5.0 STAFF'S CONCLUSIONS

5.1 COMPREHENSIVE DEVELOPMENT AND RECOMMENDED ALTERNATIVE

Sections 4(e) and 10(a) of the FPA, 16 U.S.C. 797(e) and 803(a)(1), require the Commission to give equal consideration to developmental and non-developmental uses of the waterway on which a project is located. When we review a hydropower project, we consider the water quality, fish and wildlife, recreational, and other non-developmental values of the waterway equally with the project's electric energy and other developmental values.

This section presents our rationale in balancing the developmental and non-developmental values and our recommendations for a plan that, in our judgment, would be best adapted to the comprehensive development of the waterway. Our analysis considers the comparative environmental effects of the alternatives (Chapter 3.0), their economic viability (Chapter 4.0), and their consistency with relevant agency recommendations, comprehensive plans, and laws and policies (sections 5.2, 5.3, and 5.4, respectively).

Based on our independent review and analysis of the Projects, the measures proposed by Avista, and the additional measures recommended by agencies and other stakeholders, we recommend relicensing the Projects as proposed with our additional or modified staff-recommended environmental measures (Staff Alternative) as discussed below.

We are recommending the Staff Alternative because: (1) issuance of a new hydropower license(s) would allow Avista to continue to operate the Projects as a dependable source of electric energy for its customers; (2) the 137.65-MW Projects would avoid the need for an equivalent amount of fossil-fuel-fired electric generation and capacity elsewhere, continuing to help conserve these non-renewable energy resources while reducing atmospheric pollution; (3) the public benefits of the Staff Alternative would exceed those of the No-Action Alternative; and (4) the recommended measures would protect and enhance fish, wildlife, and cultural resources and would provide improved recreation opportunities at the Projects.

5.1.1 Post Falls Project Recommendations

5.1.1.1 Measures Proposed by Avista

Avista has proposed a comprehensive set of PMEs for the Post Falls Project. Through our analysis in Chapter 3.0, we evaluated those PMEs along with

stakeholder recommendations pertaining to several of those measures. We recommend that the following environmental measures proposed by Avista be included in any license issued for the Project:

Operational Measures

- Implement parts 1, 2, and 3 of PF-AR-1: Post Falls Project Fish Protection, Mitigation, and Enhancement Program.

    - *Post Falls Project Minimum Discharge Flow:* Avista would maintain a 600-cfs minimum discharge flow at the Post Falls Project, with the option to maintain a 500-cfs flow under low-flow conditions.

    - *Post Falls Project Spawning and Emergence Flows:* Avista would be required to comply with the Post Falls Project discharge levels as outlined in the Upper Spokane River Rainbow Trout Spawning and Fry Emergence Protection Plan.

    - *Post Falls Project Ramping Rate:* Avista would be required to maintain a maximum allowable per-hour discharge downramping rate at the Post Falls Project of no more than a 4-inch-per-hour drop.

    - *Post Falls Gage:* Avista would cooperate with the USGS to equip the Post Falls gage (gage no. 12419000) on the Spokane River to provide real-time flow information.

Aquatic Resource Measures

- Develop and implement a Coeur d'Alene Lake Aquatic Weed Management Program (as part of a Coeur d'Alene Lake aquatic weed management plan; see below).

Water Quality Measures

- Implement the Total Dissolved Gas Control and Mitigation Program (PF-WQ-1), which includes a TDG Control and Mitigation Program, spill gate operating protocols, and TDG monitoring and evaluation.

Terrestrial and Geologic Resource Measures

- Implement Avista's proposed measure PF-TR-1, Coeur d'Alene Lake and Tributary Erosion Control and Wetland and Riparian Habitat Protection and Enhancement, which involves two components:

    - Erosion Control Program.

    - Wetlands and Riparian Habitat Protection and Enhancement Program.

- Annually monitor bald eagle nests for occupancy and nesting productivity; annually survey for new bald eagle nests; and develop Bald Eagle Nest Management Plans, all on Project lands (both Post Falls and Spokane River Projects).

Aesthetic Resource Measures

- Provide aesthetic flows at the Post Falls Project through the north channel spill gates (approximately 46 cfs) on Saturdays and Sundays from 12 noon until 6 p.m., Memorial Day weekend through Labor Day.

Land Use and Management Measures

- At the Post Falls Project, add 2,352 acres (currently within the 2,128-foot contour) to and remove 0.5 acre of private land east of the abandoned Corbin Ditch from the Project boundary as currently licensed.

Recreation Resource Measures

Coeur d'Alene Recreation Protection, Mitigation, and Enhancement (PF-REC-2)

- At Falls Park, improve the trail system, scenic overlooks, interpretive displays, and fencing.

- At Q'emiln Park, improve the trail system, scenic overlooks, interpretive displays, fencing, and parking.

Post Falls/Spokane River Recreation Protection, Mitigation, and Enhancement (PF-REC-3)

- Coordinate the late-spring and fall flow releases from the Post Falls Project to extend whitewater boating opportunities on the Spokane River and provide scheduled boating flow releases on up to two weekends in August.

Post Falls Project Public Outreach (PF-REC-4)

- Prepare and implement an Interpretation and Education Plan with provisions for interpretive signs, public information, boating and recreational safety information, and coordination with relevant agencies that provide interpretation and educational materials/services.

- Conduct recreational use surveys at the Project every 6 years.

Cultural Resource Measures

- Develop and implement the HPMP (SR-CR-1).

- Implement a PA that stipulates the preparation and filing of an HPMP for the Project after license issuance.

- Implement Avista's alternative to BIA's cultural resources measure requiring Avista to prepare and implement an HPMP for NHPA-eligible cultural resources within the APE of Coeur d'Alene Indian reservation. Avista's alternative would limit the treatment of cultural resources within the Project boundary and would not extend above the 2,128-foot elevation line.

5.1.1.2 Staff-Recommended Measures

In the Staff Alternative, we also include the following additions or modifications to Avista's proposed environmental PME measures:

Water Quality Measures

- Develop and implement a Water Quality Monitoring Plan to collect water temperature and DO data in Coeur d'Alene Lake for the first 5 years of any license that is issued for the Project. This plan would include monitoring areas of the lake within the Coeur d'Alene Indian reservation and areas outside of the reservation.

- Develop a Water Quality Monitoring Plan to collect water temperature and flow data in the Spokane River for the first 5 years of any license that is issued for the Project. This plan would include monitoring the Spokane River from the Post Falls tailrace to river mile 84.

Aquatic Resource Measures

- Evaluate the effectiveness of the 4-inch-per-hour downramping rate and prepare and file a Post Falls Project Ramping Rate Report after implementation of the 4-inch-per-hour downramping rate.

- Develop and implement a Post Falls Fisheries Public Education and Outreach Program Plan specific to native fish species upstream of the Post Falls Project.

- Develop and implement a Coeur d'Alene Lake Aquatic Weed Management Plan.[1]

[1] Avista proposes a cooperative agreement and capped funding commitment with a third party to implement this plan. Although we have no objection to Avista entering into a cooperative agreement with a third party to undertake the measures, Avista, as a licensee, would be solely responsible for ensuring that the measures included in the plan are implemented. The types of measures that we envision Avista implementing under this plan are consistent with Avista's stated preference to perform education, monitoring, and management of aquatic noxious weeds as identified in its PME measure PF-AR-2. We acknowledge Avista's desire to limit expenditures and recommend that the spending cap for developing

Terrestrial and Geologic Resource Measures

- Incorporate a Bald Eagle Educational and Interpretive Program into Avista's proposed Post Falls Interpretation and Education Plan to be developed under PF-REC-4.

- Survey Project lands and incorporate provisions to control noxious weeds into Avista's proposed Land Use Management Plan to be developed under PF-LU-1.

- Modify Avista's proposal to survey, monitor, and develop Nest Management Plans for bald eagles so these activities are not limited to Project lands (except on-the-ground enhancements).

Cultural Resource Measures

- Provide a schedule in the HPMP to evaluate all remaining cultural resources for National Register eligibility and resolve all adverse effects to historic properties. The schedule should prioritize site-specific measures for the resolution of Project-related adverse effects to the 71 archaeological sites and other standing structures already considered eligible for inclusion in the National Register. This measure would include prioritizing other archaeological resources that remain unevaluated for National Register eligibility, based on need.

- Include a program in the HPMP to conduct cultural resource monitoring of historic properties, places known to contain human remains, and areas known to be at high risk from erosion and looting within the Projects' APE.

- Include a program in the HPMP to assess and protect cultural resources that are being adversely affected by erosion (as well as other related adverse effects, such as pothunting, looting, or unauthorized collecting) above the 2,128-foot elevation line and expand the APE as necessary to include the affected sites. This program would be integrated with the monitoring program above.

- Include a program in the HPMP to safeguard against pothunting, looting, and unauthorized collecting on affected archaeological sites.

- Include a curation program in the HPMP for appropriate treatment of cultural resource material that is suitable to both the Coeur d'Alene Tribe and the Spokane Tribe of Indians.

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and implementing the Coeur d'Alene Lake Aquatic Weed Management Plan be included in any new license issued for guidance purposes only. Further, we recommend that the Center for Justice/Sierra Club and CELP be included in the list of parties to be consulted with during plan development.

Recreation Resource Measures

- Develop and implement a final Recreation Plan for the Post Falls Project with provisions for new or improved recreation facilities, public access, signage, and periodic monitoring and site clean-up at the recreation sites, and/or an assessment and implementation of a "carry-in/carry-out" policy for the public to carry out their trash. A "carry-in/carry-out" policy could minimize costs incurred with recreation site clean-up.

Land Use and Management Measures

- Develop and implement a final Land Use Management Plan for the Post Falls Project with provisions for identification of land use categories and associated acres, a buffer zone, and a provision to implement the USFWS-recommended Noxious Weed Management Program.

5.1.1.3 Discussion of Key Issues and Measures Proposed by Stakeholders

A complete summary and analysis of the measures proposed by Avista and others can be found in the applicable resource sections of Chapter 3.0. In addition to measures proposed by Avista, we recommend several additional measures that are listed in section 5.1.1.2. The following subsections summarize the basis for the Staff Alternative measures and discuss Avista's proposed measures that we do not recommend be made provisions of any new license.

Coeur d'Alene Lake Levels

We recommend adopting Avista's proposal and the Coeur d'Alene Lakeshore Property Owners recommendation to operate the Post Falls Project to continue to maintain Coeur d'Alene Lake levels at a summer full-pool elevation of 2,128 feet as early as practicable each year and to maintain the Coeur d'Alene Lake elevation at 2,128 feet until September 15, when the fall lake drawdown to an elevation as low as 2,120.5 feet would begin. This would result in a slightly longer period for summer full-pool elevation maintenance compared to current operations, resulting in a benefit to recreational resources at the lake.

Under this Proposed Action, Avista would be allowed to close the gates when spring runoff has peaked, so that Coeur d'Alene Lake levels are held near elevation 2,128 feet for summer recreation needs, while providing spring flows downstream of the Project to keep rainbow trout redds watered following the spring spawning period. The specific date at which the summer full pool elevation of 2,128 feet would be reached would vary from year to year, depending on the hydrology of the basin. We estimate that there would be no costs to implement the measure.

Initiating lake level drawdown on September 15 would be similar to the current regime, with the exception of providing a specific target date for initiation of the fall drawdown and a slightly longer duration when the lake is held at full pool. This would have a relatively minor effect on Coeur d'Alene Lake levels (and only in August and September) as compared to current operations.

Avista's proposal would not appreciably change the area inundated by Coeur d'Alene Lake under current operations. Because of an increased minimum discharge year-round at the Post Falls Project, some shallow areas would experience a slightly earlier drawdown, but this would typically vary from current conditions by a few inches at most. Avista's proposal would not cause any significant change in the location (i.e., the river mile) where static pool levels in Coeur d'Alene Lake intersect the major tributaries (Coeur d'Alene, St. Joe, and St. Maries rivers).

We conclude that Avista's proposal for lake level management would continue to provide a reasonable balance between maintaining lake levels for summer recreational needs, and providing spring flows to protect spawning rainbow trout. We find that these measures would contribute to the best comprehensive development of the waterways of the Coeur d'Alene Lake basin.

Minimum Instream Flow Releases from Post Falls Dam

We recommend adopting Avista's proposal and IDEQ and IDFG's recommendations for a 600-cfs minimum instream flow release under normal operating conditions. We also recommend adopting Avista's proposal and IDFG and IDEQ's recommendations for reducing minimum instream flows to 500 cfs between July 1 and September 15, if lake levels fall below elevation 2,127.75 feet (3 inches below full pool) as recorded at the USGS gage at Coeur d'Alene Lake (station no. 12415500).

As discussed in section 3.3.2.2.1, *Lake Level Management and Flow Releases*, we anticipate that a 600-/500-cfs instream flow release at Post Falls Dam would provide flows of approximately 344 and 256 cfs, respectively, at the Barker Road site. These flows would also maintain summer water temperatures downstream of Sullivan Road within the optimal range for rainbow trout survival and growth (see section 3.3.3.2.2, *Effects of Project Flow Releases on Temperature*).

Avista's instream flow study predicts that a Post Falls Dam flow release of 600 cfs would provide 95 percent of maximum juvenile rainbow trout WUA and 84 percent of maximum adult rainbow trout WUA at the Barker Road site. A 500-cfs minimum instream flow would provide 100 percent of maximum juvenile WUA and 69 percent of maximum adult WUA, which would be an increase of

maximum juvenile and adult WUA of 20 and 42 percentage points, respectively, over what is provided under the current 300-cfs minimum instream flow release schedule. We estimate that there would be no costs to Avista to provide these increases in fish habitat through the release of higher minimum flows.

