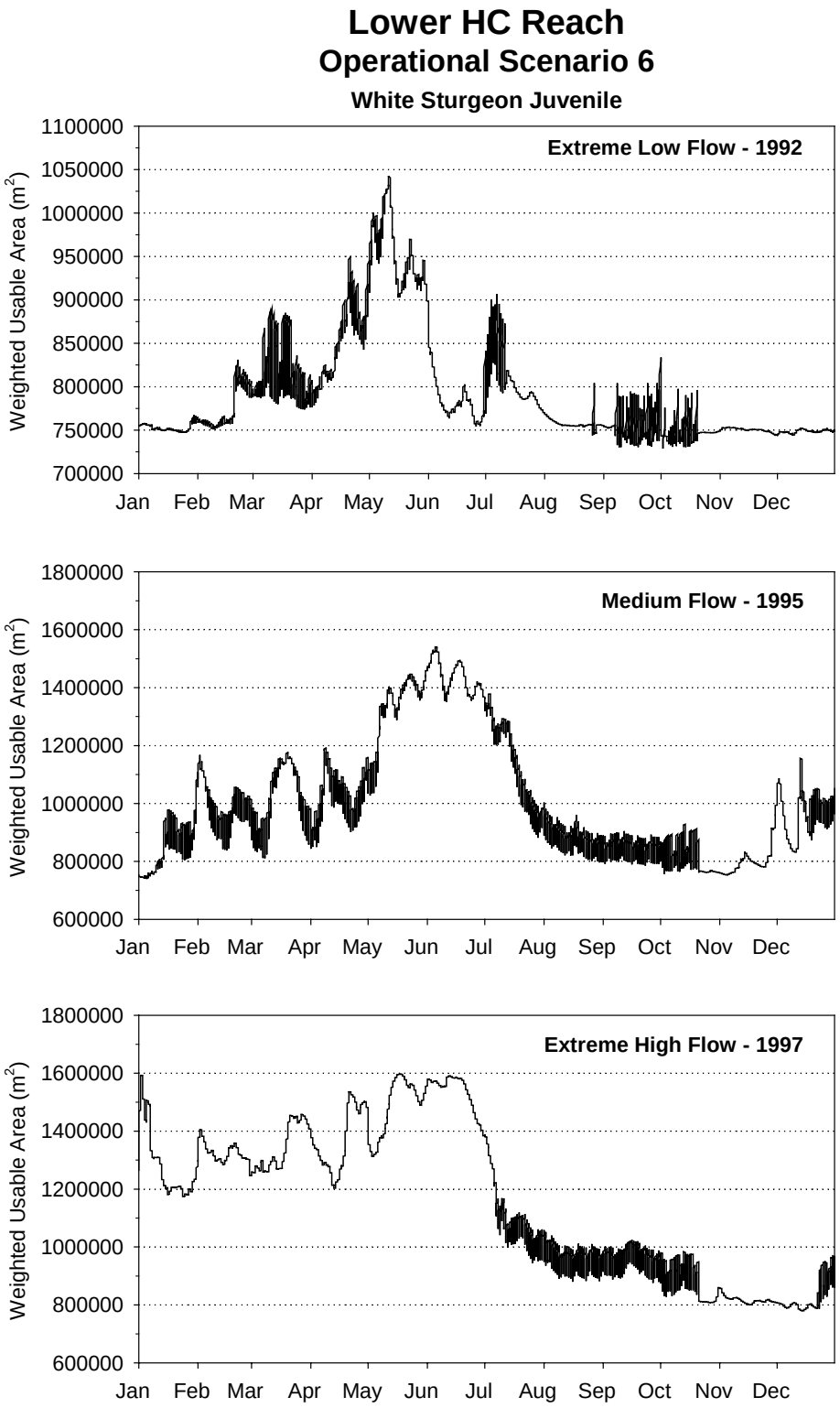


Figure 393. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

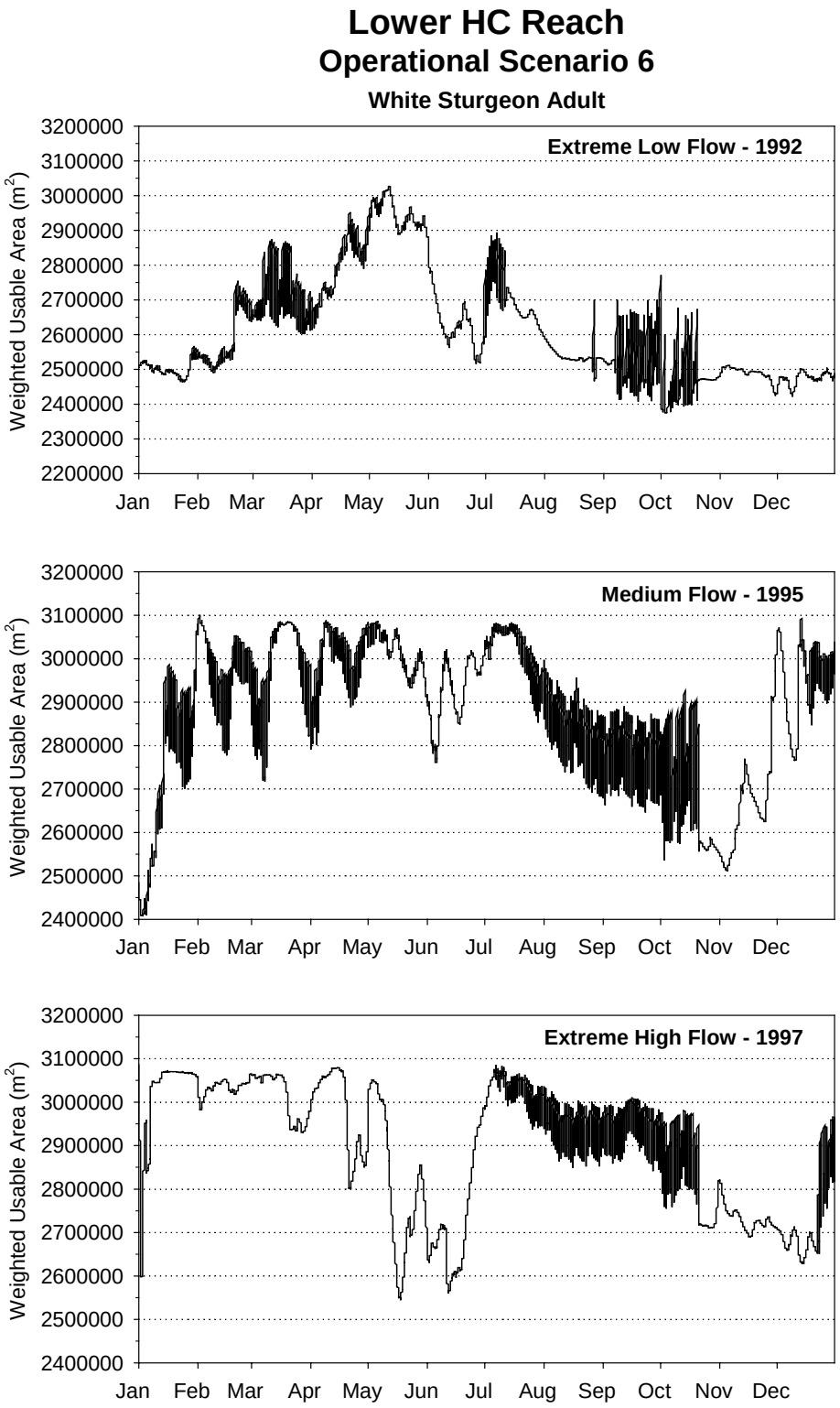


Figure 394. Total weighted usable area (WUA) under Operational Scenario 6 for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

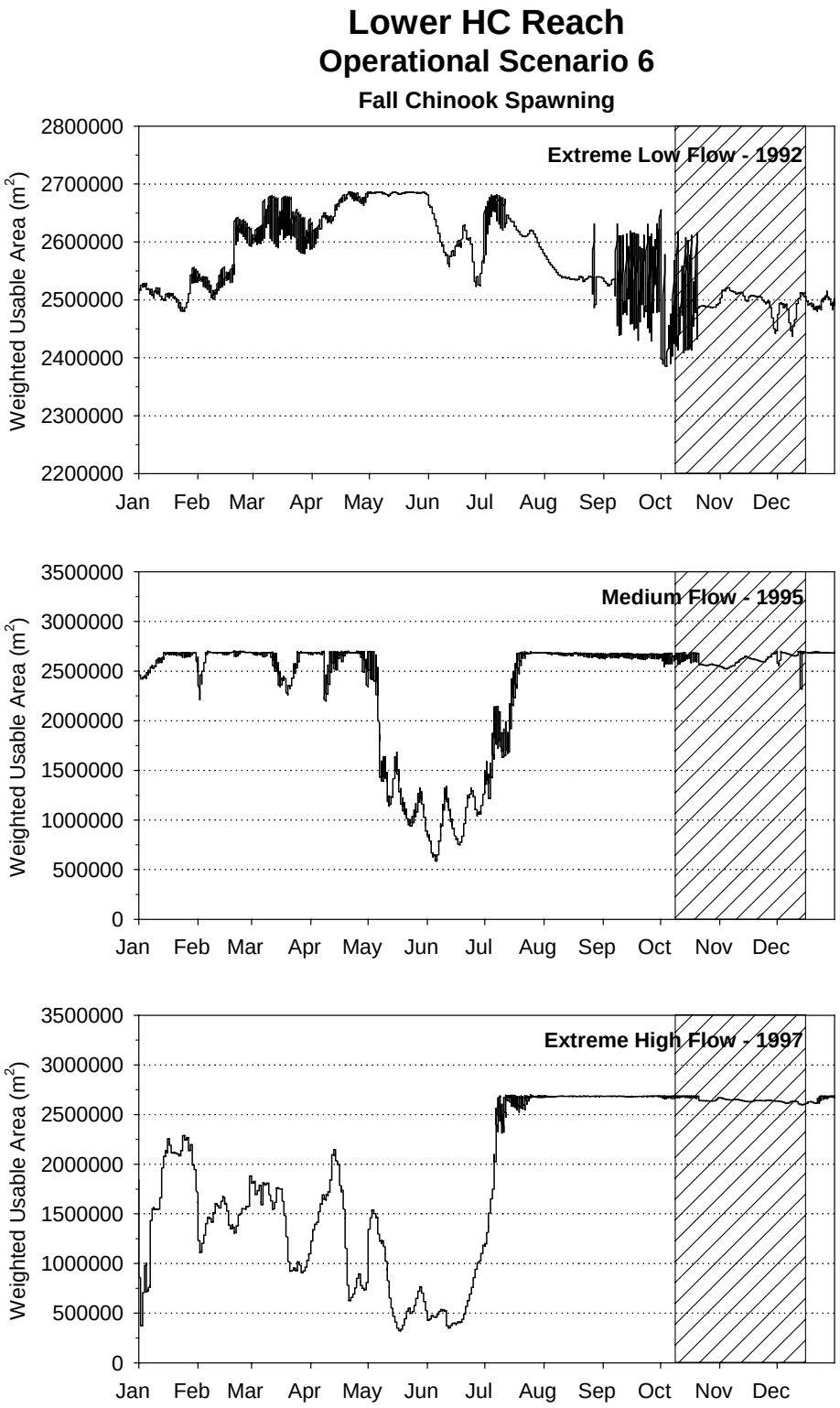


Figure 395. Total weighted usable area (WUA) under Operational Scenario 6 for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

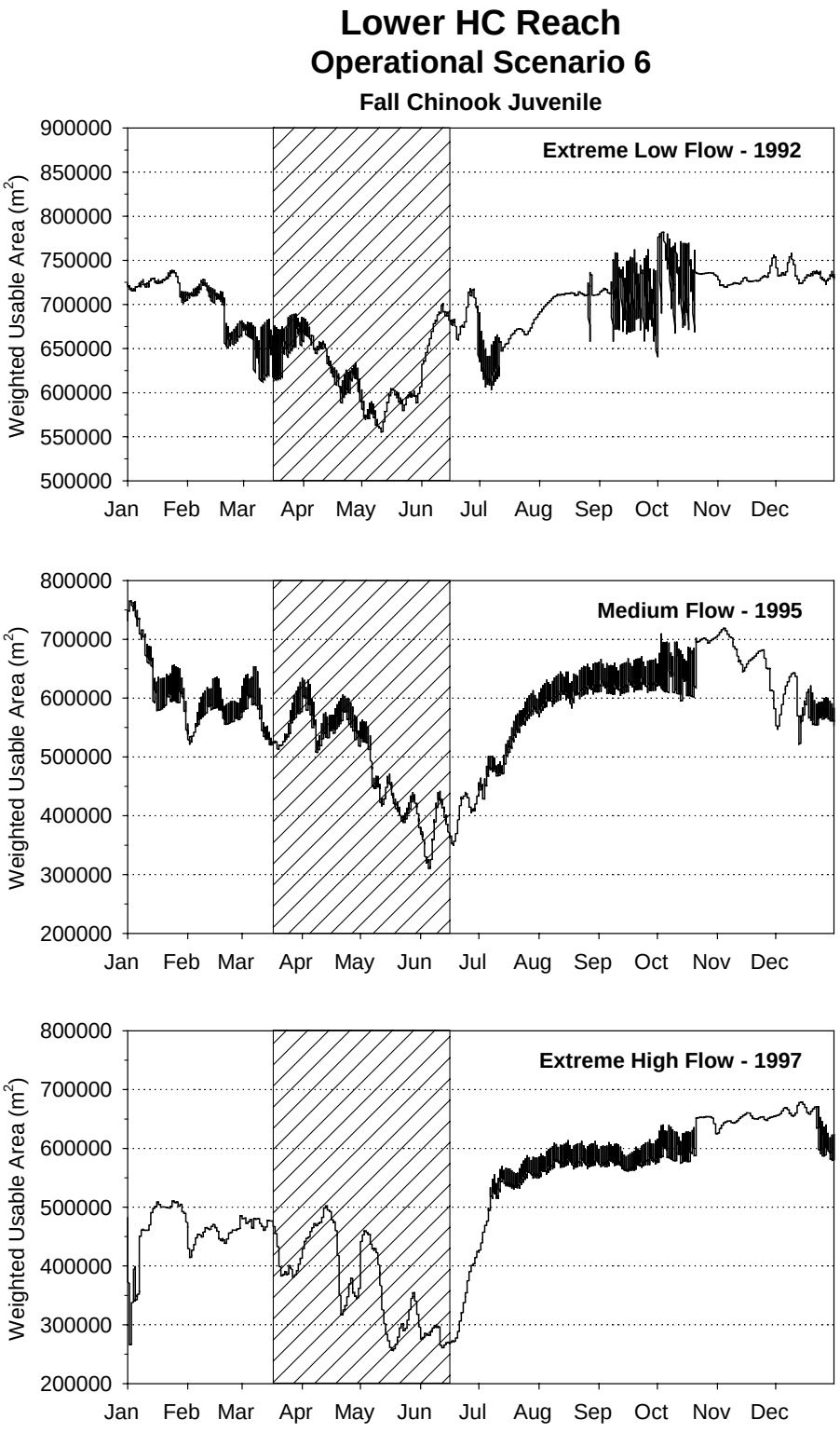


Figure 396. Total weighted usable area (WUA) under Operational Scenario 6 for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