Instream flow releases of approximately 700 to 800 cfs as recommended by Sierra Club, CELP, Northwest Whitewater Association, Lands Council, WDFW, and WDOE would provide an additional 10 to 14 percentage points of maximum increase in adult WUA at the Barker Road site as compared to the staff-recommended 600-cfs flow release; however, these flows would also decrease the juvenile WUA by 4 to 9 percentage points of maximum. In addition, temperature modeling predicts that summer instream flow releases in excess of 700 cfs would likely reduce overall habitat suitability for rainbow trout by increasing water temperatures to greater than 21°C in critical summer refuge areas downstream of the Sullivan Road site. Water temperatures exceeding 21°C would likely limit trout growth and survival and would violate State of Washington water quality standards.

We conclude that Avista's proposed 600-/500-cfs minimum instream flow regime would strike a reasonable balance between temperature and physical habitat needs for trout, because it would increase the amount of physical habitat for important life stages of trout without causing adverse effects on important summer refuge habitat downstream of Sullivan Road as would occur with a flow release of 700 cfs or greater. We find that implementation of this measure would contribute to the best comprehensive development of the Spokane River and Coeur d'Alene Lake waterways.

We do not recommend adopting the WDOE, WDFW, Sierra Club, CELP, Lands Council, and Northwest Whitewater Association recommendations to monitor instream flow releases for a 5-year adaptive management monitoring period, then re-evaluate and potentially modify the minimum flow releases. We find the adaptive management approach recommended by WDOE, WDFW, Sierra Club, CELP, Lands Council, and Northwest Whitewater Association problematic for several reasons.

An adaptive management process makes sense where we do not have good information upon which to base a decision or where trial and error is the only way to acquire sufficient information. In this instance, however, we find that we have the information that we need to make a decision on a suitable Post Falls Project minimum instream flow because it is based on actual data collected in the Spokane River downstream of the Post Falls Project, and under a worst-case scenario. While we are not recommending an adaptive management program for instream flows, we are recommending that Avista monitor stream flows and water temperatures downstream of Post Falls Project for 5 years to ensure that the

600-/500-cfs minimum flow release does not cause Avista to violate State of Washington water quality standards.

In Chapter 4.0, we find that the annualized costs to develop and implement 5-year adaptive management programs, including additional water temperature and streamflow monitoring, would be $5,700 for WDFW, Northwest Whitewater, Lands Council, and Sierra Club's recommended programs, and $6,600 for WDOE's program. We note that Northwest Whitewater, Lands Council, Sierra Club and WDOE's recommended programs could include additional unknown costs associated with modified minimum instream flow releases after the 5-year monitoring period. We conclude that the benefits of these flow recommendations with provisions for adaptive management would not justify the costs, and therefore, would not be in the public interest.

Spring Flows for Trout

The WDFW recommends that Avista provide spring flows for the protection of incubation and emergence of trout in the free-flowing reach of the Spokane River downstream of the Post Falls Project. Specifically, WDFW recommends that for the period of April 15 through June 7 of each year, Avista provide 60 percent of the highest 7-day running average (consecutive days) of daily discharge flows from the Post Falls Dam recorded for the period of April 1-15 each year, or natural flow, whichever is less. WDFW also recommends that an annual report of flows and operations, including downramping events, for the period of spawning through emergence, including inflows to the river upstream of the dam, dam changes to outflow, and downstream flows be provided to the natural resource agencies.

We do not recommend adopting WDFW's provisions for rainbow trout incubation and emergence protection flows. WDFW estimates that releasing 60 percent of the April 1-to-April 15 spawning flows at the Post Falls Project would provide for continuous watering of 70 to 80 percent of the spawning area in the important 3-mile spawning reach of the upper Spokane River. However, our analysis in section 3.3.4.2.1 suggests that releasing flows according to this schedule could potentially adversely affect Post Falls Project power generation and the ability of Avista to fill and maintain the Coeur d'Alene Lake elevation for summer recreation needs, especially in low-water years. We conclude that the benefits of additional protection for spawning and emerging rainbow trout would not be justified by the potential costs of lost power generation at the Post Falls Project and the potential adverse effects on Avista's ability to fill and maintain Coeur d'Alene Lake for summer recreation.

We recommend Avista's proposal to continue to operate the Project under the *Upper Spokane River Rainbow Trout Spawning and Fry Emergence Protection*

Plan (Avista, 2004). The plan was developed in consultation with the IDFG, USFWS, WDFW, and Coeur d'Alene Tribe for the purpose of maintaining Spokane River spring flow releases to keep the majority of downstream rainbow trout spawning redds watered until fry have emerged from the gravels (Avista, 2005). Under Avista's proposal, it would continue to monitor rainbow trout spawning activity and fry emergence at three reference sites in the upper Spokane River below Post Falls Dam. Based on monitoring results and anticipated streamflows, Avista would attempt to regulate upper Spokane River discharge to keep the majority of redds wetted until fry have emerged.

In years when stream flows are above normal, normal, or slightly below normal, we estimate that approximately 70 percent of the spawning areas would be protected. In low-flow years, we estimate that 50 percent of the spawning area would be protected. We find that this level of protection is reasonable given the natural variability in Spokane River flows. We estimate that this measure would not adversely affect Post Falls power generation, and it would enable Avista to fill and maintain Coeur d'Alene Lake for summer recreation needs. We conclude that implementation of this measure would contribute to the best comprehensive development of the Coeur d'Alene Lake Basin and the Spokane River waterway.

We also recommend adopting Avista's proposal and WDFW's recommendation that Avista prepare an annual report of flows and operations for the period of spawning through emergence, including inflows to the river upstream of the dam, dam changes to outflow, downstream flows, and downramping events. This report would allow the resource agencies and Avista to annually evaluate the effectiveness of the Spawning and Fry Emergence Plan and determine the level of protection that would be afforded to these important life stages for this species. At an annualized cost of $10,000, we conclude that the benefits of preparing the annual report would justify the cost.

Ramping Rate

Downramping below the Post Falls Project does not occur for power production purposes, but occurs primarily when coming off of spill mode or during maintenance events, both of which are infrequent. The existing license does not include a ramping rate restriction, and it is important to note that the Post Falls Project cannot provide a ramping rate of less than 4 inches per hour without significant upgrades to the facility. Avista proposes to limit downramping to no more than a 4-inch-per-hour drop in downstream water levels as measured at USGS gage no. 12419000. The USFWS and IDFG support Avista's proposal. Avista also proposes to install electronic data transmission/telemetry equipment at the USGS gage no. 12419000 located downstream of Post Falls Dam.

The CELP recommended a downramping rate of no more than 2 inches per hour at Post Falls, consistent with WDFW's recommendation. The Sierra Club recommended a maximum 1-inch-per-hour downramping rate from June 16 to October 31, and a 2-inch-per-hour rate from November 1 through February 15. WDFW recommended limiting the downramping rate at Post Falls Dam to no more than a 2-inch-per-hour drop in downstream water levels, as measured at the USGS gage no. 12419000 located on the Spokane River near Post Falls. The WDFW and CELP also recommended that electronic data transmission/telemetry be set up at the USGS gage site to improve measurement accuracy and to provide Post Falls Dam operators with real-time, downstream water level response.

We recommend adopting Avista's proposed and the USFWS and IDFG's recommended Post Falls Project ramping rate of no more than a 4-inch-per-hour drop in downstream water levels as measured at USGS gage no. 12419000. Flow downramping has the potential to strand fish in areas of the channel that are relatively low-gradient, or where pockets or side channels exist in the river channel. Compared to current operations, a 4-inch-per-hour ramping rate would reduce the risk of stranding fry and juvenile fish and would provide a more gradual transition time for adult trout to relocate as river levels change. The specific costs to provide a 4-inch-per-hour ramp rate are unknown, but ramping at the Project would be a relatively infrequent occurrence, and therefore, we do not anticipate that the ramping rate would substantially affect the economics of the Project. We conclude that the benefits of enhanced protection for fry and juvenile rainbow trout would be justified.

We do not recommend adopting the CELP, Sierra Club, or WDFW ramping rate recommendations at this time. Ramping rates of less than 4 inches per hour could be more protective of the aquatic environment than Avista's proposal. However, given the substantial modifications to the Post Falls Project that would be required to provide a ramping rate of 2 inches per hour or less, and given that such a ramping rate would be implemented on a relatively infrequent basis (i.e., ramping would occur only periodically and not on a daily basis), we find that the more restrictive ramping rate would not be justified by the costs needed to make substantial modifications to the Project facility.

To address the concerns of some stakeholders about whether a 4-inch-per-hour downramping rate would be protective of rainbow trout fry, we find that it would be in the public interest to evaluate the effectiveness of a 4-inch-per-hour ramping rate at preventing widespread stranding of substantial numbers of rainbow trout fry. Therefore, we recommend that Avista, by December 31 of the first complete year following license issuance, file a Post Falls Project Ramping Rate Report that would include, but would not necessarily be limited to: (1) the results of a rainbow trout fry stranding study, prepared in consultation with the

Sierra Club, CELP, IDFG, WDFW, and USFWS, that documents the effects of the staff-recommended ramping rates and any potential stranding on rainbow trout fry during the first complete spring/summer rearing period following license issuance; (2) any recommendations from the consulted parties for more restrictive ramping rates based on the outcome of the rainbow trout fry stranding study; and (3) the associated costs to implement more restrictive ramping rates, including the costs of lost generation and any construction costs needed to modify the facility to provide more-restrictive ramping rates. We estimate that the annualized costs to prepare the report would be $12,000. We conclude that evaluating the effectiveness of the 4-inch-per-hour ramping rate would be worth the cost.

We recommend adopting Avista's proposal, and the CELP and WDFW's recommendations, that Avista install electronic data transmission/telemetry equipment at the USGS gage no. 12419000 located downstream of the Post Falls Dam. Electronic data transmission would provide real-time flow data for instream flow compliance monitoring purposes and improve the understanding of the relationship between Post Falls Dam operations and downstream flows at important rainbow trout habitat sites. At an annualized cost of $9,000, we find that the benefits of this measure would justify the cost.

Salmonid Fisheries Plan

We do not recommend adopting the Coeur d'Alene Tribe's recommendation that Avista develop and implement a Salmonid Fisheries Plan with the following stated goals: (1) achieve escapement targets for westslope cutthroat trout and mountain whitefish; (2) restore tributaries on the Coeur d'Alene Tribe Reservation inundated by the Project; (3) implement restoration measures within the lake; and (4) construct supplemental fishing ponds on the Coeur d'Alene Indian Reservation to provide harvestable fish until escapement targets are met.

In sections 3.3.4.2.3.1 and 3.3.6.2.1 of this FEIS, we find that the only change in Post Falls Project operations under the Proposed Action that could potentially affect native salmonids is the extension of the full pool maintenance of the reservoir at elevation 2,128 feet to September 15, equivalent to an additional 1 to 2 weeks on average each year. Our analysis also indicates that an additional 1 to 2 weeks of tributary inundation would not inhibit the migration of native fish species between the lake and tributary spawning habitats or otherwise adversely affect native fish.

Our analysis in section 3.3.4.2 indicates that implementation of the measures contemplated in the Salmonid Fisheries Plan would have only minimal benefits for the adfluvial westslope cutthroat trout and mountain whitefish populations.

In section 4.3.1, we determined that development of a Salmonid Fisheries Plan recommended by the tribe would cost about $3,000 annually, with additional unknown but likely substantial implementation costs. We find that the minimal benefits produced by the Salmonid Fisheries Plan would not justify the $3,000 annual cost of developing the plan, and therefore, would not be in the public interest.

USFWS Post Falls HED Fish Protection, Mitigation, and Enhancement Program

We do not recommend adopting the USFWS recommendation that Avista restore a cumulative distance of 6.6 linear miles of riverine habitats to mitigate for the Project's effects on inundation of the St. Joe and Coeur d'Alene Rivers.

In sections 3.3.4.2.3.1 and 3.3.6.2.1 of this FEIS, we find that the only change in Post Falls Project operations that could potentially affect native salmonids is the extension of the full pool maintenance of the reservoir at elevation 2,128 feet to September 15, equivalent to an additional 1 to 2 weeks on average each year. Our analysis also indicates that an additional 1 to 2 weeks of tributary inundation would not inhibit the migration of adult bull trout and westslope cutthroat trout between the lake and tributary spawning habitats or otherwise adversely affect bull trout and westslope cutthroat trout.

In section 3.3.4.2, we find that additional information filed by the USFWS in support of its recommendation indicates that there is some potential for adfluvial westslope cutthroat and bull trout population enhancement through tributary restoration measures. In spite of this information, however, we continue to find that other factors responsible for bull trout and westslope cutthroat trout population declines would continue to occur in the tributaries (e.g., degraded water quality), and that tributary habitat enhancements would therefore likely have only minimal benefits to the fishery. We estimate that the annualized costs to prepare and implement the plan would be $394,300. We find that the minimal benefits produced by the restoration measure would not justify the high annual cost to develop and implement the program, and therefore, would not be in the public interest.