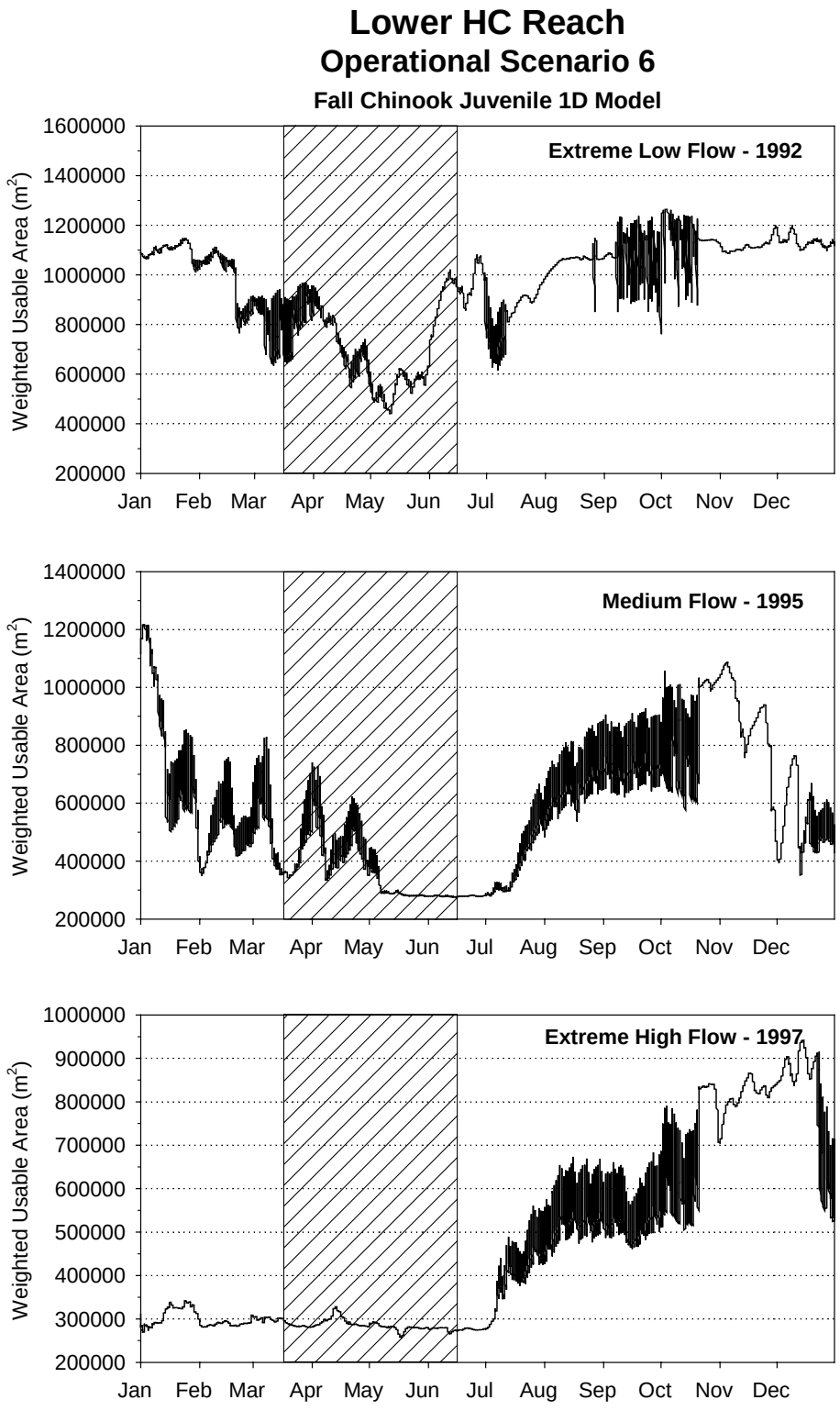


Figure 397. Total weighted usable area (WUA) under Operational Scenario 6 for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

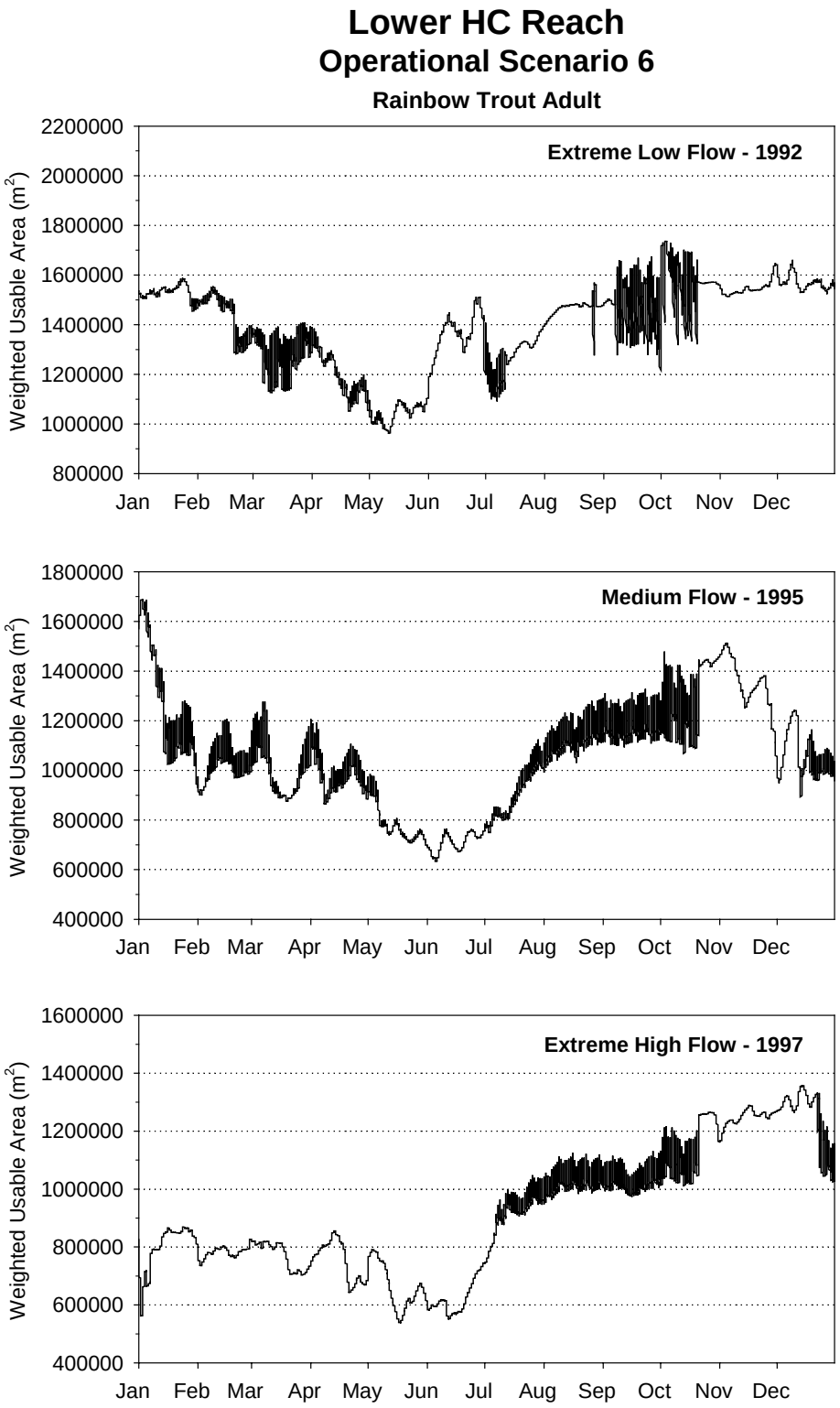


Figure 398. Total weighted usable area (WUA) under Operational Scenario 6 for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

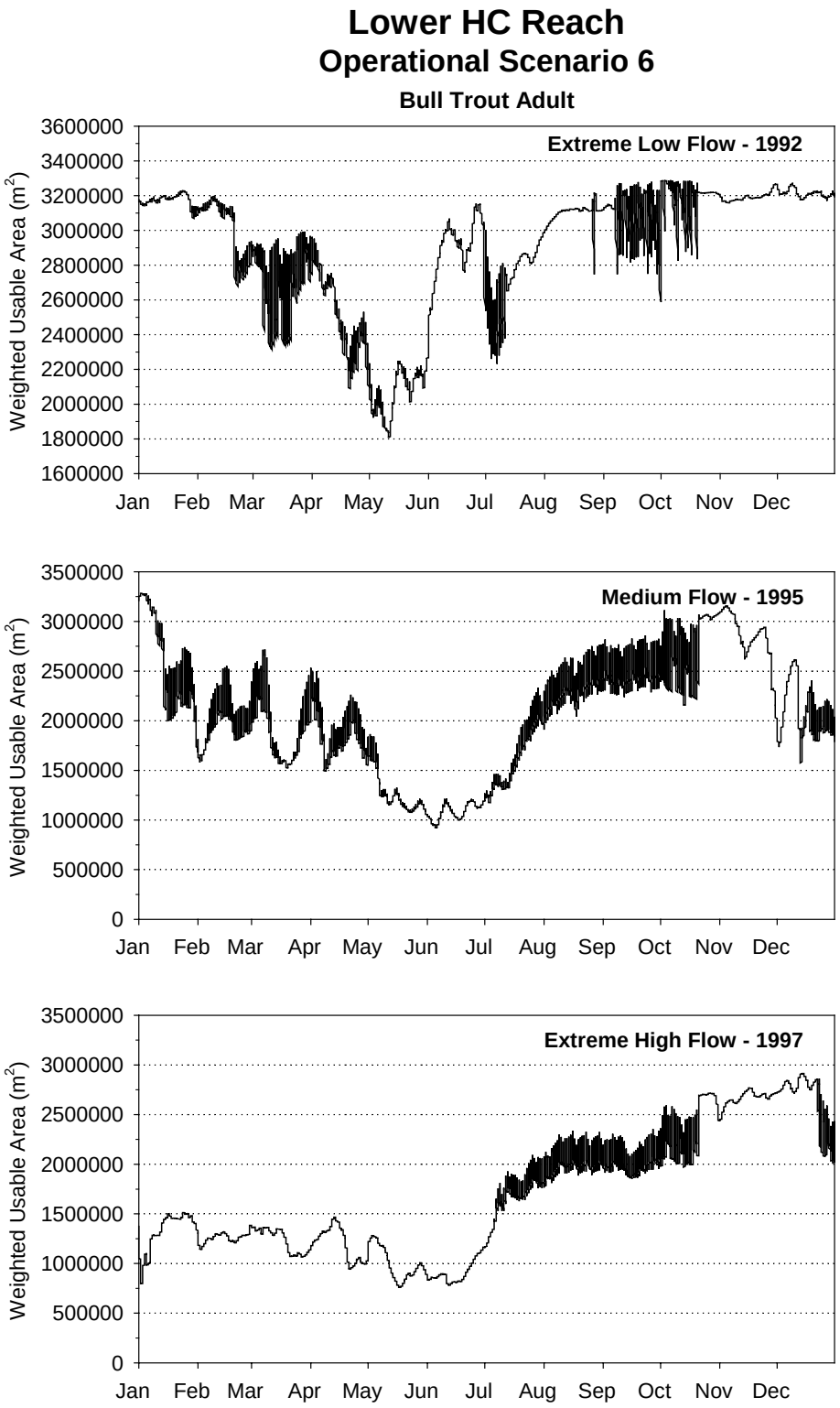


Figure 399. Total weighted usable area (WUA) under Operational Scenario 6 for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

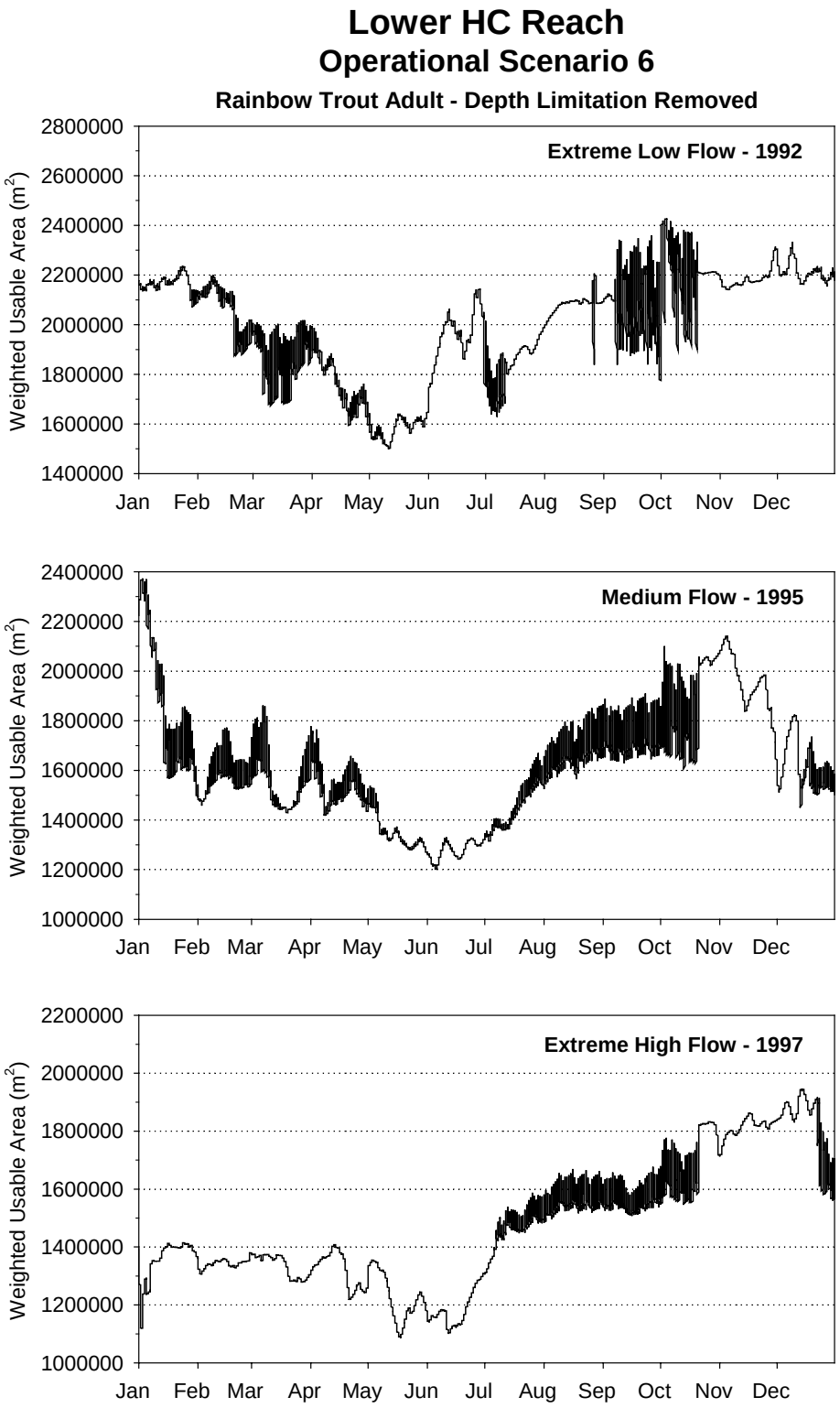


Figure 400. Total weighted usable area (WUA) under Operational Scenario 6 for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

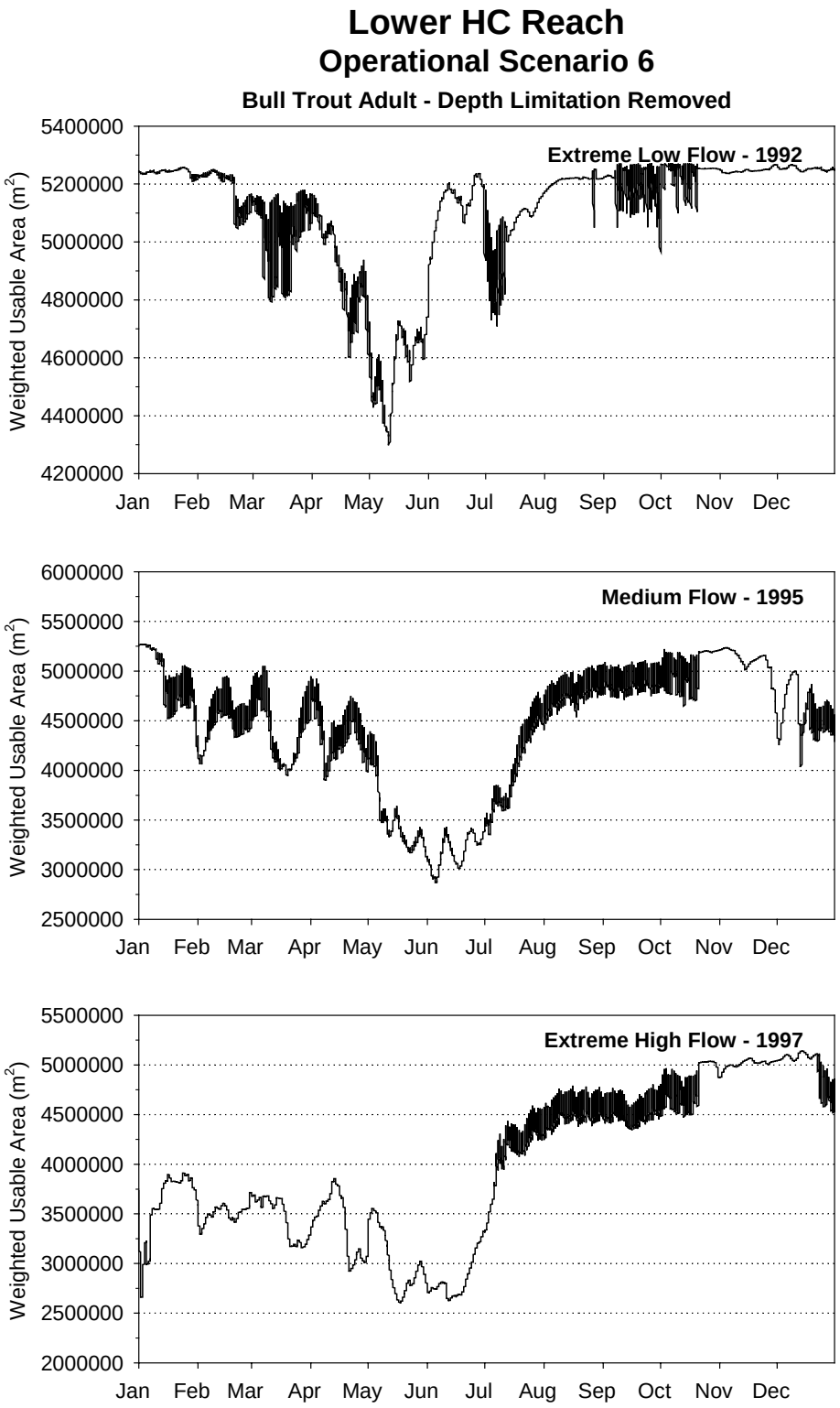


Figure 401. Total weighted usable area (WUA) under Operational Scenario 6 for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

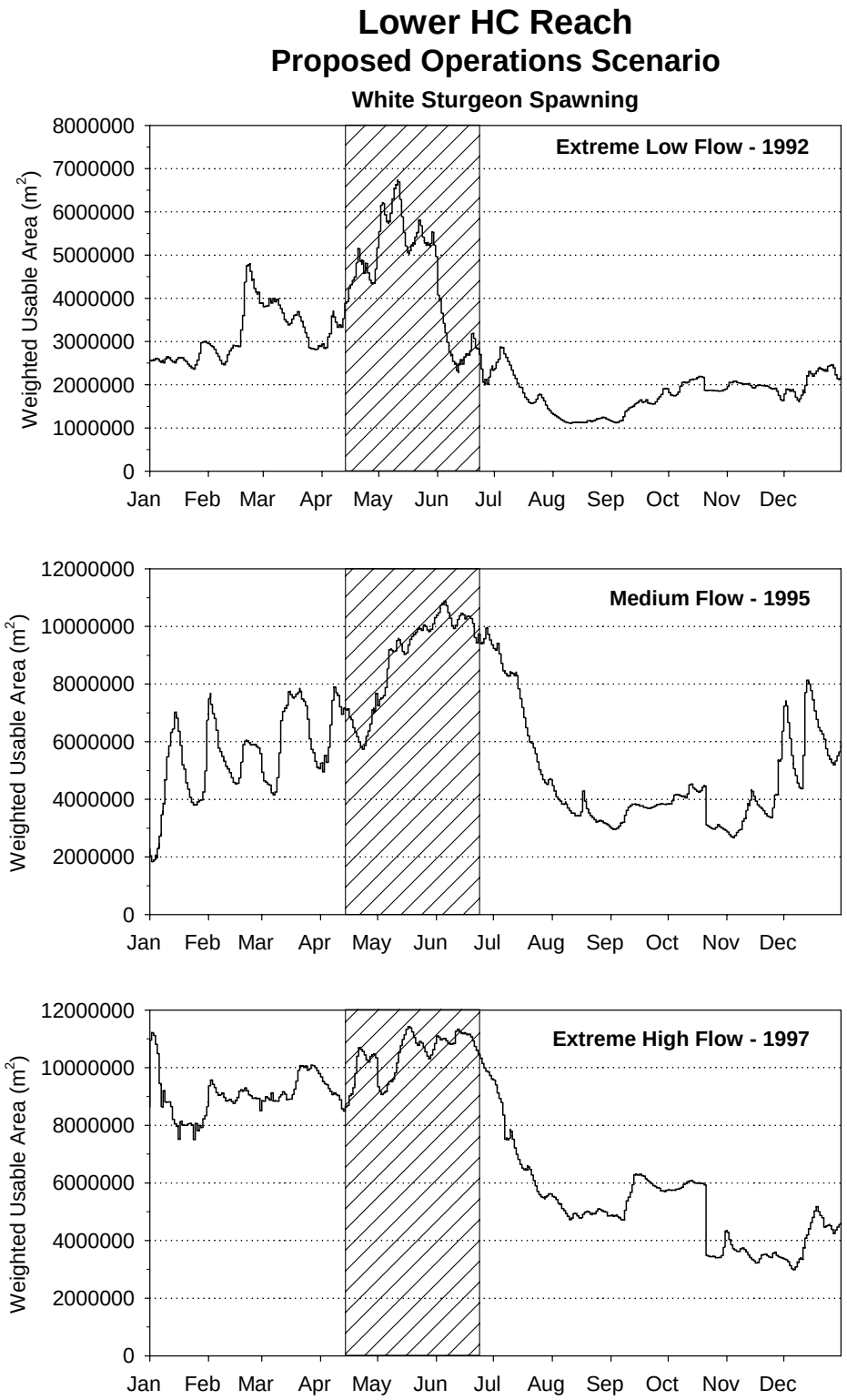


Figure 402. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon spawning (April 12—June 23) is shown with cross-hatching for each year.

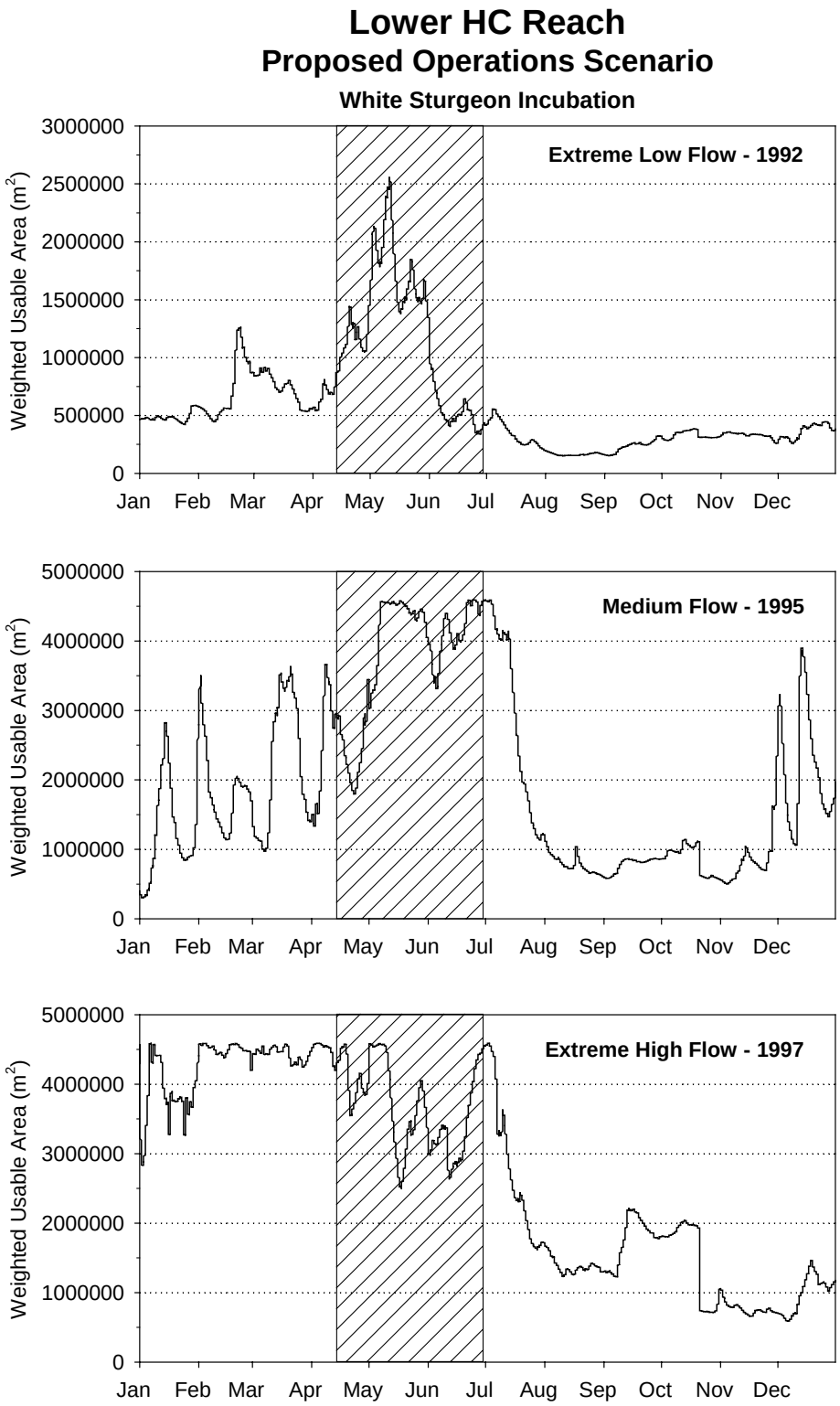


Figure 403. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon incubation life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon incubation (April 12—June 29) is shown with cross-hatching for each year.