Coeur d'Alene Lake Basin Fisheries Enhancement

We do not recommend the aquatic resource mitigation and enhancements for waters throughout the Coeur d'Alene Lake Basin as recommended by the Sierra Club (non-specific, off-site native trout mitigation and enhancement measures), and the Lands Council (funding non-specific trout mitigation throughout the basin). Because the recommended measures are non-specific, we are unable to assess the benefits and costs for the measures and the relationship of the measures to the Project. In addition, the recommending entities provided no

justification, based on current conditions, to support implementation of the measures. Therefore, we have no justification for recommending any of these measures.

Post Falls Fisheries Resources Public Information, Education, and Law Enforcement Program (Avista Proposed Measure PF-AR-1, Part 4)

We do not recommend adopting Avista's proposal to develop and implement a Public Information, Education, and Law Enforcement Program specific to bull trout and westslope cutthroat trout in the Coeur d'Alene Basin and wild rainbow trout in the Spokane River downstream of Post Falls Dam. Avista states that the purpose of the program would be to reduce illegal harvest of bull trout, westslope cutthroat trout, and wild rainbow trout. Federal and state game and harvest laws are not matters of Commission jurisdiction; therefore, we have no justification for recommending a license condition requiring Avista to provide assistance and support for the public's compliance with such laws.

Instead, we recommend that Avista implement all fisheries public education and outreach activities included in a Commission-approved Post Falls Fisheries Public Education and Outreach Plan and a Spokane River Fisheries Public Education and Outreach Plan, both of which are discussed in subsequent sections of this chapter.

Post Falls Fishery Protection and Enhancement Program (Avista Proposed Measure PF-AR-1, Part 5)

We do not recommend that Avista develop and implement a plan for a Post Falls Fishery Protection and Enhancement Program. Avista states that such a plan would outline a process for implementing and modifying the program over the term of a new license in consultation with "appropriate" agencies and "other cooperating parties." Potential activities in the Coeur d'Alene Lake Basin that would be funded by Avista through the program could include aquatic and habitat protection and restoration specifically directed at westslope cutthroat trout and bull trout populations. These activities could involve mainstem and riparian habitat restoration and protection projects; acquisition and long-term protection of private lands where aquatic habitat important to the salmonids exists; suppression of exotic species; collection of "required or relevant" baseline data; and fish stocking programs. Potential activities in the Spokane River downstream of Post Falls Dam that would be funded by Avista could include habitat protection and enhancement in the 15-mile reach of the Spokane River; additional fishery management activities supporting the protection and enhancement of wild rainbow trout populations in the reach; and provisions for new or improved fishing opportunities in nearby waters as potential means of diverting illegal angler harvest of wild rainbow trout from the Spokane River.

Technically speaking, the measures contemplated by the program could potentially benefit aquatic resources; however, Avista's proposal is problematic for a number of reasons. First, Avista's proposed scope is too broad and open-ended to allow us to predict with any degree of precision exactly what measures would be implemented under the program, what associated benefits and costs would accrue under the program, and whether the chosen measures would be specifically related to the Project.

Second, the plan contemplates cost-sharing or funding third parties to implement the measures; however, the Commission has no jurisdiction over anyone other than the licensee to ensure the implementation of the measures.

Third, some of the measures could involve structures that would require ongoing maintenance or would involve the purchase of lands that would require ongoing management. Avista would need to include such lands (or, in the case of the structures, the underlying lands) within the Project boundary to allow the Commission the ability to ensure that the measures would accomplish the stated purposes. However, the lands and the associated measures that would be implemented are as yet unidentified. Consequently, we are unable to determine exactly which lands would relate to the Project, and therefore, which lands would be needed for Project purposes and thus would need to be included within the Project boundary.

For these reasons, we have no justification for recommending that the proposed plan for implementing a Post Falls Fishery Protection and Enhancement Program be included in any license issued for the Project.

IDFG Post Falls Fishery Protection and Enhancement Program

We do not recommending adopting IDFG's recommendation to implement a Post Falls Fish Protection, Mitigation, and Enhancement Program. IDFG's recommendation would require Avista to annually contribute funding in the amount of $175,000 for stream restoration projects to mitigate for 10 miles of inundated tributary habitat; $45,000 for fish population monitoring below Post Falls Dam; and $30,000 for recreational fishery and/or aquatic habitat protection and enhancements within the Coeur d'Alene Lake and Spokane River basins. As discussed in section 3.3.4.2.4, as a replacement for the funding commitments of $175,000 for stream restoration projects, IDFG suggests that it would consider removing the funding commitment and focus solely on mitigation for lost habitat and/or fish production. We therefore assume that IDFG is recommending either $175,000 per year in mitigation funding, or that Avista be responsible for restoring 10 miles of tributary habitats.

We find that the only change in Post Falls Project operations under the Proposed Action that could potentially affect native salmonids in Coeur d'Alene Lake is the extension of the full pool maintenance of the reservoir at elevation 2,128 feet to September 15. This action would equate to an additional 1 to 2 weeks of inundation on average each year. Our analysis in sections 3.3.4.2.3.1, 3.3.4.2.4, and 3.3.6.2.1 indicates that an additional 1 to 2 weeks of tributary inundation would not inhibit the migration of adult or juvenile bull trout and westslope cutthroat trout between the lake and tributary spawning habitats or otherwise adversely affect any native fish species.

In section 3.3.4.2, we find that additional information filed by IDFG in support of its 10(j) recommendations indicates that there is some potential for adfluvial westslope cutthroat and bull trout population enhancement through tributary restoration measures. In spite of this information, however, we continue to find that other factors responsible for bull trout and westslope cutthroat trout population declines would continue to occur in the tributaries (e.g., degraded water quality) and in the lake (competition with non-native species); therefore, tributary habitat enhancements would likely have only minimal benefits to the fishery. IDFG proposes an annual funding commitment of $175,000, or the actual costs to restore 10 miles of tributary habitats, which we estimate would cost $592,000 annually. We find that the minimal benefits of the restoration measures would not justify either of these costs.

Fish population monitoring downstream of Post Falls Dam would be useful to determine how fish populations change over time. However, we see little evidence that general fish population monitoring would benefit the fishery, because monitoring would do nothing to enhance aquatic habitat or improve conditions for native fish species. In addition, we are already recommending a comprehensive set of enhancement measures at the Project that would be expected to enhance native fish populations in the free-flowing reach of the Spokane River downstream of the Post Falls Dam. Implementation of these measures would likely reduce the potential for adverse effects to these populations compared to existing conditions. We therefore find that monitoring the fish population would have minimal benefits to the fishery. We have insufficient information on the specificity of the program to estimate the costs of the program, but IDFG estimates that the annualized costs to implement the fish population monitoring would be $45,000. We conclude that the minimal benefits of a fish population monitoring effort would not justify any costs.

Recreational fishery and/or aquatic habitat protection and enhancements within the Coeur d'Alene Lake and Spokane River basins would potentially improve habitat conditions and recreational fishing opportunities for native fish species in Coeur d'Alene Lake and the Spokane River. We have insufficient

information on the specificity of the program to estimate the costs of the program, but IDFG suggests a funding commitment of $30,000 annually for Avista to contribute to this program. IDFG provided little information to describe the types of measures it envisions for implementation under this program. We therefore have little information to determine any benefits to the fishery by implementing this program. We conclude that the unknown benefits would not justify any costs.

In its modified 10(j) recommendations filed on March 6**,** 2007, IDFG contemplated removing the enforcement component of its recommended Fisheries Public Information, Education, and Enforcement Program. We discuss the costs and benefits of IDFG's modified recommendation for a Post Falls Fisheries Public Information, Education, and Outreach Program below.

Post Falls Fisheries Public Education and Outreach Program

We recommend adopting IDFG's modified 10(j) recommendation for Avista to develop and implement a Fisheries Public Education and Outreach Program specific to native fish species upstream of Post Falls Project, without any provisions for law enforcement. However, we also recommend that Avista be responsible for all public outreach activities included in a Commission-approved Post Falls Fisheries Public Education and Outreach Program Plan.[2]

We recommend that the plan be developed in consultation with IDFG and the USFWS. We envision that this program would focus on educating the public on conservation of sensitive and important habitat areas for native fish, measures implemented by Avista to enhance native fish populations in the Project area, and biology of native fish species. The types of measures that we envision for implementation under this program would be installation of signage along Project-affected waters at locations where enhancement measures have been implemented by Avista, important native fish habitats are located, and public awareness of habitat protection is needed.

This type of program would benefit native fish species by educating the public on habitat protection and enhancement measures undertaken by Avista within Coeur d'Alene Lake to protect and enhance native fish, primarily through aquatic weed management, and measures that can be taken by the public to minimize their impacts on native fish and their habitats. We estimate that the annualized costs of the program would be $6,500. We conclude that the benefits of increased public awareness would justify the cost.

[2] Although we have no objection to Avista entering into a cooperative agreement to undertake the measures, Avista would ultimately be responsible for complying with all measures included in a Commission-approved plan.

Post Falls Fishery Assessment and Monitoring Program (Avista Proposed Measure PF-AR-1, Part 6)

We do not recommend that Avista develop and implement a plan for a Post Falls Fishery Assessment and Monitoring Program. Avista states that the plan would outline how Avista would support population and related aquatic habitat assessments and monitoring for westslope cutthroat trout, bull trout, and wild rainbow trout in the Coeur d'Alene Lake Basin and Spokane River downstream of Post Falls Dam. Avista further states that as part of the program, it would support specific fishery and aquatic habitat assessment and monitoring activities that are designed to address Project-related population and habitat trends pertaining to the three target fish species.

It appears that the monitoring upstream of the Post Falls Dam contemplated under this part would inform decisions as to measures that would be selected for implementation under Avista's proposed condition PF-AR-1 part 5 discussed above. However, as it is, we are not recommending that the proposed program in part 5 be included as a condition in any license issued for the Project.

Fish population monitoring downstream of the Post Falls Dam would be useful to determine how the wild rainbow trout population changes over time; however, the contemplated fish population monitoring would not specifically target Project-related effects on fish populations. Further, other factors (e.g., harvest, disease, floods) would continue to affect fish populations, which would make interpretation of monitoring results, as applied to Project effects, extremely difficult. Therefore, we find that population monitoring would provide minimal Project-related benefits. We conclude that the minimal benefits would not justify the $86,700 that Avista annually proposes to contribute to the program.

Trout Stock Status Monitoring Program

We do not recommend adopting WDFW's recommendation for a Trout Stock Status Monitoring Program. As previously discussed under similar measures, fish population monitoring downstream of Post Falls Dam would be useful to determine how fish populations change over time. However, the contemplated fish population monitoring would not specifically target Project-related effects on fish populations, and many other factors (e.g., harvest, disease, floods) would continue to dictate fish population response to Project-related enhancement measures, which would make interpretation of monitoring results costly and difficult. Therefore, we find that population monitoring would provide minimal Project-related benefits to fish populations. We estimate that the annualized costs to implement WDFW's recommended program would be $13,100. We conclude that the minimal benefits of the program would not justify the cost.

Coeur d'Alene Lake Basin Benthic Community Studies and Mitigation

We do not recommend a license condition requiring Avista to carry out studies to evaluate the effects of habitat alteration on the benthic community, design mitigation measures, and develop a plan to implement such mitigation as recommended by the Sierra Club. We have the information, contained in Chapter 3.0 of this FEIS, to characterize the existing benthic community. We also find that Avista's proposed changes in operation are unlikely to produce a significant change in the benthic community relative to existing conditions. Therefore, we find that little to no benefit would be derived from monitoring the benthic community and conclude that the lack of benefits associated with implementing the measure would not justify the annual cost of $400 plus any additional costs for as-yet-unidentified mitigation measures.

Coeur d'Alene Lake Mitigation Trust Fund

We do not recommend that Avista establish and implement a mitigation trust fund as recommended by the Sierra Club and Lands Council for purposes of mitigating for alleged ongoing Project effects that would not be addressed through structural or operational changes to the Project. Specific mitigation measures, including the location of implementation, and specific effects that would be mitigated have not been identified by the recommending entities. We therefore are unable to analyze the specific existing conditions that would be enhanced by the measures, the specific benefits provided by the measures, and the relationship of the measures to the Project and Project effects. Due to this lack of information, we have no justification for recommending the fund.

Coeur d'Alene Indian Reservation Aquatic Weed Management

We do not recommend adopting the Coeur d'Alene Tribe's recommendation that Avista, in collaboration with the Coeur d'Alene Tribe, develop and implement a Coeur d'Alene Reservation Aquatic Weed Management Plan to eradicate exotic and noxious aquatic weeds in waters affected by the Project that are within or adjoining the Coeur d'Alene Indian reservation as stipulated by BIA preliminary 4(e) condition 6. The plan would include provisions to conduct annual surveys to map noxious weed populations, formulate management actions specific to each identified weed, coordinate management actions with management of other resources, develop criteria to measure the progress of exotic weed eradication, and file annual progress reports. While control of noxious aquatic weeds in Coeur d'Alene Lake at the reservation would be an achievable goal, complete eradication of noxious weeds within the reservation as called for in BIA preliminary condition 6 would be impossible to achieve, because the sources of noxious weeds are outside sources, including inflows and boats (e.g., plant fragments attached to motors). We therefore lack

sufficient evidence for recommending a measure with the purpose of meeting a goal that Avista would be incapable of achieving.