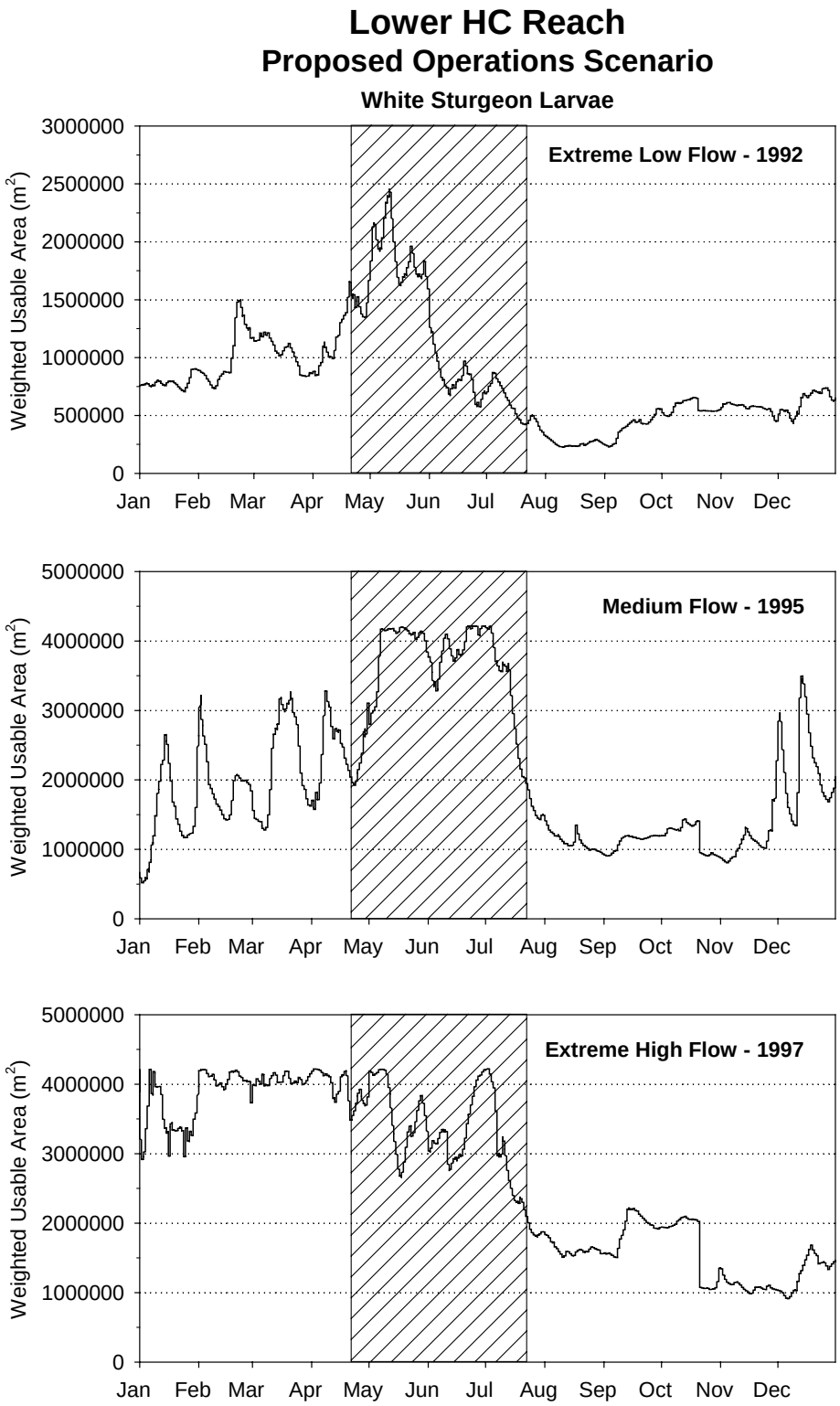


Figure 404. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon larvae life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon larvae (April 23—July 23) is shown with cross-hatching for each year.

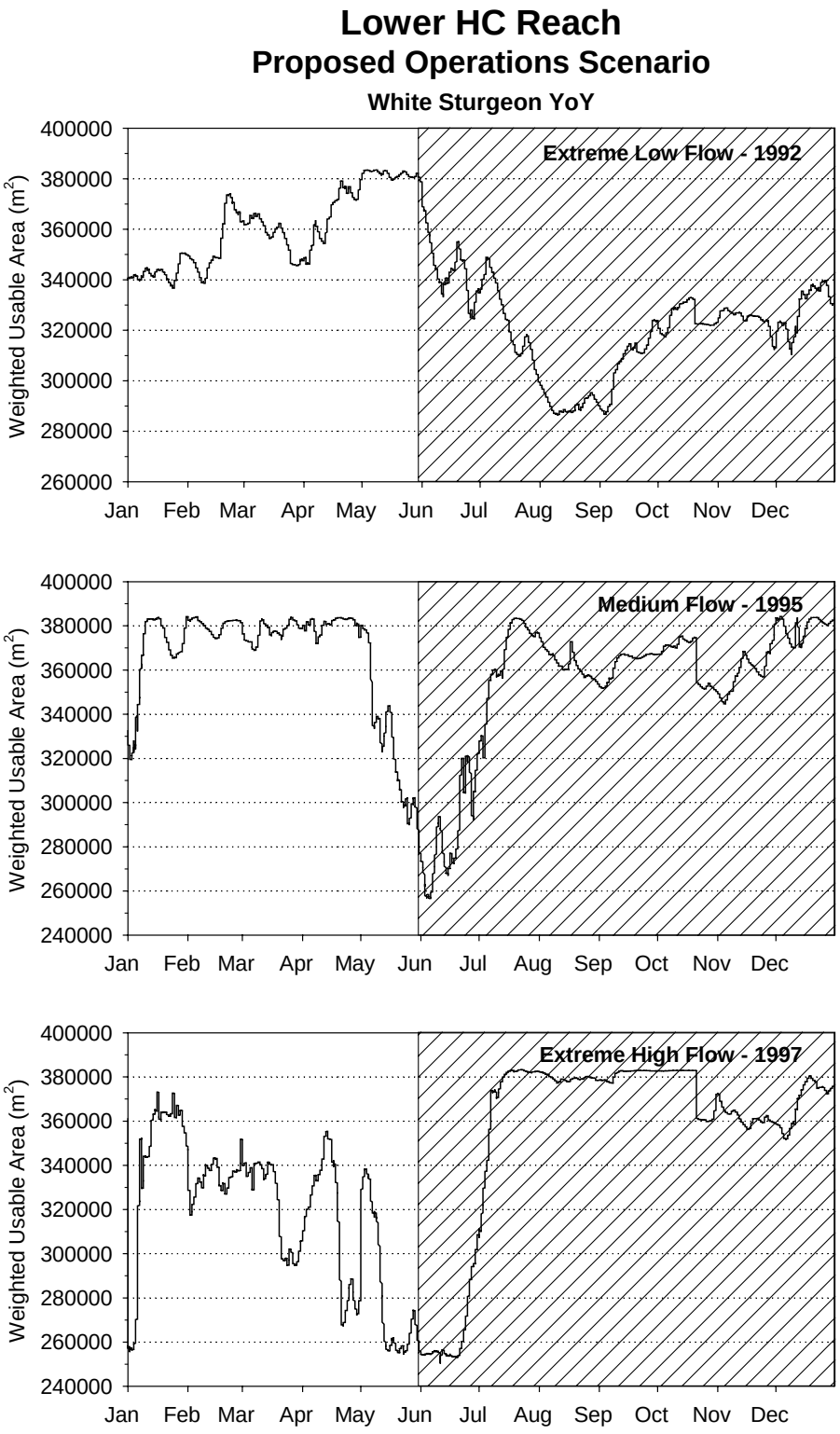


Figure 405. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon YoY life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon YoY (May 30—December 31) is shown with cross-hatching for each year.

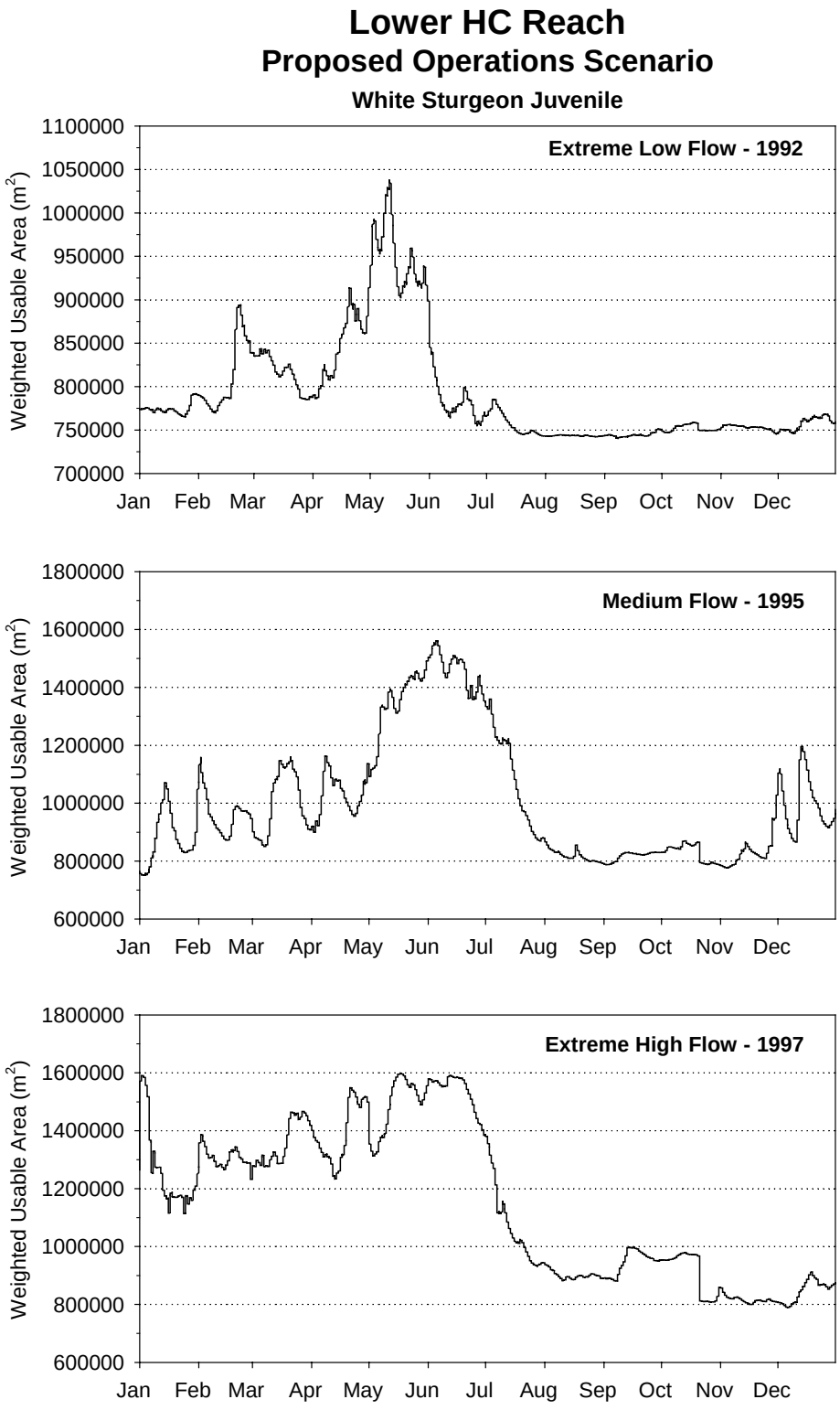


Figure 406. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

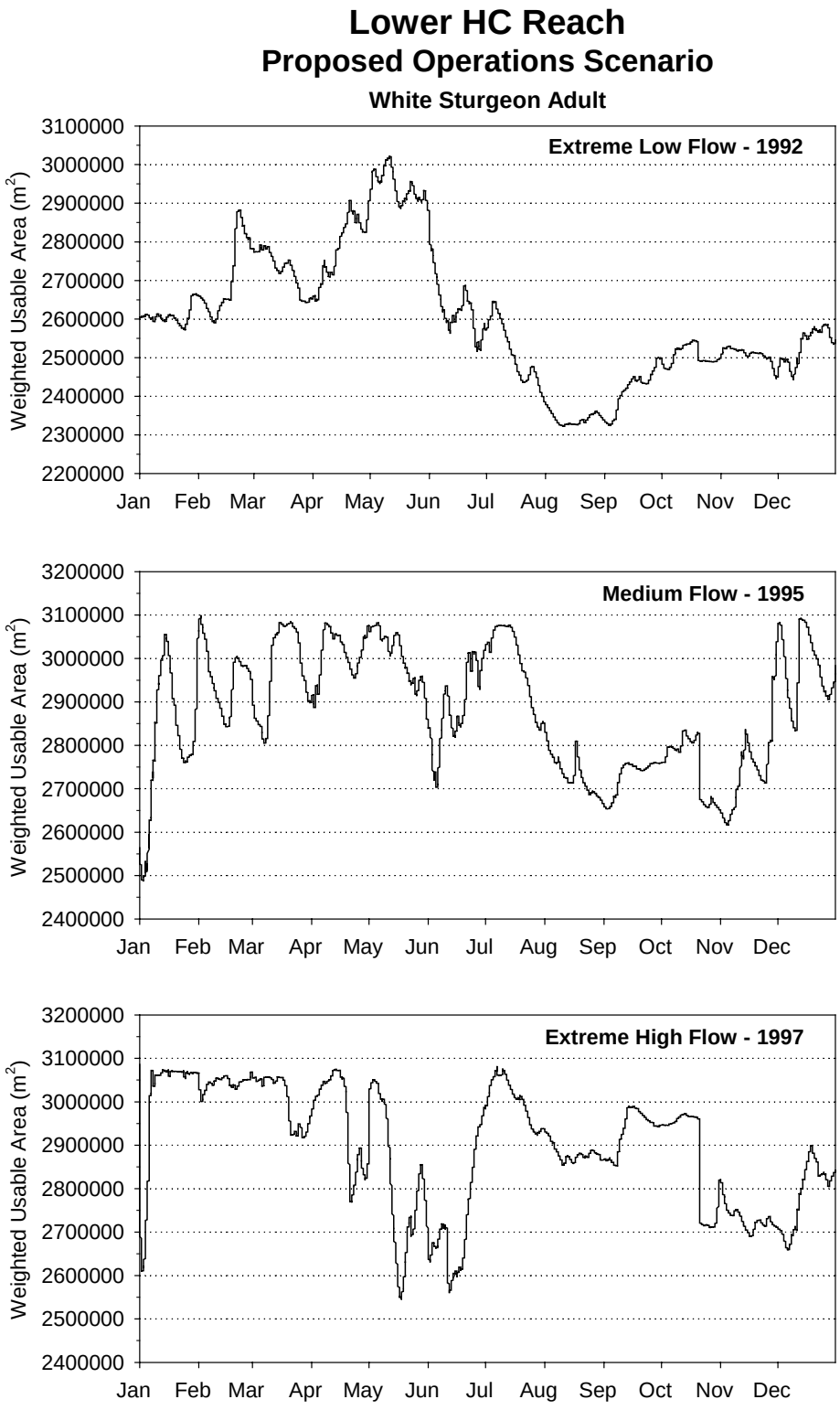


Figure 407. Total weighted usable area (WUA) under Proposed Operations Scenario for the white sturgeon adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for white sturgeon juvenile is January 1—December 31.

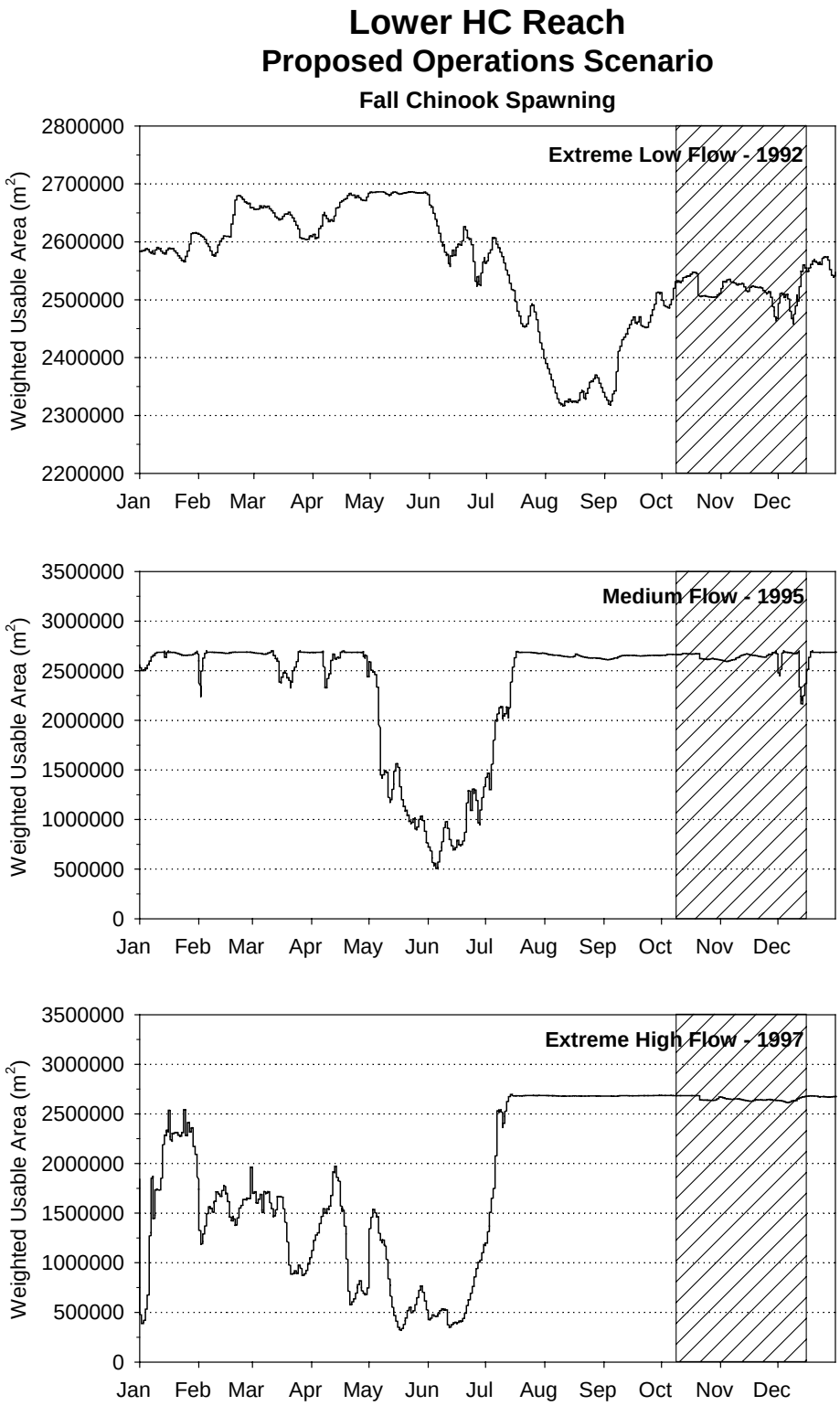


Figure 408. Total weighted usable area (WUA) under Proposed Operations Scenario for the fall Chinook spawning life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook spawning (October 7—December 15) is shown with cross-hatching for each year.

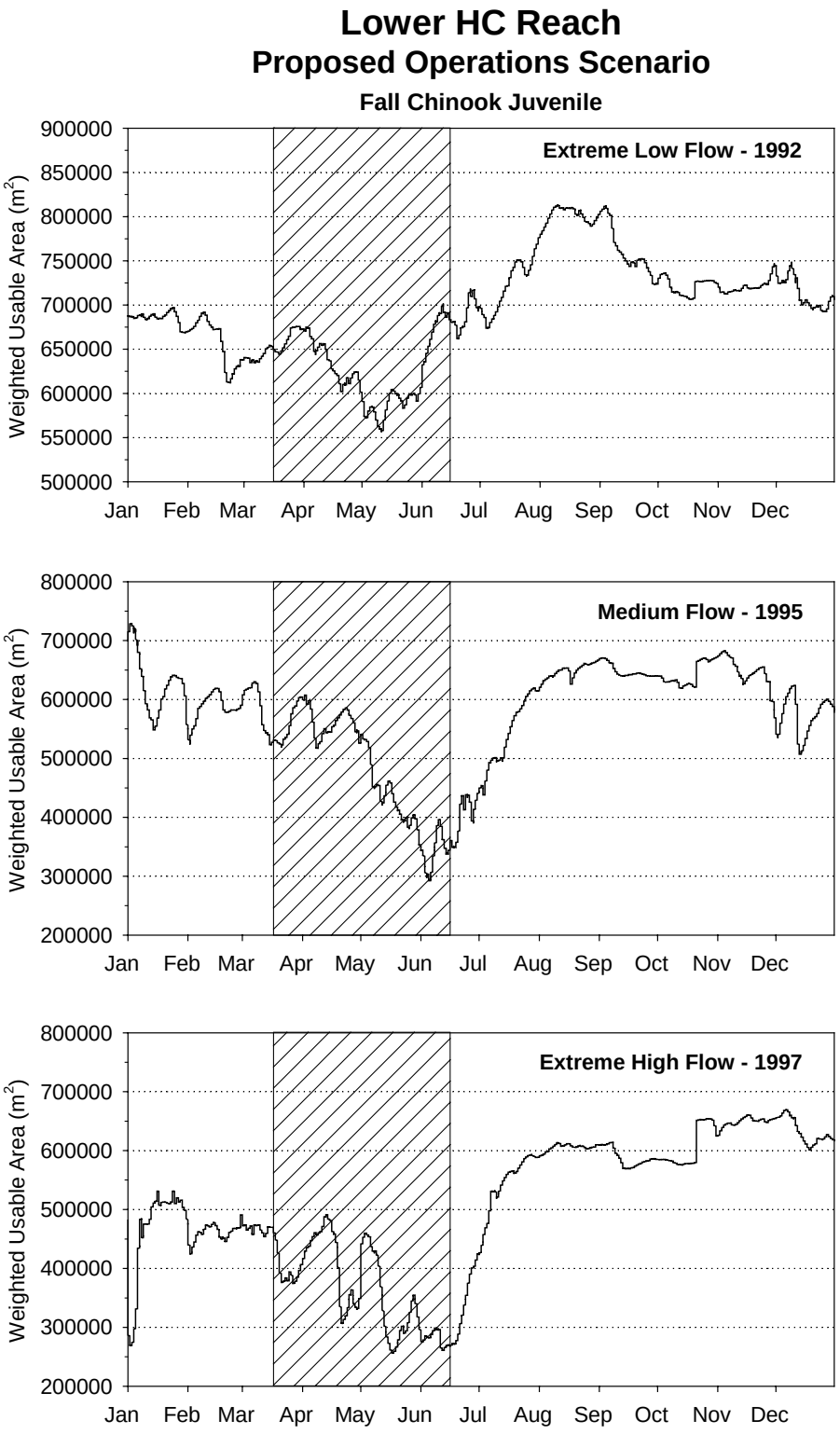


Figure 409. Total weighted usable area (WUA) under Proposed Operations Scenario for the fall Chinook juvenile life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

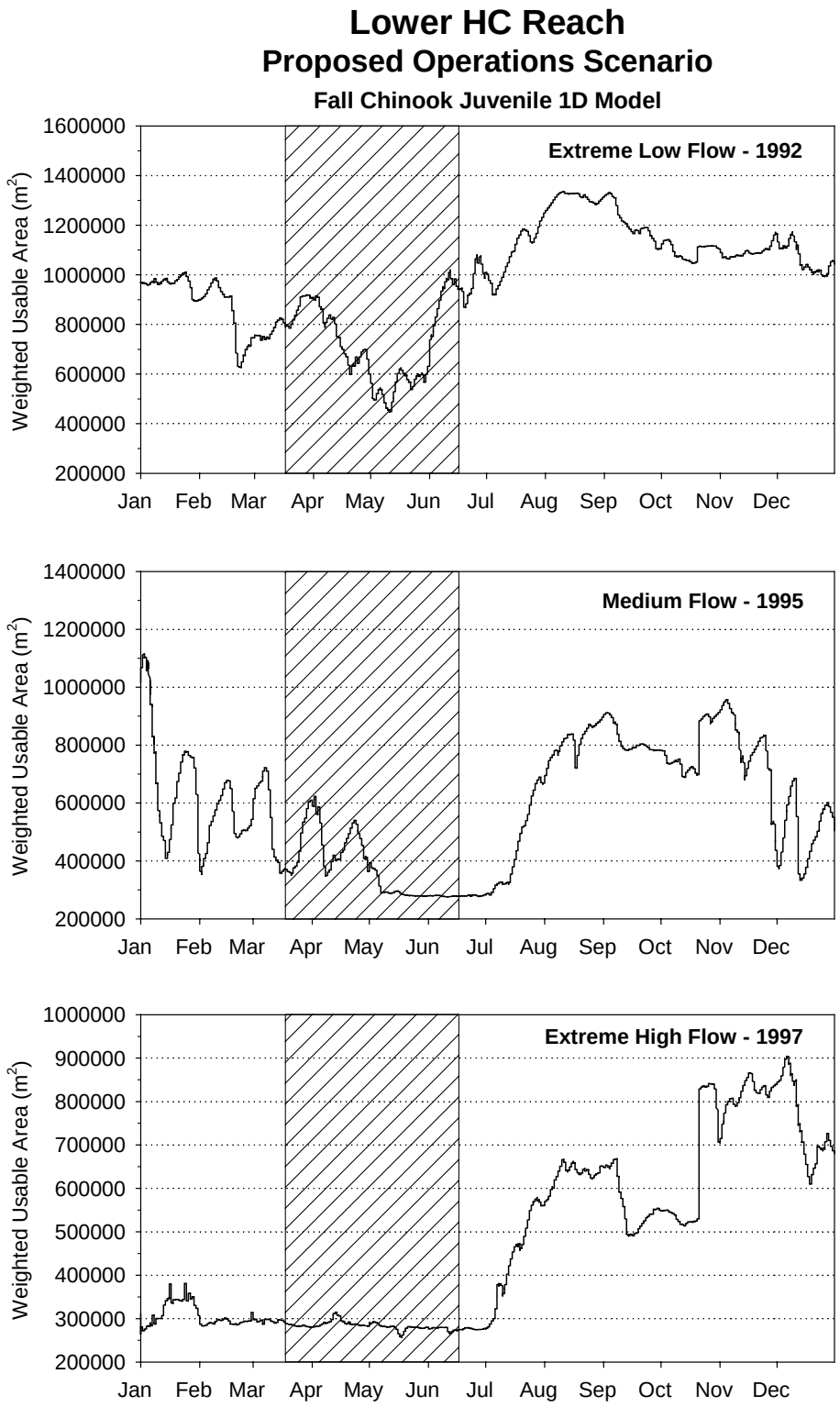


Figure 410. Total weighted usable area (WUA) under Proposed Operations Scenario for the fall Chinook juvenile life stage (determined with the 1D habitat model) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for fall Chinook juvenile (March 15—June 15) is shown with cross-hatching for each year.