We do not recommend adopting BIA modified condition 6, which would require Avista, in collaboration with the Coeur d'Alene Tribe, to develop and implement a Coeur d'Alene Reservation Aquatic Weed Management Plan to control exotic and noxious aquatic weeds in waters affected by the Project that are within or adjoining the Coeur d'Alene Indian Reservation. The plan would include the same provisions as discussed in the BIA's preliminary condition 6 above. The plan would be beneficial for helping to control aquatic weeds within and adjacent to the reservation; however, we are already recommending that Avista develop and implement a Coeur d'Alene Lake Aquatic Weed Management Plan for controlling and managing aquatic weeds throughout the Project area within Coeur d'Alene Lake. We therefore find that additional aquatic weed management would have minimal additional benefits. We estimate the costs to develop the plan would be $3,000 with additional unknown, but likely substantial, costs to implement the plan. We conclude that the lack of benefits of the plan would not justify the costs.

Coeur d'Alene Lake Erosion Control

As mitigation for erosion to Coeur d'Alene Lake by continued operation of the Post Falls Project, Avista proposed measure PF-TR-1, Coeur d'Alene Lake and Tributary Erosion Control and Wetland and Riparian Habitat Protection and Enhancement. Under the Proposed Action, Avista, in consultation with relevant cooperating parties, would implement the Erosion Control Program (a component of PF-TR-1) for the specific purpose of addressing the effects of continued operation of the Post Falls Project on erosion processes. Project-induced erosion is erosion caused primarily by daily flow fluctuations—i.e., erosion not attributable to flood flows or to phenomena such as boat- or wind-driven wave action, runoff from steep terrain during storms, and loss of vegetation due to fire and other natural causes.

The staff recommends that Avista file the Erosion Control Program. Avista has estimated that this measure would cost $100,000 annually over 15 years (part of the $500,000 total annual cost for PF-TR-1). We have assumed the same annual cost for the entire licensing term and find that the benefits of this plan would be worth the cost. We find that this plan would reduce the shoreline erosion on reservation lands within the Project boundary.

Coeur d'Alene Lake Water Quality

As part of Avista's proposed Idaho Water Quality PME (PF-WQ-2), Avista would provide funding to support expansion of IDEQ's and the Coeur d'Alene Tribe's existing Water Quality Monitoring Program in Coeur d'Alene Lake. Our analysis suggests that collection of additional temperature and DO in Coeur

d'Alene Lake would be useful for monitoring the effects of changes in Post Falls Project operations on water quality. However, while this program could potentially benefit aquatic resources, Avista's proposal is problematic for a couple of reasons. First, Avista's proposed scope is too broad and open-ended to allow us to predict with any degree of precision exactly what measures would be implemented, what benefits would accrue, and whether the chosen parameters would be related to Project effects. Second, this program contemplates funding third parties to implement the monitoring program; however, the Commission has no jurisdiction over anyone other than the licensee to ensure the implementation of the measures. Because of these concerns, we conclude that we have no justification for recommending the measure.

Another component of Avista's proposed Idaho Water Quality PME (PF-WQ-2) includes Avista funding the purchase and installation of two meteorological stations near Coeur d'Alene Lake. Installation of a meteorological station on the Coeur d'Alene Indian Reservation is also part of modified condition 3 filed by the BIA on May 7, 2007. Installation of meteorological stations would provide additional data on input parameters for the CE-QUAL water quality model; however, collection of this information appears to be unrelated to Project effects and Project purposes. While additional model development may be useful for the IDEQ and the Coeur d'Alene Tribe, it would not serve to mitigate or monitor Project effects. Based on this information, we have no justification for recommending the measure.

The Coeur d'Alene Tribe is on record as supporting the preliminary section 4(e) conditions filed by the BIA on July 17, 2006. Preliminary condition 3 called for Post Falls to be operated at all times so that "it does not contribute to exceedance of applicable numeric criteria and narrative Federal, State, and Tribal water quality standards." In a letter dated August 17, 2006, Avista indicated that to ensure that the Project would not contribute to water quality exceedances, the Project would need to be operated at the natural hydrograph. In comments filed on May 7, 2007, the BIA indicated that this recommendation was not intended to require Avista to change operation of Post Falls Dam or lower Coeur d'Alene Lake. Rather, the BIA indicated that the measure was merely intended to reflect the state of the law regarding Avista's compliance with relevant water quality standards. Based on the BIA's explanation, preliminary condition 3 would not have any specific effect on Avista or the operation of Post Falls Dam. Compliance with state and tribal water quality standards would be addressed under section 401 of the Clean Water Act. Therefore, preliminary condition 3, as defined by the BIA, would be met if Avista receives section 401 water quality certification for Post

Falls Dam from IDEQ and potentially the Coeur d'Alene Tribe.[3] Avista applied to IDEQ for section 401 water quality certification on July 12, 2006.

The BIA filed modified conditions under section 4(e) of the FPA on May 7, 2007. These conditions do not include language requiring Avista to operate Post Falls Dam so that "it does not contribute to exceedance of applicable numeric criteria and narrative Federal, State, and Tribal water quality standards."

In addition to recommending that Post Falls operations not contribute to exceedances of water quality standards, the BIA's preliminary condition 3 included a comprehensive Water Quality Monitoring Program for Coeur d'Alene Lake. This Water Quality Monitoring Program would include annual sampling of various water quality parameters, phytoplankton, and benthos throughout Coeur d'Alene Lake. Available information suggests that the operation of the Project affects water temperature and DO only within Coeur d'Alene Lake. Therefore, we conclude that there is no evidence to justify monitoring many of the water quality parameters specified in the BIA's monitoring program, including phytoplankton and benthos. Additionally, while some monitoring may be appropriate to document the effect of proposed or recommended changes to Project operations, it is not clear that monitoring would need to continue throughout the license term. We estimate that the cost of this program would be approximately $347,700 annually. Because preliminary condition 3 would require monitoring parameters that would not be affected by the changes to Project operations and because continuing monitoring throughout the license term would be unnecessary, we conclude that this measure would not be worth the cost, and we do not recommend including it in any license for the Post Falls Project.

In its modified condition 3, the BIA specified a revised Water Quality Monitoring Program for Coeur d'Alene Lake. The revised program is similar to the program included in preliminary condition 3, although the BIA modified the timing of sample collection, eliminated one sample site and added two others, added a requirement for continuous monitoring, and limited the monitored constituents to water temperature, DO, and organic parameters. Modified condition 3 does not include a requirement to monitor parameters related to metals. Specific parameters specified for monitoring in modified condition 3 include pH, specific conductance, chlorophyll-*a* and chlorophyll fluorescence, solar radiation, various nitrogen compounds, various phosphorus compounds, and phytoplankton. Our analysis suggests that these parameters would be unaffected by the proposed changes in operations; therefore, monitoring these parameters would have no nexus to Project effects, and collection of this data would be for informational purposes only. Additionally, while some monitoring of water

[3] The Coeur d'Alene Tribe does not currently have an EPA-approved 401 certification process; however, it is working toward EPA approval.

temperature may be appropriate to document the effect of proposed or recommended changes to Project operations, it is not clear that monitoring throughout the license term, as specified by modified condition 3, is warranted. We estimate that the cost of this program would be approximately $199,100 annually.[4] Because modified condition 3 would require monitoring parameters that would not be affected by the changes to Project operations and because continuing monitoring throughout the license term would be unnecessary, we conclude that this measure would not be worth the cost, and we do not recommend including it in any license for the Post Falls Project.

Avista's modeling suggests that operation of Post Falls Dam affects water temperatures and DO levels within Coeur d'Alene Lake. In the analysis section, we conclude that Avista's proposed changes to Post Falls operations, which include 600-cfs minimum flow releases and maintaining the lake elevation at 2,128 feet until September 15 each year, would not significantly affect water quality within the lake. However, because the specific effects of these operational modifications have not been quantified and our analysis suggests that Project operations can affect these parameters, we recommend that Avista monitor water temperature and DO within Coeur d'Alene Lake for the first 5 years of operation under any new license that is issued for the Project. This monitoring would occur throughout the lake, including areas within the Coeur d'Alene Indian Reservation. We estimate the cost of this program would be $100,000 per year during the first 5 years of any new license that is issued. This equates to an average annual cost of $39,600 per year over a 30-year period. Because this program would monitor potential Project effects on water quality parameters within Coeur d'Alene Lake that may be affected by changes in Project operations, we conclude that the benefits of this program would be worth the cost, and we recommend including this measure in any license that is issued for the Project.

In comments on the DEIS, the Coeur d'Alene Tribe indicated that water quality monitoring in Coeur d'Alene Lake should continue beyond the first 5 years of any new license, as proposed under the staff-recommended monitoring for Coeur d'Alene Lake. The tribe suggested that because lake conditions are not stable and new trends are expected to arise throughout the license term, monitoring should continue throughout the license term. It is highly likely that water quality conditions within Coeur d'Alene Lake would change during a 30- to 50-year license term due to the Project; however, unless the Project license is amended during the license term, Project operations and any corresponding Project effects on lake water quality would be unchanged. The Coeur d'Alene

[4] Our estimate of the annualized cost for modified condition 3 includes $7,500 for the purchase and installation of a meteorological station, $20,000 for the purchase of four continuous monitoring devices and various supplies and calibration equipment, and $195,000 per year for collection and analysis of parameters, reporting and peer review, and additional modeling.

Tribe did not provide any evidence or describe any mechanisms whereby potential unstable conditions or "new trends" in water quality would be Project-related. We conclude that some monitoring during the initial portion of the license term would be appropriate to capture potential changes in Coeur d'Alene Lake water quality that may be related to recommended changes in Project operations (i.e., increasing minimum flows and maintaining the lake at full pool until September 15); however, monitoring throughout the entire license term would not be necessary to capture these effects, and such monitoring could be potentially misleading since additional changes in water quality would likely be unrelated to Project operations. Based on this information, we do not recommend annual monitoring of lake water quality throughout the license term. If Project operations were modified during the license term via license amendment, the need for additional monitoring could be assessed at that time.

Water Quality Monitoring Downstream of Post Falls

To determine the effects of the proposed minimum flow for Post Falls Dam on water quality in the Spokane River, Avista proposes to implement two Spokane River Water Quality Monitoring Plans as part of the Idaho (PF-WQ-2) and Washington (SRP-WQ-2) water quality PMEs. As part of PF-WQ-2, Avista proposes to fund a 5-year program to monitor water temperature and discharge in the portion of the Spokane River between Post Falls Dam and the Idaho/Washington state line. As part of SRP-WQ-2, Avista proposes to collect temperature and flow data on the Spokane River in Washington state, between river miles 84 and 90.4. Both of these monitoring programs are designed to evaluate the effects of the proposed Post Falls minimum flow on trout habitat and provide information that would better define the relationship between flow and water temperatures in the Spokane River.

We conclude that there is some justification for monitoring water temperature downstream of Post Falls Dam; however, we can find no justification for implementing two separate Water Quality Monitoring Programs in this single reach of the river. As a result, we are recommending that Avista develop and implement a single Water Quality Monitoring Program. Under this program, Avista would develop a plan to collect water temperature and discharge data at various locations between the Post Falls tailrace and river mile 84 for 5 years. In addition to describing monitoring methods and monitoring locations, the water monitoring plan would also describe techniques that would be employed to provide quality assurance of the data. This program would monitor the effects of the proposed minimum flows on water temperature and trout habitat, and therefore, would be consistent with PF-WQ-2 and SRP-WQ-2. We estimate that the cost of this program would be approximately $30,000 per year for the first 5 years of any license that is issued. This equates to an average annual cost of $11,900 per year over a 30-year period. We conclude that the benefits of this

program would be worth the cost, and we recommend that this measure be included in any license that is issued for the Project.

Post Falls Water Quality Monitoring Station

The Sierra Club recommends that Avista install a water quality monitoring station on the Spokane River downstream of Post Falls Dam. The Sierra Club indicates that this station would monitor discharge and would be installed to determine attainment or nonattainment of standards for water temperature, TDG, DO, and turbidity. While a specific schedule is not specifically stated in its filing, we assume that the Sierra Club's recommendation includes monitoring during each year of any license that is issued for the Post Falls Project. We estimate that the cost of this station would be approximately $51,500 per year.

Our analysis indicates that Project operations can affect water temperatures and TDG in the Spokane River downstream of Post Falls Dam. Elsewhere in this section, we are recommending that Avista implement programs to monitor discharge and Project effects on water temperature and TDG during the initial years of any license, which is generally consistent with the Sierra Club's desire for these parameters to be monitored except for the duration of monitoring. We find that monitoring during the initial years of a new license would be sufficient for documenting Project benefits or effects. Additionally, our analysis suggests that DO levels are primarily the result of nutrient loading within the river system, and factors that influence turbidity (e.g., shoreline erosion in Coeur d'Alene Lake) are not Project-related (e.g., wind and boat wave action). Therefore, we conclude that we do not have evidence to recommend the Sierra Club's recommendation to monitor DO and turbidity.

In addressing the Sierra Club's desire for monitoring throughout the license term, we note that it is standard practice for a monitoring article to include provisions for report preparation, stakeholder review of results, and recommendations for additional monitoring or measures to address any problems revealed by the monitoring. Therefore, while we are not currently recommending water quality monitoring throughout the license term, the Commission could direct Avista to do so upon analysis of the monitoring results.

Post Falls TDG

The Sierra Club and the Lands Council recommend that Avista monitor TDG and implement operational measures to minimize TDG increases downstream of Post Falls Dam. These measures are included in Avista's proposal, and we are recommending that they be included in any license issued for the Post Falls Project. However, the Sierra Club and the Lands Council also recommend that Avista be required to develop a compensation program to address the losses of aquatic biota when TDG attainment would not be possible. The Sierra Club and

the Lands Council indicate that elevated TDG can result in harm to aquatic organisms and that levels above 110 percent saturation have been recorded downstream of Post Falls Dam.

The Sierra Club and the Lands Council do not provide any evidence documenting or quantifying harm to aquatic organisms downstream of the Post Falls Dam. Additionally, they do not specify how Avista should quantify harm that may occur during periods when TDG exceeds water quality criteria. Finally, neither group provides any information to describe the form of compensation Avista should provide. Without more specific information, we are unable to assess the environmental and economic effects of this recommendation, and we cannot recommend it. Additionally, because the staff-recommended measures would improve TDG conditions downstream of Post Falls Dam and the FPA does not impose a no-net-loss requirement,[5] we do not recommend including this measure in any license that is issued for the Post Falls Project.

Coeur d'Alene Lake Wetland and Riparian Habitat Replacement and Enhancement

In its modified section 4(e) condition 6, DOI would require Avista to develop a plan to restore and/or replace 3,488 acres of emergent, scrub-shrub, and/or forested wetlands on or off the Coeur d'Alene Indian Reservation. DOI says this condition is necessary because the extended inundation caused by the Project eliminated, reduced, or converted wetland and riparian habitats that formerly existed on the reservation and inhibits the proper function of remaining wetlands on the reservation.

DOI bases its 4(e) condition on how many acres of wetlands would exist on the reservation under a natural hydrograph (i.e., without the Project) compared to how many acres of wetlands exist today.

We note that Avista has operated the Project in essentially the same way since 1941 and that Avista does not propose changing Project operations except to extend the current maximum lake level for 1 to 2 weeks (until September 15) each year. As discussed in section 3.3.5.2.2, extending the current maximum lake level for 1 to 2 weeks each year would not significantly affect wetlands.

Avista already proposes to implement PF-TR-1, which would enhance wetlands at Coeur d'Alene Lake above existing conditions. We estimate that PF-TR-1 would have an annualized cost of $500,000.

[5] *See, e.g., Ohio Power,* 71 FERC ¶ 61,092 (1995) and *Indiana Michigan Power Co.*, 82 FERC ¶ 61,247 (1998).

We estimate that DOI's modified 4(e) condition 6 would cost an additional $10,464,000 in capital costs and $348,800 in annual costs, for a total annualized cost of $1,915,500. These estimates are based on a cost of $3,000 per acre to acquire and restore wetland habitat and $100 per acre for annual maintenance costs. We note that providing such estimates is difficult because wetland acquisition and restoration costs are highly dependent on the exact location of individual parcels to be acquired; whether lands are acquired by easement, fee simple, lease, or other means; the extent to which site hydrology and vegetation must be manipulated to maintain wetland habitat; and local market conditions for land acquisition and wetland maintenance work.

Because Avista does not propose changing operations in a manner that would significantly affect wetlands, and because Avista already proposes PF-TR-1, which would enhance wetlands at the Project above current conditions, we do not recommend adopting DOI's modified 4(e) condition 6. Instead, we recommend Avista's proposed measure PF-TR-1.

In its section 10(j) recommendations filed July 18, 2006, the USFWS recommends that Avista implement PF-TR-1 with several modifications: (1) develop a plan to restore 532 acres of PFO1 wetlands and 250 acres of PSS wetlands; (2) develop a plan to protect and/or restore an additional 445 acres of PFO1 and 49 acres of PSS wetlands in the lower St. Joe River between river mile 0.0 and river mile 7.2, or above river mile 7.2 if necessary; and (3) protect and/or restore wetlands giving priority to natural levees in the lower St. Joe River, excluding areas covered by its first two recommendations above.

In our section 10(j) meeting with USFWS on March 20, 2007, USFWS dropped its recommendation for developing a plan to protect and/or restore an additional 445 acres of PFO1 and 49 acres of PSS wetlands in the lower St. Joe River between river mile 0.0 and river mile 7.2, or above river mile 7.2 if necessary. Further, in a letter filed April 16, 2007, USFWS indicated that its recommendation for a plan to restore 532 acres of PFO1 wetlands and 250 acres of PSS wetlands would be satisfied by PF-TR-1. With regard to the USFWS's third recommendation, to give priority to natural levees in the lower St. Joe River, we note that Avista already includes this measure in PF-TR-1.

In its section 10(j) recommendations filed July 17, 2006, IDFG recommends that Avista implement PF-TR-1 with several modifications: (1) Avista's annual funds ($500,000) for this measure should accumulate without a defined cap; (2) projects should not be selected solely based on cultural resource values, but rather should be chosen to achieve the most value for preventing erosion and for conserving wildlife habitats; (3) the amount of Avista's annual funding ($500,000) to be allocated for erosion vs. wetlands should be defined—IDFG recommends $150,000 for erosion and $350,000 for wetlands; and (4) the

process for selecting projects should be defined—IDFG recommends either (a) allocate $167,000 for tribe/Avista-proposed projects and $333,000 for USFWS/IDFG/Avista-proposed projects, or (b) select projects using a panel with one voting member each from Avista, the IDFG, the USFWS, and the tribe, with a majority vote needed to approve a project. On March 6, 2007, IDFG filed a list of specific wetland projects (Attachment A of the IDFG letter) that could be implemented under PF-TR-1 to clarify and augment its section 10(j) recommendations.

We have reviewed IDFG's above recommendations but do not recommend adopting them for the following reasons. First, IDFG agrees with Avista's proposed annual funding cap of $500,000 for PF-TR-1 but recommends that any unused funds accumulate year-to-year. In its recently issued Settlement Policy Statement, the Commission noted that a licensee cannot satisfy the obligation to perform certain tasks (in this case, wetlands enhancement) by a simple payment to another party, nor can the obligation be limited by a particular dollar figure. The Commission further stated that it expects the required measure to be performed by the licensee, even if the cost exceeds the agreed-upon cap. Consistent with the Commission's policy, we recommend that Avista carry out all wetlands enhancement in accordance with its wetlands plan, which would be developed under PF-TR-1, notwithstanding the proposed spending caps.

Second, IDFG clarified in its comments filed March 6, 2007, that projects under PF-TR-1 may be selected based, in part, on the need to protect cultural resources but that cultural resource protection should not be the only factor considered when prioritizing wetland and erosion control projects. We agree with IDFG on this approach, but we see no need to modify PF-TR-1. Under PF-TR-1, Avista would develop a plan to identify and prioritize areas for wetland and erosion control projects in cooperation with the tribe, resource agencies (including IDFG), and other cooperating parties. This plan would give IDFG and others the opportunity to help prioritize which projects are completed under PF-TR-1, including the extent to which projects are selected to help protect cultural resources.

Finally, we do not recommend that Avista establish a predetermined ratio of funding for erosion control vs. wetland projects or a predetermined ratio for providing funding to third parties. Again, we recommend that Avista implement specific wetland projects to be identified in its wetlands plan filed with the Commission. We do not recommend using funding ratios to determine which wetland projects get selected. Avista should quantify the amount of shoreline erosion it intends to control and the acreage and type of wetland/riparian habitat it intends to protect and/or enhance in its plan developed pursuant to this measure. Specific goals (length of shoreline/number of acres) should be identified in

Avista's plan instead of non-specific cost caps ($500,000 annually for PF-TR-1). All shoreline protection and/or wetland/riparian habitat enhancement lands for which Avista would have an ongoing responsibility should be included within the Project boundary. Finally, we recommend that Avista file a monitoring report annually instead of every 5 years as proposed in PF-TR-1. This annual monitoring report should give the status of shoreline and wetland/riparian habitat protection under this measure.

The Lands Council and the Sierra Club, in separate comments filed July 17, and July 14, 2006, respectively, recommend that Avista implement measures to protect and enhance wetland and riparian habitat, including identifying high-quality areas and initiating remedial actions within the first year of a new license. The Lands Council also recommends that Avista create a habitat mitigation trust fund. As described above, Avista's proposed action would not significantly affect wetlands, and Avista's proposed measure PF-TR-1 would adequately enhance wetlands at the Project. We do not recommend wetlands mitigation or a separate mitigation trust fund as proposed by the Lands Council and the Sierra Club.

Bald Eagle Surveys, Monitoring, Management, and Education

In its section 10(j) recommendations filed July 18, 2006, the USFWS makes several recommendations to protect bald eagles at both the Post Falls Project and the Spokane River Developments. The USFWS recommends that Avista annually survey the Project area during the bald eagle nesting season (about February through July) to identify any new nests and annually monitor all nests to determine occupancy and productivity. The USFWS also recommends that after monitoring all nests and nesting territories for at least 2 years, Avista prepare site-specific Nest Management Plans for selected nesting territories. Each plan would include key bald eagle use areas, areas where eagle/human conflicts occur, and specific conservation measures to protect eagles and eagle habitat over time. The USFWS recommends that Avista prepare and submit an annual bald eagle monitoring report with all survey and monitoring data to the USFWS, IDFG, WDFW, and the tribe.

In addition, the USFWS recommends that Avista develop a Bald Eagle Educational and Interpretive Program to inform the public about bald eagle use at Coeur d'Alene Lake and Lake Spokane. Under this program, Avista would develop recommendations for recreational users and homeowners to protect bald eagles and their habitat; install interpretive signs at all Avista-owned and public recreation facilities; and distribute habitat protection guidelines in an effort to get shoreline homeowners to protect suitable nesting trees and large snags.

In its September 1, 2006, reply, Avista accepts the USFWS's bald eagle recommendations and incorporates these measures into its proposed action with

two exceptions. First, Avista says any bald eagle surveys, monitoring, and Nest Management Plans should apply only to Project lands. Second, Avista says a separate Bald Eagle Educational and Interpretive Program is not needed because such a measure is already included in its proposed Post Falls Interpretation and Education Plan, which would be developed under PF-REC-4.

In the DEIS, we agreed with Avista that all surveys, monitoring, and Nest Management Plans should be focused on Project lands within the Project boundary. We were concerned that any Nest Management Plans, which would apply to lands outside Project boundaries under USFWS's original recommendation, could contain land use or access restrictions affecting adjacent, private landowners.

In our section 10(j) meeting with the USFWS on March 20, 2007, the USFWS clarified its recommendation, saying any Nest Management Plans that may apply to lands outside Project boundaries would not contain any land use or access restrictions affecting private landowners. With this clarification, we now recommend USFWS's bald eagle surveys, monitoring, and Nest Management Plans in their entirety. We estimate that these measures would cost $52,400 annually. We find that the benefits of these programs would justify their costs.

In the DEIS, we disagreed with Avista's statement that PF-REC-4 already addresses the need for a Bald Eagle Educational and Interpretive Program. PF-REC-4 addresses "natural resource management and opportunities" along with other objectives but does not specifically address a Bald Eagle Interpretive Program. Such a program would minimize the effects of increased recreation on bald eagle use of Project lands and waters as recommended by the USFWS. We continue to recommend that Avista incorporate into its Post Falls Interpretation and Education Plan, to be developed under PF-REC-4, a specific component that implements the USFWS's recommended Bald Eagle Educational and Interpretive Program. We estimate that such a program would cost $6,200 annually. We find that the benefits of this program would justify the costs.

Control of Noxious Weeds

In its section 10(j) recommendations filed July 18, 2006, the USFWS recommends that Avista survey Project lands for noxious weeds and develop a Noxious Weed Management Plan for both the Post Falls Project and the Spokane River Developments. The USFWS recommends that this plan include a long-term program to monitor and report on noxious weed infestations. Avista, in its September 1, 2006, reply, recommends that the Commission reject this recommendation, saying noxious weed management would be addressed in its Post Falls Land Use Management Plan to be developed under PF-LU-1. We reviewed PF-LU-1 and found that it would generally address "weed management"

but contains no details on which noxious weed species would be controlled, how they would be controlled, what management objectives would be established, or any other specific information on controlling noxious weeds. A detailed plan is needed to ensure that increased recreation at the Project does not spread noxious weeds on Project lands, which can adversely affect wildlife habitat. We recommend that Avista incorporate into its Post Falls Land Use Management Plan, to be developed under PF-LU-1, provisions that implement the USFWS's recommended Noxious Weed Management Program. These provisions should include both monitoring and control measures and an annual monitoring report filed with the USFWS, the IDFG, and the Commission. We estimate that these provisions would cost $11,200 annually. We find that the benefits of these provisions would justify the costs.

Cultural Resources

DOI's May 7, 2007, modified 4(e) condition 4 calls for the expansion of the Post Falls Project's APE above the 2,128-foot elevation line where adverse effects, especially shoreline erosion, to cultural resources may occur. DOI removed its original directive in its preliminary condition 4 requiring Avista to do a resurvey within the expanded APE, opting for a more programmatic approach to assessing the effects on cultural resources over the term of the new license. DOI also eliminated its original requirement in its preliminary condition 4 that the APE be expanded within a zone 100 feet beyond the 2,128-foot boundary. Nevertheless, in its modified condition 4, DOI submits that the APE must, at a minimum, encompass the area that would be subject to shoreline erosion over the license term. Within the extended APE, DOI would require Avista to perform ongoing monitoring to ensure that effects to cultural resources on the reservation within the APE were identified and addressed throughout the new license term.