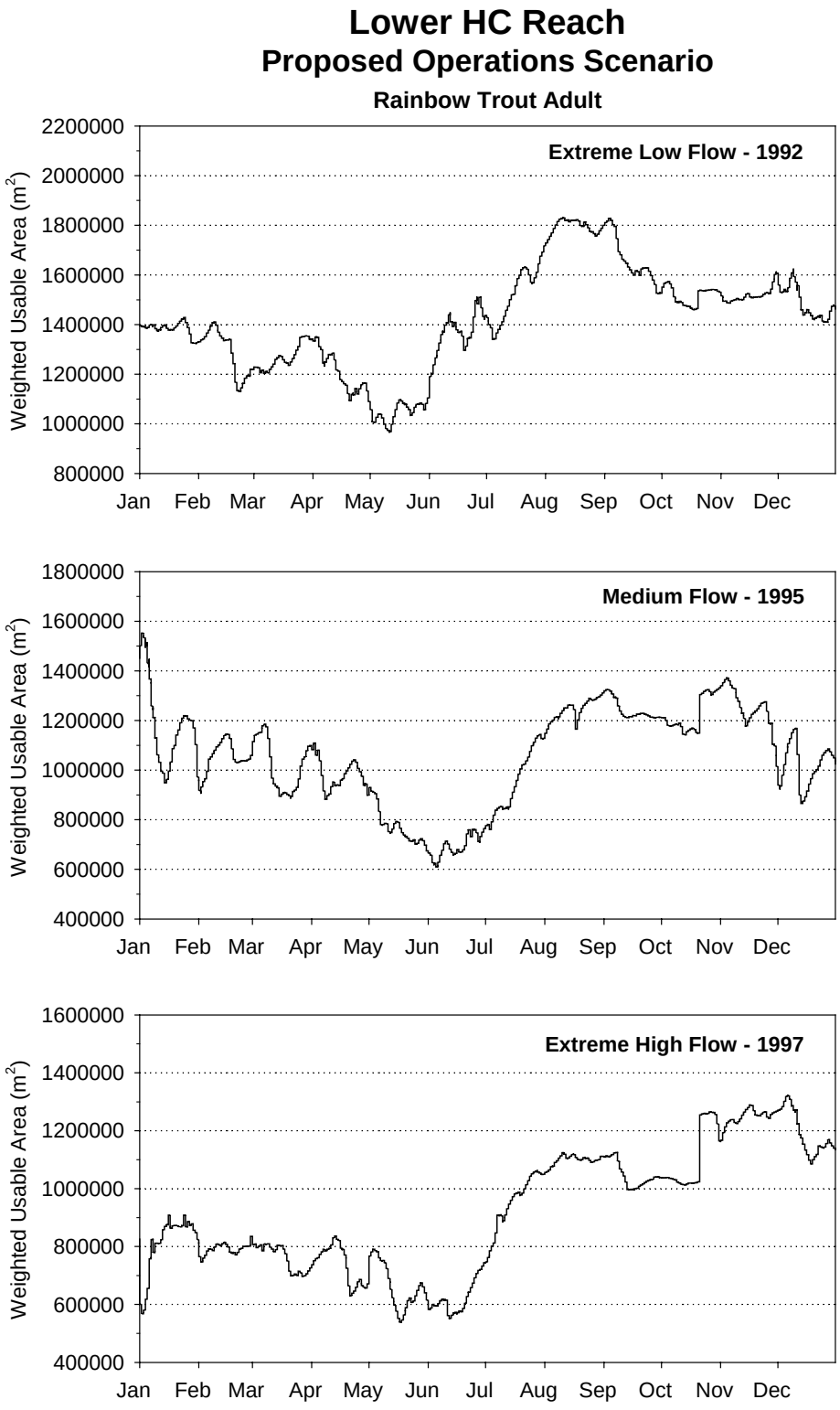


Figure 411. Total weighted usable area (WUA) under Proposed Operations Scenario for the rainbow trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult is shown from January 1—December 31.

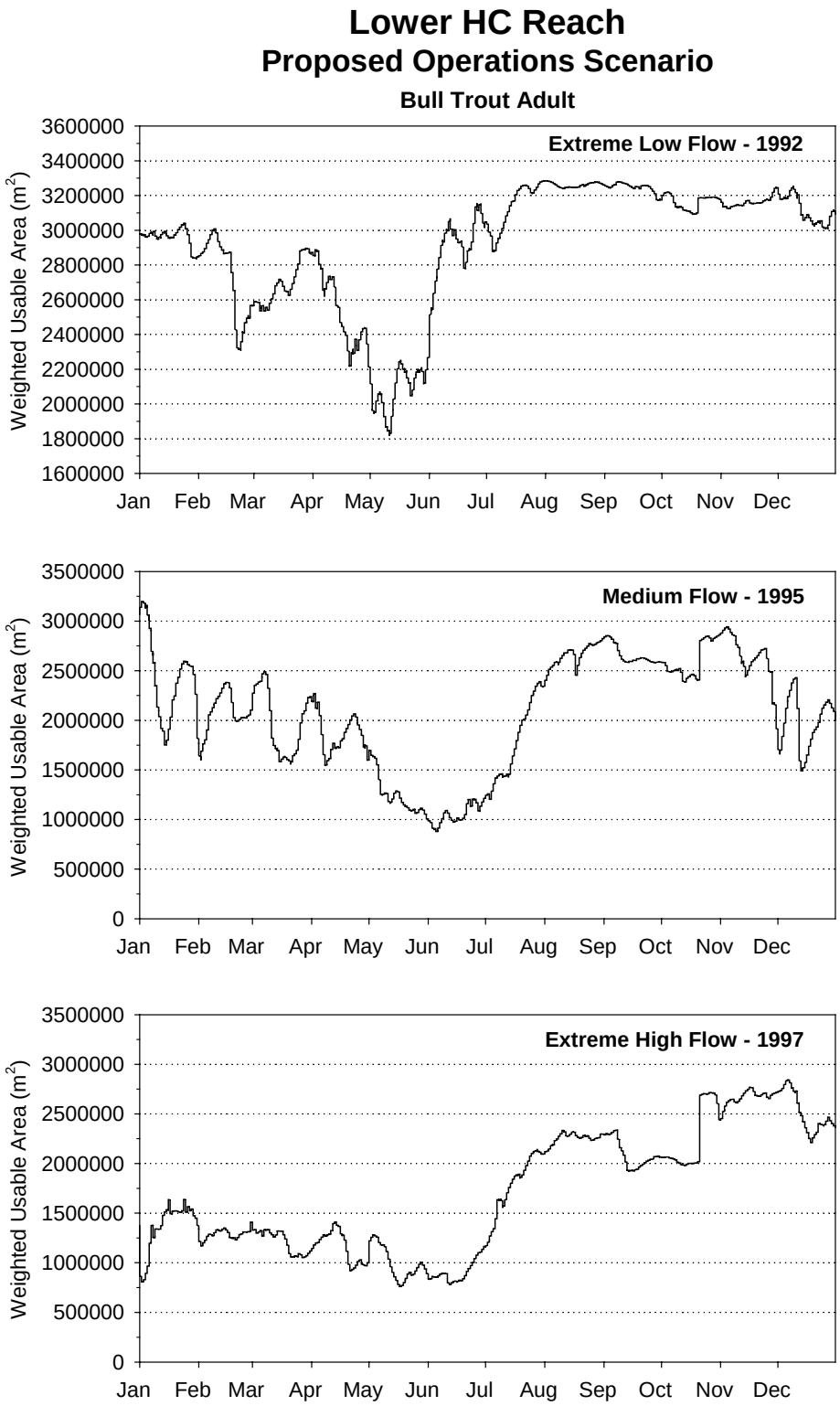


Figure 412. Total weighted usable area (WUA) under Proposed Operations Scenario for the bull trout adult life stage in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult is shown from January 1—December 31.

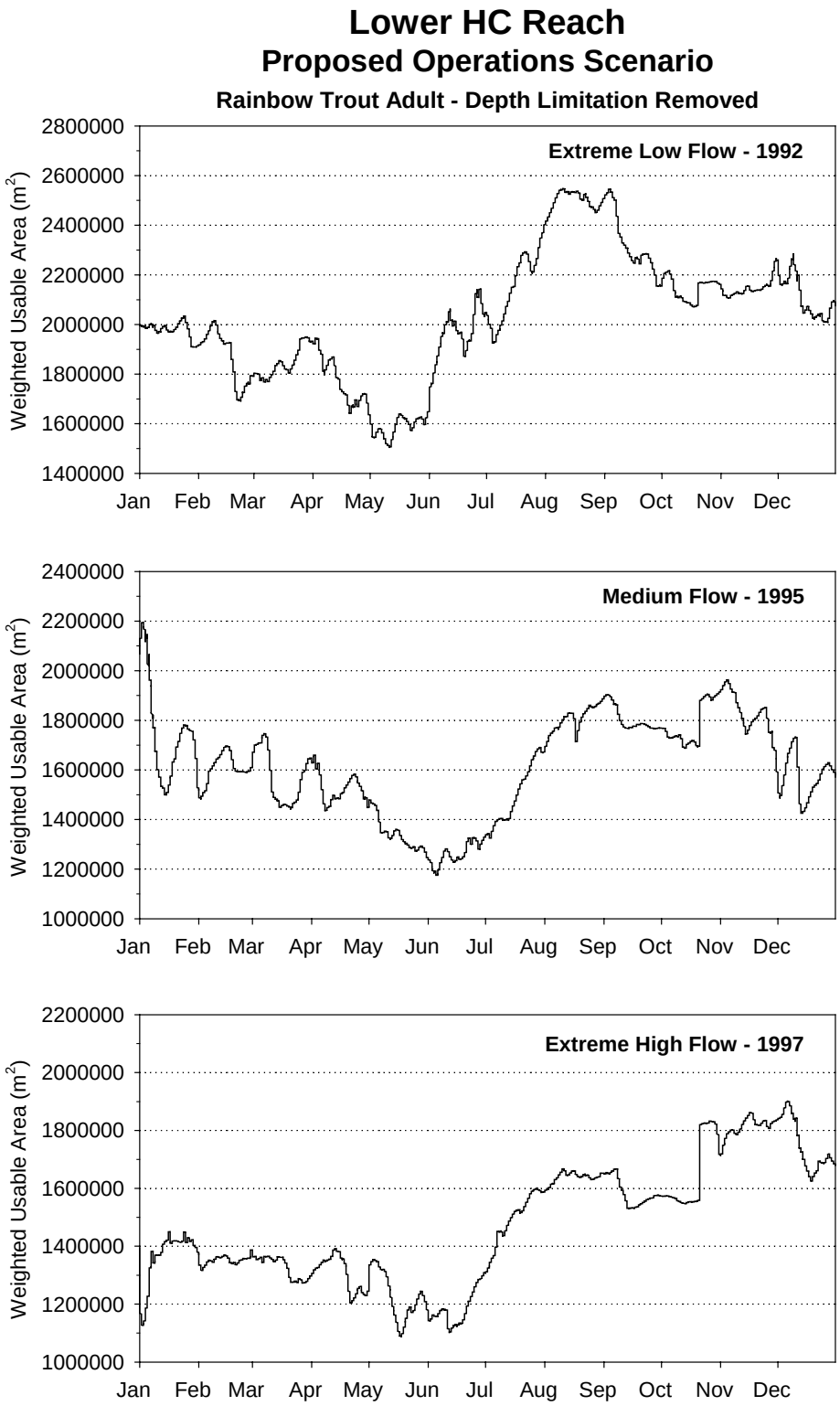


Figure 413. Total weighted usable area (WUA) under Proposed Operations Scenario for the rainbow trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for rainbow trout adult (depth limitation removed) is shown from January 1—December 31.

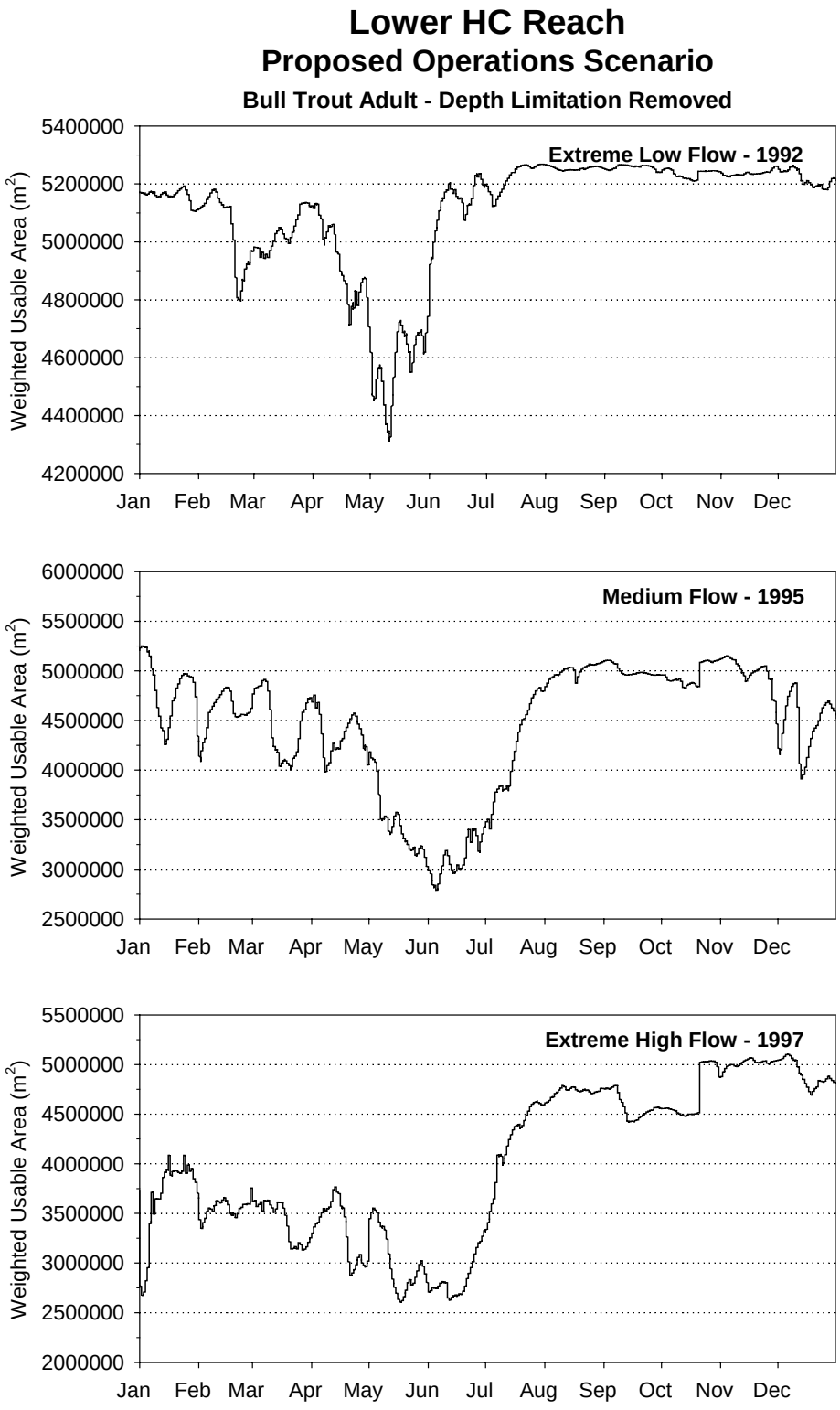


Figure 414. Total weighted usable area (WUA) under Proposed Operations Scenario for the bull trout adult life stage (depth limitation removed) in the lower HC reach, modeled under an extreme flow year of 1992 (top), a medium flow year of 1995 (middle), and an extreme high flow year of 1997 (bottom). The modeled periodicity for bull trout adult (depth limitation removed) is shown from January 1—December 31.