With regard to Avista entering into an agreement with the Coeur d'Alene Tribe whereby Avista would provide law enforcement to prevent looting at archaeological sites on the reservation, DOI has withdrawn this directive in its modified condition 4. Instead, it would simply require Avista to protect cultural resources on reservation lands from illegal scavenging and collecting.

As in its preliminary condition 4, DOI maintains in its modified condition 4 that Avista should provide funds for upgrading and expanding the existing Coeur d'Alene Tribe's curation facility, in order to curate cultural resource material recovered from the Project in an appropriate manner. DOI further details that the upgrading and expansion of the curation facility would be contingent upon whether the volume of curating and storing cultural material exceeds the capacity of the tribe's existing curation facility.

Staff agrees with DOI's final modified BIA 4(e) condition 4 in terms of appropriately expanding the APE over the term of a new license to address the adverse effects of erosion (as well as other related adverse effects, such as pothunting, looting, or unauthorized collecting) on archaeological sites in the reservation or in other parts of the Projects. Overall, we recommend that Avista, in consultation with the CRWG, determine what areas beyond the 2,128-foot elevation line need to be included in an expanded APE. The program to expand the APE would be conducted over the term of a new license, along with inventorying cultural resources, making National Register evaluations and determinations, and resolving adverse effects involving historic properties within the expanded APE. The program would be incorporated in Avista's final HPMP. This program would also be augmented with ongoing and future monitoring of targeted cultural resources; such a monitoring program would be made part of the final HPMP.

Staff also agrees with DOI's final modified condition 4 requiring that Avista protect cultural resources on reservation lands from pothunting, looting, or unauthorized collecting. Staff recommends that Avista incorporate a protection program along these lines into its final HPMP.

Staff does not recommend adopting the aspect of DOI's modified condition 4 requiring Avista to provide funds for upgrading and expanding the present Coeur d'Alene Tribe's curation facility. (However, we acknowledge that as a 4(e) condition, it must be included in the license). We agree with the DOI that Avista's responsibilities for curation of cultural materials recovered from reservation lands need to cover the entire term of the new license for the Post Falls Project, as well as the Spokane Project. However, under new licenses, we cannot compel Avista to provide funds to upgrade or expand the Coeur d'Alene Tribe's current curation facilities. Nevertheless, we find that it would be consistent for Avista to provide assistance to the Coeur d'Alene Tribe to upgrade and expand its existing curation facility, which in turn would help Avista comply with its obligations to curate cultural materials recovered from the Projects. We recommend that Avista put into the final HPMP a curation program for cultural material recovered from the Projects, and that such a curation program be suitable for the Coeur d'Alene and the Spokane Tribe of Indians, as well as others in the CRWG.

Staff proposes to implement Avista's counterproposal to DOI's preliminary condition 4 involving cultural resources at the Post Falls Project. Overall, this counterproposal would include the implementation of a HPMP that would be used for the term of a new license. Once the TCP inventories and evaluations are complete, we recommend that Avista address in the HPMP the potential effects of the Proposed Action on TCPs. Additionally, we recommend that Avista include a

program in the HPMP to conduct cultural resource monitoring of historic properties, places known to contain human remains, and areas known to be at high risk from erosion and looting located on reservation land within the Project APE. We also note that Avista would need to curate all cultural materials recovered from the Projects for the term of the new licenses.

Recreation Resources

Avista proposes to implement a Post Falls Project Recreation Plan (PF-REC-1), which we discuss in section 3.3.8. In this section, we discuss Avista's Post Falls Project proposed PME measures for recreation as identified in Appendix B of its Proposed Action, PF-REC-1 to PF-REC-4.

We recommend Avista's recreation measures for the Post Falls Project in part only, because the proposed Recreation Plan primarily focuses on partnering with certain entities and providing funds (cost-share). Falls Park and Q'emiln Park are located within the existing Post Falls Project boundary. The remaining recreation sites are located on or outside the Project boundary. Based on the best available information, including staff's utilization of a geographic information system (GIS), we find that certain recreation sites are not needed for Project purposes, which we discuss herein.

For those recreation sites that currently lie outside the Post Falls Project boundary, we determined, by utilizing GIS and considering the Project's record, that certain recreation sites would enable the public better access to and enjoyment of Project lands and waters and would serve a Project purpose; the land occupied by such sites should therefore be brought into the Post Falls Project boundary. We discuss our findings below.

City of Coeur d'Alene Parks

Under the Coeur d'Alene Lake Recreation (PF-REC-2) PME measure, Avista proposes to cooperate with the City of Coeur d'Alene to develop new and/or improve existing recreation facilities at numerous city parks adjacent to Coeur d'Alene Lake and the upper Spokane River. Proposed measures include (1) installing showers at the 16.5-acre Coeur d'Alene City Park for beach users; (2) installing a new restroom shelter at McEuen Field and Park; and (3) connecting Mill River Park to the Idaho Centennial Trail at the Huetter Road overpass. Avista would provide funding to the city (not to exceed $27,750 for construction of the three projects) and provide $3,500 annually to supplement the city's O&M. Pursuant to the LWCF Act, Coeur d'Alene City Park was developed with LWCF Act funds. See section 5.4.5 for further discussion.

Using GIS, we were able to assess the approximate location of the City of Coeur d'Alene Park and estimate that the park is 500 feet from the Project

boundary. However, as a component of PF-REC-2, we are unable to ascertain the locations of McEuen Field and Park or of Mill River Park. Another component of the measure, "to develop new and/or improve recreation facilities at numerous city parks," does not provide enough detail for us to assess. Avista did not provide any concrete measures with measurable requirements and Project impacts related to the City of Coeur d'Alene Park (e.g., the length of the trail proposed to connect Mill River Park to the Idaho Centennial Trail and Project-related recreational use data). We are therefore unable to draw a connection between the Post Falls Project and the City of Coeur d'Alene Park measures. While Avista and the City of Coeur d'Alene may enter into an off-license agreement, we do not recommend that such provisions be included as a requirement in any license issued for the Project.

Boat Ramp Extensions

Under PF-REC-2, Avista proposes to cooperate with IDFG, Kootenai County Parks and Waterways, IDPR, and the Coeur d'Alene Tribe to extend seven boat ramps in order to accommodate "off-season" (generally from December to mid-June) recreational use on Coeur d'Alene Lake and the Coeur d'Alene and St. Joe Rivers. These seven boat ramps are at Anderson Lake (owned by IDFG), Round Lake (owner unknown), Sun Up Bay (owned by Kootenai County), Loffs Bay (owned by IDFG), Harrison (owned by the City of Harrison), Chatcolet (owned by IDPR), and Rocky Point (owned by IDPR). Avista would provide funds in an amount not to exceed $75,000 for all of the boat ramp extensions. We are unsure whether this cost includes O&M costs or any costs necessary to dredge the area(s) prior to extending the boat ramps.

In comments on the DEIS, Avista stated that $75,000 is intended for construction of the boat ramp extensions only, not for O&M costs or dredging. According to Avista, the stakeholders did not intend for Avista to fund O&M costs for the boat ramp extensions or the associated upland areas. We note, however, that Avista would provide annual funds (not to exceed $159,500) to supplement the parties' O&M costs for all the proposed recreation projects, as identified in PF-REC-2. Although Avista contends that dredging should not be necessary at the boat ramps, Avista did not provide any evidence to support its conclusion.

Of the seven sites, we note that the Louis Berger Group (2004a) did not identify Round Lake in its recreational site inventory. Consequently, we are unable to analyze any potential Project-related effects on Round Lake. Using GIS, we were able to assess approximate locations of the six sites where the boat ramps would be extended. Anderson Lake, Sun Up Bay, Lofts Bay, Harrison, and Rocky Point boat access sites are located on the existing Post Falls Project boundary adjacent to Coeur d'Alene Lake. The Chatcolet boat access site is located on the existing Project boundary adjacent to Chatcolet Lake, which is part of Coeur d'Alene Lake.

Based on data collected for the *Recreation Facility Inventory and User Surveys Report* (Louis Berger Group, 2004a), the six boat launches comprise an estimated total of 6.9 acres. Given the nexus between the Post Falls Project and recreational use at Anderson Lake, Sun Up Bay, Lofts Bay, Harrison, Chatcolet, and Rocky Point boat access sites, as discussed in section 3.3.8, improving these sites could help meet projected demand for recreational resources in the "off-season" and provide recreational opportunities for disabled persons through barrier-free facilities. In the DEIS, we recommended that only the boat ramps be included within the Post Falls Project boundary; however, from the comments received on the DEIS, we offer a clarification, as discussed below.

In comments on the DEIS, the IDPR agreed with the inclusion of Chatcolet and Rocky Point boat ramps in the Post Falls Project boundary. The IDPR does not recommend that the associated upland areas be located within the Project boundary because it effectively manages the two sites as part of Heyburn State Park. In comments on the DEIS, Avista commented that the upland areas of the boat ramps should not be included within the Project boundary because there is no nexus between the Project and these areas. Based on the comments, we find that the upland areas associated with the boat ramps should continue to remain outside the Post Falls Project boundary.

We continue to find that the Anderson Lake, Sun Up Bay, Lofts Bay, Harrison, Rocky Point, and Chatcolet boat ramps provide public access to Project waters, are needed for Project purposes, and should be made Project facilities. We recommend that only the boat ramps be brought into the Project boundary. Signage at the sites should identify them as part of the Post Falls Project. Although Avista and the appropriate party may enter into an off-license agreement for the above purposes, Avista would have the ultimate responsibility for redeveloping (as necessary), operating, and maintaining the six boat ramps.

The annualized cost for this measure would be $9,700. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

Under PF-REC-2, Avista identifies various federal, state, and local agencies and tribes with whom Avista would consult. Avista should also consult with the City of Harrison because the city owns the boat ramp at Harrison, and we recommend expanding the Project boundary to include this boat ramp.

Coeur d'Alene Tribe

Under the Coeur d'Alene Lake Recreation (PF-REC-2) PME measure, Avista proposes to cooperate with the Coeur d'Alene Tribe to develop or enhance water-based recreational facilities on Coeur d'Alene Lake and its tributaries.

Avista would provide funding to the tribe (not to exceed $200,000) for development of a recreational site and provide $30,000 annually to supplement the tribe's O&M of the facility.

The location of the proposed recreation site is unknown, and the measure does not include enough detail to allow the staff to assess the potential benefits of the specific measure. The parties do not provide any substantial evidence to support the measure or how the measure would be related to Project effects or Project purposes. Although the measure states that the site would educate tribal members and the public about the Coeur d'Alene Tribe, our recommended HPMP would contain a provision for public awareness of cultural resources within the Project's defined APE. We therefore do not recommend the measure as a requirement in any license issued for the Project.

Idaho Department of Parks and Recreation

At Higgens Point boat launch, under PF-REC-2, Avista proposes to cooperate with IDPR to construct a breakwater for the boat-launch area, stabilize the shoreline that is eroding due to wind fetch, and reconstruct the docks at the boat-in-only sites. Avista would provide funding to the state (not to exceed $100,000) for redevelopment and provide $10,000 annually to supplement the state's O&M of the facility.

The boat launch and day-use area occupy 15 acres. The estimated annual recreational use at this site is 7,771 people (Louis Berger Group, 2004a).

We find that the measures proposed for the Higgens Point boat launch area could protect the shoreline from soil erosion resulting from a combination of erosion processes (wind- and boat-generated waves) in the Project area. Improving the Higgens Point boat launch could continue to provide public access to Project waters and help meet a demand for boating and fishing during the term of a license, if a license were issued.

In comments on the DEIS, the IDPR noted that the locations of the improvements (breakwater and shoreline) are already, or could be, included within the Post Falls Project boundary. The IDPR opposed including the upland area of the Higgens Point boat launch within the Project boundary because it effectively manages the adjacent parking area, restrooms, and hiking trails. In comments on the DEIS, Avista stated that the breakwater, shoreline, and boat docks are already located within the Project boundary. Avista commented that the entire Higgens Point boat launch and day-use area should not be included within the Project boundary because the site would exist regardless of the Project. Based on the comments filed on the DEIS, we do not recommend expanding the Project boundary to include the upland area.

Because the Higgens Point boat launch is an existing component of the Post Falls Project, we recommend that Avista continue to operate and maintain the facility. The annualized cost for improving the Higgens Point boat launch would be $25,000. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

USDA Forest Service

Under PF-REC-2, Avista proposes to cooperate with the Forest Service to enhance and maintain water-based Forest Service facilities at Bell Bay Campground, Medimont Recreation Area, and Rainey Hill Recreation Area. Avista would provide funding to the Forest Service (not to exceed $54,000) for project redevelopment and provide $15,000 annually to supplement the Forest Service's O&M. We assume that "water-based" facilities refer to the boat dock and/or boat ramp and associated parking at the recreation sites. Bell Bay Campground's boat dock is located on Coeur d'Alene Lake. Both Medimont Recreation Area and Rainey Hill Recreation Area are boat-access sites with boat ramps on the Coeur d'Alene River. In its August 24, 2006, filing, the Forest Service section 10(a) recommendation no. 2 (Recreation Facilities on USDA Forest Service lands), Forest Service modified condition 1 (Post Falls Recreation Plan) and modified condition 2 (Recreation Facilities on USDA Forest Service Lands) do not include enough detail to allow the staff to assess the potential benefits of the specific measures.