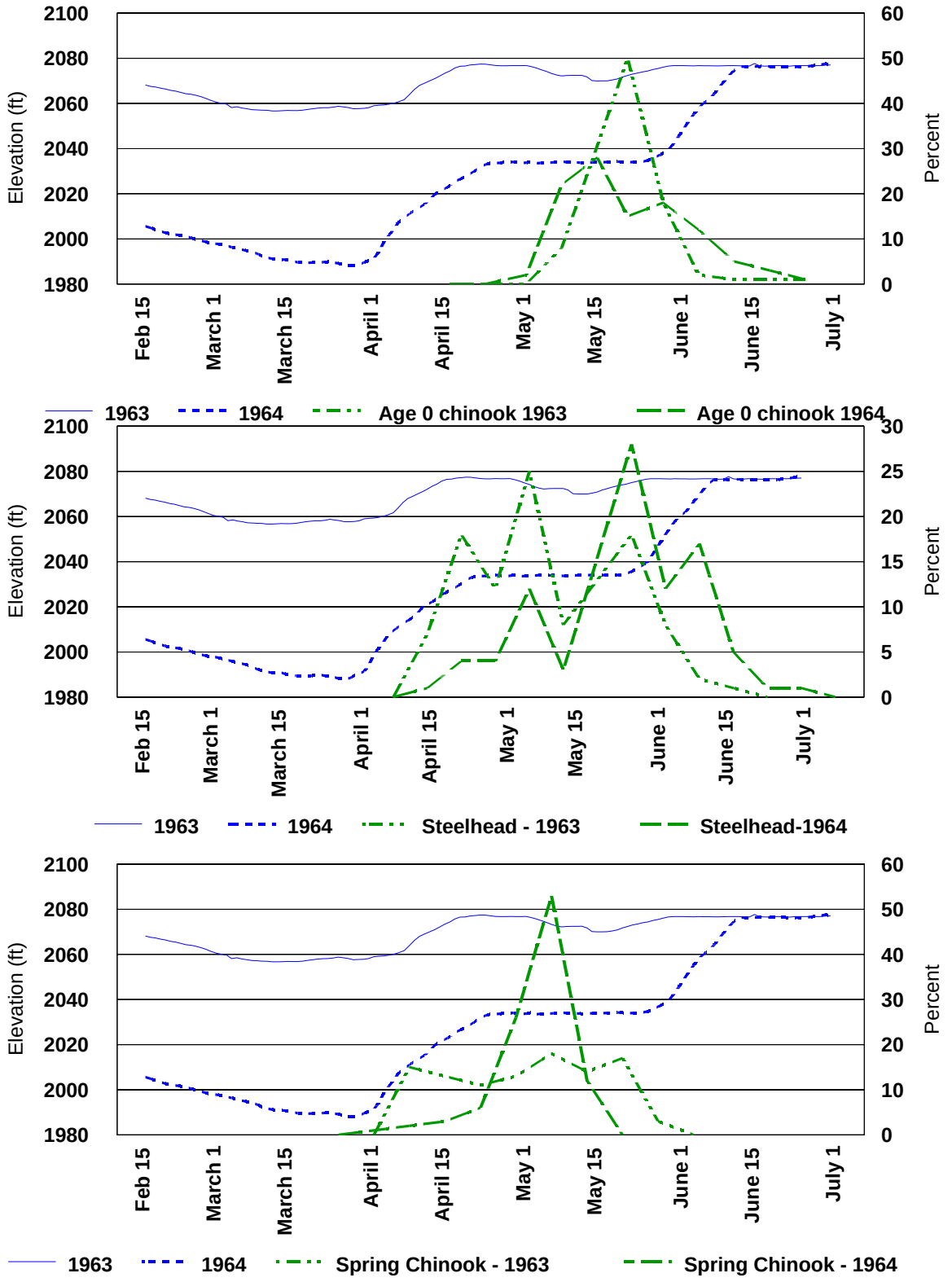


Figure 415. Brownlee reservoir elevation and timing of arrival (percent) of Age 0 fall Chinook salmon, spring Chinook salmon and steelhead at the upper end of Brownlee reservoir during 1963 and 1964.



Figure 416. Entrapment pool site at RM 242.0 (Battle Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs.



Figure 417. Entrapment pool site at RM 236.0 (Saddle Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the right edge, middle of the picture.



Figure 418. Entrapment pool site at RM 235.6 (Hat Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located right of center in the middle of the picture.



Figure 419. Entrapment pool site at RM 227.5 (Pine Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the right edge, middle of the picture.



Figure 420. Entrapment pool site at RM 224.9 (Little Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site is just off screen along the left edge, middle of the picture.



Figure 421. Entrapment pool site at RM 223.5 (Temperance Creek) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture.



Figure 422. Entrapment pool site at RM 222.8 (Suicide Point) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture.



Figure 423. Entrapment pool site at RM 220.1 (Yankee Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the right edge, middle of the picture.



Figure 424. Entrapment pool site at RM 216.5 (Fish Trap Bar) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located left of center, middle of the picture.



Figure 425. Entrapment pool site at RM 214.4 (lower Pittsburgh) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture.



Figure 426. Entrapment pool site at RM 201.9 (Five Pine) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site is just off screen along the left edge, middle of the picture.



Figure 427. Entrapment pool site at RM 191.7 (Imnaha River) in the Upper Hells Canyon reach. Video footage shot at a river flow or 5600 to 5800 cfs. Site located along the left edge, middle of the picture.

Oregon
Theodore R. Kulongoski, Governor

Department of Fish and Wildlife
Northeast Region
107 20th Street
La Grande, OR 97850
(541) 963-2138
FAX (541) 963-6670

January 19, 2005

Steve Brink
Idaho Power Company
P.O. Box 70
Boise, ID 83707

Re: Hells Canyon Complex, FERC Project No. 1971
Additional Information Request OP-1(f), Aquatic Resources Operational Scenarios

Dear Mr. Brink:

ODFW has authority pursuant to Section 10(j) of the Federal Power Act and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) to provide recommended terms and conditions to FERC regarding protection, mitigation, and enhancement of fish and wildlife and their habitat affected by operation and management of the Hells Canyon Complex Hydroelectric Project (HCC). In addition, ODFW's goals, objectives, and management authorities for the fish and wildlife populations affected by the Project are found in Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR) and associated management plans.

Within Additional Information Request OP-1, the Federal Energy Regulatory Commission (FERC) directs Idaho Power Company (IPC) to consult with the Oregon Department of Fish and Wildlife (ODFW), other agencies, and Tribes on its responses to part (f) of this AIR. FERC also directs IPC to include comments from consulted agencies in its response. ODFW would like to offer the following comments for your consideration in developing the final report for FERC.

ODFW does not consider IPC's request for ODFW review and comment on its draft response to AIR OP-1(f) "consultation". Consultation includes meeting with identified agencies and Tribes to discuss and seek input on components of the AIR request including data collection, assessment, and reporting.

IPC met with representatives of ODFW, the Idaho Department of Fish and Game, NOAA Fisheries and the United States Fish and Wildlife Service on September 22, 2004 to discuss its proposed methodology for evaluating the potential for fish stranding downstream of the Project. ODFW supported the proposed methodology including identifying and modeling areas that form pools.

Based on the modeling results presented in draft AIR OP-1(f), ODFW remains concerned with the potential for entrapment. ODFW's concern is greatest with the one-foot per hour ramping rate associated with proposed operations. Operational scenarios with a one-foot/hour ramping rate disconnected the most entrapment pool sites from the river channel and had the highest number of events per site. Additional information should be collected, however, to determine if entrapment occurs and the effect of entrapment on fall chinook salmon and other aquatic species. ODFW supports the additional monitoring IPC proposes to undertake in the spring of 2005. Additional monitoring includes snorkel surveys and recording of temperature and dissolved oxygen of entrapment pools as discussed and supported by the parties present on September 22, 2004.

IPC has not consulted with ODFW on its analysis of effects of reservoir drawdown on the survival rates of smolts migrating through Brownlee Reservoir. FERC asked IPC to evaluate the effect of year-round operation of Brownlee Reservoir at minimum operating pool on the potential rate of outmigration survival for fall and spring chinook salmon and steelhead smolts. Within its draft response, IPC indicates that the effect that year-round operations may have on the potential rate of outmigration survival for spring and fall chinook salmon and steelhead smolts is impossible to determine with the information available. IPC does speculate, however, that migration success under minimum operating pool would be better than observed in studies conducted by Raleigh and Ebel in 1963 and 1964.

IPC then refers to chapters of Technical Report E.3.1-2 for several assumptions used to estimate smolt production potential and survival rates through reservoir and free-flowing habitat for fish produced in tributaries above Hells Canyon Reservoir. Based on these assumptions and estimates of survival, IPC is able to offer a best survival estimate. ODFW, however, disagrees with some of the assumptions and numbers referenced by IPC in Technical Report E.3.1-2. Therefore, ODFW believes it would have been very beneficial for IPC to consult with the agency on this section of AIR OP-1(f).

ODFW recommends that information be collected on smolt migration success through Brownlee Reservoir along with data on smolt trapping efficiency within Brownlee and tributaries to all three HCC reservoirs. ODFW expects the fish passage technical subcommittee established during settlement negotiations to address this and other unknowns associated with both upstream and downstream fish passage.

Lastly, within subsection (ii) FERC requests that for each operational scenario, IPC provide hourly time series plots of weighted usable area (WUA) for each of the water years and each of the species and life stages modeled in the instream flow analysis. ODFW would also like IPC to provide mean hourly WUA by site data in tabular form in the final report.

Thank you for the opportunity to comment on this draft report. ODFW looks forward to working further with IPC to develop a long-term settlement agreement for relicensing the HCC. If you have any questions or need additional information please call me at (541) 963-2138.

Sincerely,

Colleen Fagan
Hydropower Coordinator
NE Region ODFW

Cc: Craig Ely, ODFW
Ken Homolka, ODFW
Alan Mitchnick, FERC
Scott Grunder, IDFG
Jim Esch, USFWS
Ritchie Graves, NOAA
Greg Haller, NPT

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
525 NE Oregon Street
PORTLAND, OREGON 97232-2737

F/NWR5

January 20, 2005

Craig Jones, Project Manager
Idaho Power Company
PO Box 70
Boise, ID 83707

Dear Mr. Jones:

The National Marine Fisheries Service (NOAA Fisheries) is pleased to provide you our enclosed comments regarding the Hells Canyon Complex Additional Information Request OP-1(e) (Operational Scenarios – Water Quality) and OP-1(f) (Operational Scenarios – Aquatic Resources). We look forward to working with Idaho Power Company in the coming months on these issues.

Sincerely,

for Keith Kirkendall, Chief
FERC and Water Diversions Branch
Hydropower Division

Enclosures

cc: Ralph Myers, IPC
Steve Brink, IPC

NOAA Fisheries' Comments on Idaho Power Company's Response to FERC Additional Information Request OP-1(f): Operational Scenarios – Aquatic Resources.

January 20, 2005

NOAA Fisheries appreciates Idaho Power Company's (IPC) effort to comply with FERC Additional Information Request OP-1(f) by providing information relevant for the evaluation of Hells Canyon Complex (HCC) operations on aquatic resources. To assist IPC in this effort, NOAA Fisheries offers the following comments.

General Comment

1. The discussion of survival through various reaches contained in this report necessarily utilizes a number of assumptions. NOAA Fisheries, in the following comments, has attempted to communicate more refined estimates of many of these estimates – especially those pertaining to survival through free-flowing reaches and through the first reservoir encountered by juvenile fall chinook salmon. The brevity of these comments will likely result in questions by IPC staff. We suggest that a follow-up meeting between NOAA Fisheries and IPC technical staff (and other interested parties) would be an appropriate and productive way of assuring that FERC receives information constituting the best scientific information available.

2. The available information clearly indicates that the survival of juvenile Snake River fall chinook salmon migrating in the Snake River below Hells Canyon Dam is related to environmental factors (temperature, flow, and turbidity) experienced by these migrants, as well as the size of individuals when they begin to migrate. Simply put, subyearlings which migrate earlier have higher survival rates than those which migrate later, and larger fish survive at higher rates than do smaller fish. Based on these strong correlations, we believe that future survival rates in this reach would likely be higher than those currently estimated if a selective withdrawal structure at Brownlee Reservoir could effectively warm late-winter and spring temperatures. In addition, we believe that survival rates of fall chinook salmon originating upstream of the HCC would similarly tend to survive at higher rates than those observed for migrants at present. These likelihoods are not fully considered in the draft report.

2.3 Response to OP-1(f)(iii) - Brownlee Passage

3. On page 9, IPC notes that its estimate of the production potential of habitat between Brownlee Reservoir and Swan Falls Dam is about 1.8 million fall chinook salmon smolts. While NOAA Fisheries appreciates the amount of effort expended by IPC staff to provide these estimates, we believe that they substantially underestimate the fall chinook salmon smolt production potential of this reach. We understand that, at present, water quality parameters likely limit

mainstem production in the ***115-mile*** reach upstream of Brownlee Reservoir. However, as substantial progress is made to improve these limiting factors through the implementation of total maximum daily loads (TMDLs), we believe that the number of juveniles that might be produced by this habitat would likely be comparable to juvenile production in the ***51-mile*** Hanford Reach of the Columbia River. Fry production estimates have exceeded 60 million in this reach in recent years. Assuming an estimated fry-to-migrant smolt survival of 30%, this translates into 18 million smolts – an order of magnitude greater than the current IPC estimate for a much longer reach in the Snake River.[1] We therefore think that it is reasonable to consider the number of adults available for spawning (which is, IPC correctly points out, a product of survival through each life history phase) as the likely future limitation on productivity upstream of Brownlee Reservoir.