According to a USGS quadrangle map, there is a ± 40-foot margin of error with a licensee's existing project boundary. Based on the staff's GIS analysis, Bell Bay Campground and Medimont Recreation Area are located approximately 40 feet from the existing Post Falls Project boundary. An estimated one-third of Rainey Hill Recreation Area is located within the Project boundary; an estimated two-thirds are located about 100 feet from the Project boundary. Annual recreational use at the sites is as follows: Bell Bay Campground, approximately 1,575 people; Medimont Recreation Area boat launch, approximately 886 people; and Rainey Hill Recreation Area boat launch, approximately 457 people (Louis Berger Group, 2004a). As discussed in section 3.3.8, we find that the 101-acre Bell Bay Campground (including the boat dock), the 1-acre Medimont Recreation Area boat access site, and the 5-acre Rainey Hill Recreation Area boat access site are linked to the effects and purposes of the Project.

In comments on the DEIS, the USDA Forest Service stated that improving Bell Bay Campground, Medimont Recreation Area, and Rainey Hill Recreation Area could enhance recreational resources and potentially alleviate overcrowding at other recreation sites. The Forest Service did not object to these lands being included within the Post Falls Project boundary; however, it would continue to operate the facilities.

Avista, in comments on the DEIS, did not agree with inclusion of the three Forest Service recreation sites within the Project boundary because the sites are located immediately adjacent to the Project boundary; are managed effectively by the Forest Service; and costs incurred by Avista to operate and maintain the sites would exacerbate the negative net benefit of relicensing the Project.

Extending the Project boundary to include these lands would enable the public better access and enjoyment of Project lands and waters. Improving the three Forest Service recreation sites could enhance the recreational resources and help meet a need for a variety of recreational opportunities and activities. Also, improving these sites could potentially alleviate overcrowding at other recreation sites. It would be appropriate, therefore, to include Bell Bay Campground, the Medimont Recreation Area boat access site, and the Rainey Hill Recreation Area boat access site within the Post Falls Project boundary.[6] We estimate that these facilities would add approximately 107 acres of federal land to the Project area, which would increase Avista's annual costs by an estimated $4,500.

Avista notes that it has entered into an agreement with the Forest Service that identifies and satisfies Avista's obligations for the three sites. Regarding Avista's assertion of an agreement between it and the Forest Service, the record does not indicate any said agreement. Regardless, although Avista and the Forest Service may enter into an off-license agreement for the above purposes, Avista would have the ultimate responsibility for redeveloping (as necessary) and maintaining these three recreation sites. The Forest Service states that it would continue to operate the facilities.

The annualized cost for improving Bell Bay Campground, Medimont Recreation Area, and Rainey Hill Recreation Area would be $95,900. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

Trailer Park Wave Access Site

Under the Post Falls/Spokane River Recreation (PF-REC-3) PME measure, Avista proposes to cooperate with several parties and develop the Trailer Park Wave access site. The preferred location for the site is on private land.[7] Avista would provide funds (not to exceed $150,000) for site acquisition and/or site development and provide $15,000 annually for O&M.

The Trailer Park Wave access site (Class II whitewater difficulty) is located immediately downstream from Post Falls Dam. To access the site, boaters either

[6] *See*, 111 FERC ¶ 61,450 (2005).

[7] Avista states that alternative locations would be considered if reasonable acquisition or an easement negotiation with the landowner were not successful.

paddle upstream from another access point or park at Falls Park, carry their kayaks approximately 0.25 mile to the north bypass reach, then paddle approximately 0.5 mile to the site. In concert with this measure, Avista proposes to coordinate the late spring and fall flow releases from its Post Falls Dam to extend whitewater boating opportunities at the site. Based on survey results (Louis Berger Group, 2004b) and Avista's proposal to provide additional whitewater boating flow releases, we conclude that the Trailer Park Wave access site is directly associated with public access to Project waters and that a sufficient nexus to reservoir-based recreation exists. Providing new public access would significantly benefit the public. We conclude there is a demonstrated need for a new public access site; the Trailer Park Wave access site could fulfill such a need. Upon acquiring the site, or an alternative site, we recommend that those lands be brought into the Project boundary.

The annualized cost for developing the Trailer Park Wave access site would be $37,500. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

Recreation Plan

In light of our recreation findings, we recommend that Avista develop and, upon Commission approval, implement a final Recreation Plan for the Post Falls Project. The plan, at a minimum, should provide one or more maps that clearly identify all Project-related recreation sites and associated acreage, including those identified above by the staff to be included within the Post Falls Project boundary. For the Project, we identify, at a minimum, those facilities to be Falls Park and Q'emiln Park; six boat ramps at Anderson Lake, Sun Up Bay, Lofts Bay, Harrison, Chatcolet, and Rocky Point; three Forest Service recreation sites (Bell Bay Campground, Medimont Recreation Area boat access site, and Rainey Hill Recreation Area boat access site); Higgens Point boat launch; and the Trailer Park Wave access site.

The final Recreation Plan should include the following items: (1) specific measures to improve recreation sites or public access; (2) signage; (3) soil erosion and sediment control measures where ground-disturbing activities are proposed; (4) periodic monitoring and site clean-up at the recreation sites, or assessment and implementation of a "carry-in/carry-out" policy for the public to carry out their trash; (5) removal of abandoned docks, other human-constructed structures, and debris from Coeur d'Alene Lake; (6) a discussion of how the needs of the disabled were considered in the planning and design of each recreation facility; (7) an implementation schedule, including construction; (8) cost estimates and schematic drawings of the facilities; and (9) documentation of consultation with the City of Post Falls, City of Harrison, Kootenai County Parks and Waterways, IDFG, IDPR, USFWS, EPA, USDA Forest Service, NPS, Northwest Whitewater Association,

and the Coeur d'Alene Tribe and specific descriptions of how the agencies' and tribe's comments and recommendations are accommodated by the plan.

The final Recreation Plan should be developed in concert with the staff-recommended Coeur d'Alene Lake Aquatic Weed Management Plan (PF-AR-2). To address DOI's comments and to ensure protection of the federally listed bald eagle, the final Recreation Plan should identify and address potential conflicts between the bald eagle, including associated habitat, and Project-related construction and/or improvements of recreational facilities.

Under the Staff Alternative, the annualized cost for developing and implementing a final Recreation Plan for the Post Falls Project would be between $90,000 and $167,700. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

Aids to Navigation

For the Post Falls Project, Avista proposes to cooperate with the Coeur d'Alene Tribe, Kootenai County Parks and Waterways, Benewah County, and the U.S. Coast Guard to install aids to navigation on Coeur d'Alene Lake and along the Coeur d'Alene and St. Joe rivers as the rivers enter the lake (PF-REC-2). Avista would provide funding (not to exceed $20,000) for new or enhanced navigational aids and provide $1,000 annually to supplement the parties' O&M costs.

As required under Commission regulations, Avista has developed and implements a Public Safety Plan for the Post Falls Project. The plan is reviewed regularly by Commission staff, and Avista is responsible for ensuring that Project-related public safety measures are implemented.

Avista's existing Public Safety Plan provides for boater restraining cables, signs, and other measures to protect the public at the Project. Because we are now recommending that certain recreation sites be included within the Post Falls Project boundary, Avista should, in consultation with the Commission's Portland Regional Office, modify its Public Safety Plan, under Part 12.42 of the Commission's regulations, to address public safety at the sites. Commission staff would advise Avista on whether its modified Public Safety Plan should include a provision for installing aids to navigation on Coeur d'Alene Lake and along the Coeur d'Alene and St. Joe rivers as the rivers enter the lake. Until such time, we defer to the Commission's Portland Regional Office regarding Avista's proposal to install aids to navigation.

Land Use and Management

Avista proposes to implement a Land Use Management Plan for the Post Falls Project (PF-LU-1). As discussed in section 3.3.9, Avista provides general information about its proposed Land Use Management Plan, rather than specific measures. In addition, Avista would provide financial support, which we discuss herein under *Other Measures/Funds*.

The IDPR opposes inclusion of the upland portions of certain recreation facilities (e.g., Higgens Point day use area) within the Post Falls Project boundary, as recommended by the staff in its DEIS and as discussed above. The IDPR agrees with the staff on certain recreation facilities (e.g., the Chatcolet and Rocky Point boat ramps) to be included within the Project boundary. Based on comments on the DEIS, we continue to recommend that certain lands occupied by a recreation site be brought into the Post Falls Project boundary and be reflected in a final Recreation Plan. In concert with its final Recreation Plan, Avista should develop and implement a final Land Use Management Plan. The Land Use Management Plan should identify, on one or more maps, Avista's proposal for adding 2,352 acres and removing 0.5 acre from within the Project boundary. The plan, at a minimum, should contain the following items: (1) a table that identifies land use categories and associated acres; (2) a buffer zone; (3) a schedule, including update(s) to the plan; (4) a provision to implement the USFWS-recommended Noxious Weed Management Program; and (5) documentation of agency consultation. The Land Use Management Plan also should be developed in concert with the staff-recommended measures as discussed under Avista's proposed PF-TR-1 (Coeur d'Alene Lake and Tributary Erosion Control and Wetland and Riparian Habitat Protection and Enhancement). As stated in Chapter 4.0, *Developmental Analysis*, the cost for developing and implementing a final Land Use Management Plan is assumed to be included in the cost of the draft plan.

Other Measures/Funds

Coeur d'Alene Lake Recreation

Avista proposes to cooperate with the BLM to develop or enhance water-based recreational facilities on Coeur d'Alene Lake and its tributaries (PF-REC-2). Avista does not provide any specific information about the measure; however, Avista proposes to provide funding for the measure (not to exceed $200,000)[8] and provide BLM $33,000 annually to supplement the cost for O&M. In its July 18, 2006, filing, BLM, through Interior, states that BLM plans to develop a yet-to-be-determined recreation site adjacent to the Post Falls Project boundary with an estimated cost of $800,000. BLM does not provide any substantial evidence to support the measure or how the measure would be related to Project effects or

[8] The RLUAWG determined that Avista's financial responsibility is approximately 25 percent of total Project cost for many of the agreed-upon PME recreation measures.

Project purposes. Due to the lack of specificity concerning this measure, we do not recommend the measure as a requirement in any license issued for the Project.

At five recreation sites—Mowry State Park, Heyburn State Park, Hawleys Landing, and two swimming beaches at Plummer and Rocky Point—as defined under PF-REC-2 (Coeur d'Alene Lake Recreation), Avista would provide funds to the respective entity for site development. In addition, Avista would provide funds (not to exceed $60,000) for the Trail of the Coeur d'Alenes and provide $7,500 annually to supplement the Coeur d'Alene Tribe's O&M. The recreational site inventory (Louis Berger Group, 2004a) did not identify Heyburn State Park. Neither Avista nor the parties demonstrated how these facilities are utilized in connection with the Project, nor did they demonstrate the need for the facilities. Avista and the parties did not provide any concrete measures with measurable requirements and Project impacts that we could assess. For example, Avista proposes to cooperate with IDPR and provide funds (not to exceed $2,000) to place sand at the Plummer and Rocky Point swimming beaches.

We note that Hawleys Landing and Rocky Point are approximately 1 mile apart. Under the Proposed Action (PF-REC-2), the Hawleys Landing boat docks and Rocky Point boat ramp would be extended to accommodate "off-season" recreational use. Under the Staff Alternative, we recommend extending the Rocky Point boat ramp to provide for sufficient recreational opportunity at Rocky Point and elsewhere (see *Boat Ramp Extensions*, above). We continue to find that Hawleys Landing boat docks would not be necessary for Project purposes and should not be considered Project facilities. We reach a similar finding for Corbin Park boat ramp (PF-REC-3, Post Falls/Spokane River Recreation). Based on the record, we have no justification for recommending that site development at Mowry State Park, Heyburn State Park, Hawleys Landing boat docks, and the two swimming beaches at Plummer and Rocky Point should be included as a requirement in any license issued for the Project. Avista and the appropriate party may enter into an off-license agreement for the above purposes.

As a part of its Land Use Management Plan for the Project, Avista proposes to provide financial support for enforcement of land- and water-based laws and regulations administered by federal, state, and local governmental entities. The entities would apply to Avista for funds prior to an annual spring meeting in order to allow Avista and the entities to evaluate their proposals.

As part of its proposed Recreation Plan for the Post Falls Project (PF-REC-1), Avista would establish a Recreation Enhancement Fund. Under this plan, Avista would contribute its financial obligation (an estimated 25 percent) to the fund, particularly for measures adjacent to Coeur d'Alene Lake, in the event an agency with principal ownership or management responsibilities of a recreation site could not secure the necessary funds to complete a recreation project.

Under the Proposed Action, Avista would (1) purchase and maintain a boat to support recreation-related PME measures (total cost to be shared 50/50 with the Spokane River Developments); (2) support office staff time and expenses associated with new PME measures; (3) provide for administrative overhead costs for new PME measures; and (4) provide funds to ensure continued public access and to develop new and/or reconstructed recreation projects on or adjacent to the Project.

As stated in the Commission's *Policy Statement on Hydropower Licensing Settlements*,[9] the most reasonable approach for a licensee is to establish what measures the licensee must perform, and for any settlement between a licensee and third parties regarding the performance of those measures to be addressed in off-license agreements. The recreation enhancement fund does not include any specific Project-related measures. We conclude there is no connection between the proposed recreation enhancement fund and Project effects and purposes. We also find that providing funds for agency personnel to perform an agency's duties is not the responsibility of Avista in the context of a Commission license and is not required to fulfill the Project's purposes. Thus, we do not recommend these provisions as a requirement in any license issued for the Project.