4. On page 10, you estimate survival for actively migrating fall chinook salmon smolts in a free-flowing river to be .998156 per kilometer, or about .80 for the 121 km reach between Pittsburg Landing and the upper end of Lower Granite Reservoir. Based on the most recent information identified as part of the 2004 Federal Columbia River Power System Biological Opinion, NOAA Fisheries has determined, based on comparisons between all Pittsburg Landing and Billy Creek/Asotin releases of hatchery fish, that 0.998676325 per km is the best estimate available for survival in the free-flowing Snake River at present. We suggest using this number in your analysis wherever an estimate of survival in free-flowing river segments is needed.

   In addition, there is substantial evidence that earlier migration or migration at a larger size would result in even higher survival rates – which is likely if either a temperature control structure at Brownlee Reservoir would successfully warm late-winter spring temperatures within existing fall chinook salmon spawning habitat downstream of the HCC and/or fall chinook salmon were reintroduced above the HCC. We believe that this estimate should be viewed as fairly conservative when evaluating future survival of migrating fall chinook salmon smolts. A better estimate for this purpose would likely be that noted in section 2.3.2.3 of the draft report (.9994 / km), which is closer to the maximum survival rate observed in the free-flowing river reach downstream of the HCC.

5. Based on the new estimate of survival in the free-flowing reaches, the estimate of survival through the 52-km Lower Granite Reservoir (LGR) presented on page 11 would be .763 rather than .81. Because fall chinook salmon currently utilize LGR (the first reservoir encountered) as a rearing area for extended periods of time, survival in this reservoir is the lowest per km of any reservoir in the Snake River. NOAA Fisheries suggests that this estimate might be most applicable to survival through Brownlee Reservoir (and we agree that even this might be optimistic) if reintroduction occurred, but that higher survival estimates, akin to those seen at the other lower Snake River projects, would most likely represent survival

[1]Hanford Reach fry production and fry to smolt survival estimates were provided by Paul Hofarth (Washington Dept. of Fish and Wildlife) via personal communication on January 19, 2005.

through Hells Canyon and Oxbow reservoirs, and in LGR as well (as these fish would presumably have reared in Brownlee Reservoir and are unlikely to do so again). We would further advise that LGR would continue to act as a rearing area for those fish originating downstream of HCC, but that with a selective withdrawal structure at Brownlee Reservoir, future survival would be expected to be higher than is presently the case.

6. Page 12 of the draft report indicates that all inflows would have to be passed via the spillway under Operational Scenario 5. Please explain, as this was not NOAA Fisheries' intent when advocating for this scenario to be modeled. Our intent was that "minimum pool" would not preclude the operation of the turbine units. This difference in interpretation is substantial and should be addressed immediately.

2.4. Response to OP-1(f)(iv) - Fish Stranding

7. We appreciate IPC's efforts to model the 12 potential stranding sites identified in this report, and IPC's commitment to follow through on this issue with additional field work in 2005. We recommend that IPC model the proposed operation and include these results in the final report for comparative purposes (assuming that none of the scenarios modeled can act as a surrogate). We believe that this would be necessary information to support FERC's NEPA document, as well as to assess the impact of this operation in a future Endangered Species Act consultation.

8. We suggest, for the sake of clarity, that IPC include an additional summary table immediately after table 122 that provides identical information, but is limited to only those sites which are thought to be fall chinook salmon rearing habitat. This would provide a better summary tool for assessing the potential impacts to fall chinook salmon juveniles.

9. Lastly, NOAA Fisheries recommends that IPC include a table which provides information regarding the relative size of the various entrapment sites so that FERC and the agencies are better able to assess the potential impacts to fall chinook salmon juveniles and evaluate the tradeoffs associated with the different operational scenarios. For example, operating to minimize entrapment events at a relatively large, highly used rearing area might be more protective than operating to minimize entrapment events at multiple small, less used rearing areas (or entrapment areas are not likely to be utilized).

IDAHO POWER COMPANY
P.O. BOX 70
BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

David Henderson
Bureau of Land Management
100 Oregon Street
Vale, OR 97918

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Henderson:

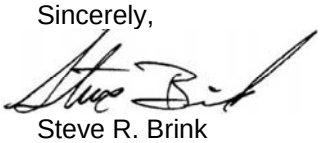
In a letter dated May 4, 2004, the Federal Energy Regulatory Commission (FERC) issued to Idaho Power Company (IPC) an additional information request (AIR) for the Hells Canyon New License Application.

In AIR OP-1(f), the FERC requested specific information related to operational scenarios and aquatic resources and directed IPC to consult with various entities (see attached list) about its response to the AIR. Therefore, IPC is requesting your review and comments regarding the draft response to AIR OP-1(f).

The draft response is enclosed on a CD. The FERC has directed IPC to provide a 30-day review and comment period on this draft response. Because of the tight time constraints imposed by the FERC for this AIR, your comments must be delivered to me by no later than January 19, 2005 for inclusion in the final response to this AIR that will be filed with the FERC. Comments received after this 30-day review period may not be included in the final response.

Please contact me if you have questions or need clarification.

Sincerely,



Steve R. Brink
Fisheries Biologist

SRB/da
Enclosures
Cc: Jim Chandler, IPC
Jim Tucker, IPC
Nathan Gardiner, IPC
Craig Jones, IPC
Jim Vasile, DWT

IDAHO POWER COMPANY
P.O. BOX 70
BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Dorothy Mason
Bureau of Land Management
3165 10th Street
Baker City, OR 97814

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Ms. Mason:

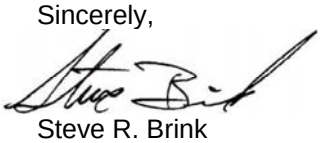
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Please contact me if you have questions or need clarification.

Sincerely,



Steve R. Brink
Fisheries Biologist

SRB/da
Enclosures
Cc: Jim Chandler, IPC
Jim Tucker, IPC
Nathan Gardiner, IPC
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Jim Vasile, DWT

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BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Albert Teeman
Burns-Paiute Tribe
100 Pasigo Street
HC 71
Burns, OR 97720

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Teeman:

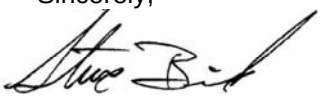
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Steve R. Brink
Fisheries Biologist

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BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Robert Lothrop
Columbia River Inter-Tribal Fish Commission
729 NE Oregon Street, Suite 200
Portland, OR 97232

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Lothrop:

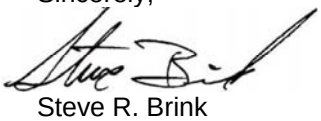
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Fisheries Biologist

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Steve R. Brink
Fisheries Biologist
Environmental Affairs

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Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Gary Burke
Confederated Tribes of the Umatilla Indian Reservation
PO Box 638
Pendleton, OR 97801

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Burke:

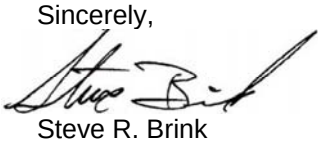
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Fisheries Biologist

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Craig Jones, IPC
Jim Vasile, DWT

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P.O. BOX 70
BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Don Sampson
Confederated Tribes of the Umatilla Indian Reservation
PO Box 638
Pendleton, OR 97801

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Sampson:

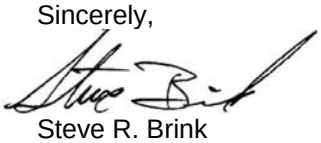
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Fisheries Biologist

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Enclosures
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Craig Jones, IPC
Jim Vasile, DWT

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BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Tribal Chairman
Confederated Tribes of the Warm Springs
PO Box C
Warm Springs, OR 97761-0078

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Chairman:

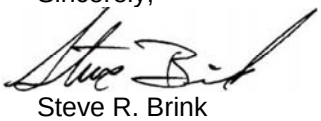
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Fisheries Biologist

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P.O. BOX 70
BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Kate Kelly
Idaho Department of Environmental Quality
1445 North Orchard
Boise, ID 83706-2239

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Ms. Kelly:

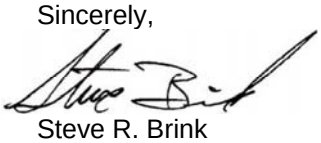
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Fisheries Biologist

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BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Tracey Trent
Idaho Department of Fish and Game
600 South Walnut
PO Box 25
Boise, ID 83702

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Trent:

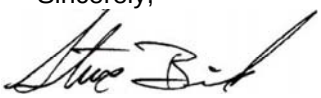
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Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Rick Eichstaedt
Nez Perce Tribe
PO Box 305
Lapwai, ID 83540

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Eichstaedt:

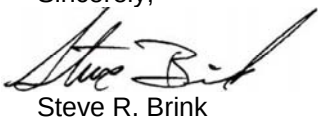
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Steve R. Brink
Fisheries Biologist
Environmental Affairs

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Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Ritchie Graves
NOAA Fisheries
525 NE Oregon Street, Suite 500
Portland, OR 97232

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Graves:

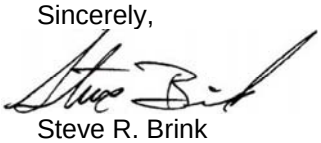
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Fisheries Biologist

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Steve R. Brink
Fisheries Biologist
Environmental Affairs

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Fax 208-388-6902
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December 17, 2004

Bob Lohn
NOAA Fisheries
525 NE Oregon Street, Suite 500
Portland, OR 97232-2737

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Lohn:

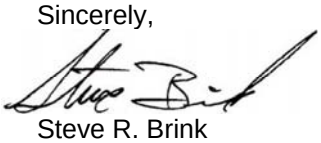
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Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
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E-Mail sbrink@idahopower.com

December 17, 2004

Paul DeVito
Oregon Department of Environmental Quality
2146 NE Fourth Street, Suite 104
Bend, OR 97701

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr DeVito:

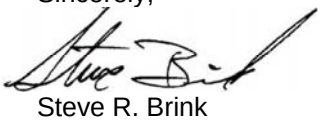
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Steve R. Brink
Fisheries Biologist
Environmental Affairs

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Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Colleen Fagan
Oregon Department of Fish and Wildlife
107 20th Street
La Grande, OR 97850

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Ms. Fagan:

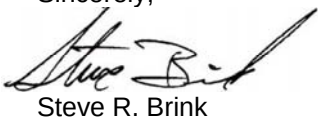
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Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Frederick Auck
Shoshone-Bannock Tribe
PO Box 306
Fort Hall, ID 83203

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Auck:

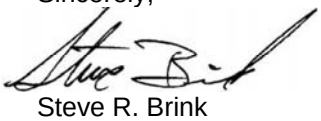
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Jim Tucker, IPC
Nathan Gardiner, IPC
Craig Jones, IPC
Jim Vasile, DWT

IDAHO POWER COMPANY
P.O. BOX 70
BOISE, IDAHO 83707

Steve R. Brink
Fisheries Biologist
Environmental Affairs

Phone 208-388-2224
Fax 208-388-6902
E-Mail sbrink@idahopower.com

December 17, 2004

Donald Clary
Shoshone-Paiute Tribe
633 West Fifth Street Twenty-First Floor
Los Angeles, CA 90071-2040

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Clary:

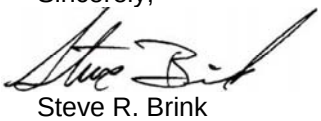
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In AIR OP-1(f), the FERC requested specific information related to operational scenarios and aquatic resources and directed IPC to consult with various entities (see attached list) about its response to the AIR. Therefore, IPC is requesting your review and comments regarding the draft response to AIR OP-1(f).

The draft response is enclosed on a CD. The FERC has directed IPC to provide a 30-day review and comment period on this draft response. Because of the tight time constraints imposed by the FERC for this AIR, your comments must be delivered to me by no later than January 19, 2005 for inclusion in the final response to this AIR that will be filed with the FERC. Comments received after this 30-day review period may not be included in the final response.

Please contact me if you have questions or need clarification.

Sincerely,



Steve R. Brink
Fisheries Biologist

SRB/da
Enclosures
Cc: Jim Chandler, IPC
Jim Tucker, IPC
Nathan Gardiner, IPC
Craig Jones, IPC
Jim Vasile, DWT

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December 17, 2004

Jeffery Foss
U.S. Fish and Wildlife Service
1387 South Vinnell Way, Suite 368
Boise, ID 83709

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Mr. Foss:

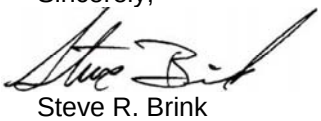
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Fisheries Biologist

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December 17, 2004

Forest Supervisor
Wallowa-Whitman National Forest
1550 Dewey Avenue
PO Box 907
Baker City, OR 97814

Re: Hells Canyon Additional Information Request OP-1(f) – Aquatic Resources

Dear Forest Supervisor:

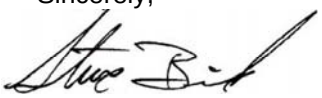
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Idaho Power Company
Hells Canyon Complex (FERC Project No. 1971)
Additional Information Request OP-1(f) - Consulting Entities List

David Henderson	Bureau of Land Management
Dorothy Mason	Bureau of Land Management
Albert Teeman	Burns-Paiute Tribe
Robert Lothrop	Columbia River Inter-Tribal Fish Commission
Gary Burke	Confederated Tribes of the Umatilla Indian Reservation
Don Sampson	Confederated Tribes of the Umatilla Indian Reservation
Tribal Chairman	Confederated Tribes of the Warm Springs
Kate Kelly	Idaho Department of Environmental Quality
Tracey Trent	Idaho Department of Fish and Game
Rick Eichstaedt	Nez Perce Tribe
Ritchie Graves	NOAA Fisheries
Bob Lohn	NOAA Fisheries
Paul DeVito	Oregon Department of Environmental Quality
Colleen Fagan	Oregon Department of Fish and Wildlife
Frederick Auck	Shoshone-Bannock Tribe
Donald Clary	Shoshone-Paiute Tribe
Jeffery Foss	U.S. Fish and Wildlife Service
Forest Supervisor	Wallowa-Whitman National Forest