Avista proposes to contribute an estimated 25 percent of the total Project cost for a recreation measure and enter into a separate agreement with an appropriate entity for O&M. As stated in the Commission's *Policy Statement on Hydropower Licensing Settlements*, a licensee cannot satisfy the obligation to perform tasks by a simple payment to another party, nor can the obligation be limited by a particular dollar figure. Dollar figures agreed to by the parties are not absolute limitations. If the Commission requires that a facility be maintained, it can look only to the licensee to do so. Thus, a license condition must place responsibility for completion of a measure on the licensee. Any cost-sharing agreement may have to be a matter of contract between the licensee and the third party, but would not be something that Commission staff would recommend for inclusion in a license.

5.1.1.4 Staff Alternative with Mandatory Conditions

The BIA and USDA Forest Service have made modified 4(e) conditions (described in section 2.3.3 and in Table 2.2.4-1). Similarly, the USFWS has made its modified recommendation to reserve the authority to prescribe the construction, operation, and maintenance of fishways in the future during the term of any license(s) for the Post Falls Project and Spokane River Developments. Valid, final 4(e) conditions would need to be included into any new license(s) for the Projects. Incorporation of these mandatory conditions, as they are currently proposed, into

[9] *See*, 116 FERC ¶ 61,270 (2006).

any new license(s) would cause us to eliminate a few of the environmental measures that we include in the Staff Alternative. These measures would include staff-recommended measures that would no longer be necessary if the respective BIA 4(e) conditions prevail. The measures that would be replaced by BIA mandatory conditions include the following:

- Develop and implement a Water Quality Monitoring Plan to collect water temperature and DO data in Coeur d'Alene Lake for the first 5 years of any license that is issued for the Project. This plan would include monitoring areas of the lake within the Coeur d'Alene Indian reservation and areas outside of the reservation.

- Implement PF-TR-1, estimated to cost $15,000,000. We would not recommend this measure in light of DOI's revised 4(e) conditions 2 and 6. DOI's 4(e) conditions would prevail. Revised condition 2 would require Avista to control shoreline erosion on 50 percent of the St. Joe River and on 30 percent of Coeur d'Alene Lake on the reservation. We estimate that revised condition 2 would cost $3,000,000. Revised condition 6 would require Avista to restore and/or replace 3,488 acres of wetlands on or off the reservation. We estimate that revised condition 6 would cost about $10,464,000. We note that implementing DOI's revised 4(e) conditions 2 and 6 instead of PF-TR-1 would tend to concentrate shoreline erosion control and wetlands mitigation on the reservation instead of on the Project in general (although most erosion control and wetlands work would have been done on the reservation anyway under PF-TR-1) and would give the tribe sole authority to approve shoreline erosion and wetland projects under these two 4(e) conditions. To ensure that other entities have input on how shoreline erosion control and wetland mitigation are accomplished at the Project, we would recommend requiring Avista to consult with the IDFG, USFWS, the Lands Council, and other stakeholders on its shoreline erosion control and wetland plans developed under these two 4(e) conditions, and we would recommend that Avista file these plans for Commission approval.

We also would not recommend that Avista implement the staff-recommended Coeur d'Alene Lake Aquatic Weed Management Plan for the Project area within the Coeur d'Alene Indian reservation, because the BIA 4(e) modified condition 6 for a Coeur d'Alene Indian Reservation Aquatic Weed Management Plan would be redundant and more extensive than Avista's proposed measure developed in consultation with agencies and stakeholders.

5.1.2 Spokane River Developments

5.1.2.1 Measures Proposed by Avista

Avista has proposed a comprehensive set of PMEs for the Project. Through our analysis in Chapter 3.0, we evaluated those PMEs along with stakeholder recommendations pertaining to several of the measures. We recommend including the following environmental measures proposed by Avista in any license issued for these developments:

Operational Measures

- Avista would continue to operate the Spokane River Developments in a manner similar to current Project operations, but with a slightly modified reservoir management approach.

- Aesthetic flows would continue to be provided year-round at Monroe Street Development and also would be initiated seasonally at Upper Falls Development.

- Avista would limit the drawdown of Lake Spokane to 14 feet, except under certain emergency conditions. This would constitute a change from current license conditions, which allow for a 24-foot maximum drawdown, but would not be a change from the way the Project has been operated in recent years.

- Avista would attempt to periodically draw down Lake Spokane during the winter to expose the lake bed to freezing temperatures to reduce the occurrence of aquatic weeds such as Eurasian watermilfoil.

Aquatic Resource Measures

- Develop and implement a Lake Spokane Aquatic Weed Management Program (as part of a Lake Spokane Aquatic Weed Management Plan; see below).

Water Quality Measures

- Implement a TDG Control and Mitigation Program (SRP-WQ-1), which includes a TDG Control and Mitigation Program, spill gate operating protocols, TDG monitoring and evaluation, and a comprehensive Long Lake Development TDG Abatement Plan.

Terrestrial and Geologic Resource Measures

- Implement a Lake Spokane/Nine Mile Terrestrial, Riparian and Wetland Habitat Protection and Enhancement Program (SRP-TR-1) with provisions for acquiring a 47-acre parcel of wetlands and incorporating about 320 acres of

Avista-owned land located within 200 feet of Lake Spokane into the Project boundary.

- Implement a Spokane River Project Transmission Line Management Program (SRP-TR-2) with provisions for managing vegetation, protecting raptors, and preparing monitoring reports.

- Annually monitor bald eagle nests for occupancy and nesting productivity; annually survey for new bald eagle nests; and develop Bald Eagle Nest Management Plans, all for Project lands (both Post Falls and Spokane River Projects).

Aesthetics

- Provide a 200-cfs minimum daily aesthetic flow through the Upper Falls Development bypassed reaches (north and middle channels) from 10 a.m. to one-half hour after sunset, Memorial Day weekend through September 30, and implement channel restoration as feasible to enhance visual conditions.

- Continue to provide the current 200-cfs minimum daily aesthetic flow from 10 a.m. to one-half hour after sunset daily, year-round, at Monroe Street Development.

Land Use and Management Measures

- At Upper Falls and Monroe Street Developments, remove 2.8 acres that serve no Project purpose from the Project boundary.

- At Nine Mile Development, remove 66 acres that serve no Project purpose from the Project boundary.

- At Long Lake Development, add 350.1 acres associated with a proposed shoreline buffer, the Nine Mile Resort, a dredged boat area, and a section of primary transmission line to the Project boundary.

Recreation Measures

Spokane River Recreation Protection, Mitigation, and Enhancement (SRP-REC-2)

- Continue to manage Huntington Park at Monroe Street Development as a natural area/buffer.

Spokane River Public Outreach Protection, Mitigation, and Enhancement (SRP-REC-3)

- Prepare and implement an Interpretation and Education Plan with provisions for interpretive signs, public information, boating and recreational safety

information, and coordination with relevant agencies that provide interpretation and educational materials/services.

- Conduct recreational use surveys at the Project every 6 years.

Lake Spokane/Nine Mile Reservoir Recreation Protection, Mitigation, and Enhancement (SRP-REC-4)

- Remove the land occupied by the Nine Mile cottages from within the existing Spokane River Developments boundary because it does not serve a Project purpose.

- Develop an interpretative center at Nine Mile Development, relocate the existing Nine Mile overlook to accommodate the disabled, and redevelop the interpretive displays at the Spokane House.

- Develop and identify the Nine Mile portage, including construction of a four- or five-stall parking area and installation of informational and warning signs at the Plese Flats access site and upstream from Nine Mile Dam.

- Reconfigure Nine Mile Resort as a day-use area in concert with the WSPRC's proposed new campground at Riverside State Park.

- Extend the Centennial Trail approximately 1 mile from Sontag Park to the Nine Mile Resort.

- Identify and develop up to 10 boat-in-only semi-primitive campsites on Lake Spokane.

- Redevelop the Long Lake Dam overlook to include interpretive signs and a reconfigured parking area.

- Develop a carry-in-only boat launch immediately downstream from the Long Lake Dam picnic area.

Cultural Resource Measures

- Develop and implement the HPMP (SR-CR-1).

- Implement a PA that stipulates the implementation of an HPMP for the Project.

5.1.2.2 Staff-Recommended Measures

In the Staff Alternative, we also include the following additions or modifications to Avista's proposed environmental PME measures:

Water Resource Measures

- Develop and implement a Long Lake Oxygen Monitoring and Enhancement Plan to assess the feasibility of, and implement measures for, improving DO conditions in the Spokane River downstream of Long Lake Dam.

Aquatic Resource Measures

- Stock 6,000 catchable-sized sterile trout (6 to 8 inches) in Upper Falls Reservoir and 9,000 catchable-sized sterile trout in Nine Mile Reservoir.

- Develop and implement a Lake Spokane Trout Stocking and Creel Survey Plan to guide the stocking of 155,000 catchable-sized sterile rainbow trout in Lake Spokane (Long Lake Reservoir) annually for the first 5 years of license issuance and to monitor the success of the stocking program.

- Develop and implement a Spokane River Fisheries Public Education and Outreach Program Plan specific to native rainbow trout populations in the Spokane River downstream of the Post Falls Project.

- Develop and implement a Lake Spokane Aquatic Weed Management Plan.[10]

- Conduct even-year monitoring of Nine Mile Reservoir for early detection of noxious aquatic weeds.

Terrestrial and Geologic Resource Measures

- In addition to erosion-related measures in Lake Spokane/Nine Mile Terrestrial, Riparian and Wetland Habitat Protection and Enhancement Program (SRP-TR 1), include provisions to prepare and implement a Sediment Management Plan for Nine Mile and Long Lake Developments.

- Incorporate a Bald Eagle Educational and Interpretive Program into Avista's proposed Spokane River Interpretation and Education Plan to be developed under SRP-REC-3.

[10] Avista proposes a funding commitment with an annual cost cap; however, we are recommending that Avista be responsible for complying with all measures included in a Lake Spokane Aquatic Weed Management Plan, notwithstanding any limitations on expenditures. Additionally, although we have no objection to Avista entering into a cooperative agreement to undertake the measures, Avista would ultimately be responsible for ensuring that the measures included in the plan are implemented. The types of measures that we envision Avista implementing under this plan are consistent with Avista's stated preference to perform operational, monitoring, and control measures for noxious aquatic weeds as identified in its PME measure SRP-AR-2. We acknowledge Avista's desire to limit expenditures and recommend that the spending cap for developing and implementing the Lake Spokane Aquatic Weed Management Plan be included in any new license issued for guidance purposes only.

- Survey Project lands and incorporate provisions to control noxious weeds into Avista's proposed Spokane River Developments Land Use Management Plan to be developed under SRP-LU-1.

- Modify Avista's proposal to survey, monitor, and develop Nest Management Plans for bald eagles so these activities are not limited to Project lands (except on-the-ground enhancements).

- Modify Avista's proposed measure SRP-TR-1 to require a plan that includes specific provisions for monitoring wetlands at the Nine Mile Development after the rubber dam is installed and for mitigating for any vegetated wetland habitat lost in excess of that habitat acquired and/or enhanced. This plan should also contain specific goals, performance measures, and proposals for acquiring wetlands as generally identified in SRP-TR-1.

Recreation Resource Measures

- Develop and implement a final Recreation Plan for the Spokane River Developments with provisions for new or improved recreation facilities, public access, signage, and periodic monitoring and site clean-up at the recreation sites, and/or assessment and implementation of a "carry-in/carry-out" policy for the public to carry out their trash. A "carry-in/carry-out" policy could minimize costs incurred with recreation site clean-up.

Land Use and Management Measures

- Develop and implement a final Land Use Management Plan for the Spokane River Developments with provisions for identification of land use categories and associated acres, a buffer zone, and a provision to implement the USFWS-recommended Noxious Weed Management Program.

5.1.2.3 Discussion of Key Issues and Measures Proposed by Stakeholders

A complete summary and analysis of the measures proposed by Avista and others can be found in the applicable resource sections of Chapter 3.0. In addition to measures proposed by Avista, we recommend several additional measures that are listed in section 5.1.2.2. The following subsections summarize the basis for the Staff Alternative measures and discuss proposed measures we do not recommend be made provisions of any new license.

Spokane River Fish Protection, Mitigation, and Enhancement Program (Avista Proposed Measure SRP-AR-1)

We do not recommend a license condition requiring Avista to develop and implement its proposed Spokane River Fish Protection, Mitigation, and Enhancement Program with the goal "to reduce and mitigate for potential adverse

effects on aquatic habitat and associated fish resources associated with the continued operation of the Upper Falls, Monroe Street, Nine Mile, and Long Lake HEDs and to enhance those resources." Avista has not identified any specific measures to implement as part of the program. The proposed program would be nothing more than an administrative framework with a broad aquatic resource goal. Avista would provide up to $125,000 annually for the term of any new license to be used to implement as-yet-unidentified PME projects.

In its Settlement Policy Statement, the Commission stated that in order for it to include a specific environmental measure in a license, it would need to be able to conclude that the measure relates to Project effects and purposes. In this instance, no specific measures beyond the administrative framework and goal of the program have been proposed; therefore, not only are we unable to conclude that the program and its measures would be related to Project effects and purposes, but we are also unable to assess the benefits of implementing the program or to determine whether the program's measures would have a nexus to the Project.[11] We therefore have no justification for recommending that Avista's proposed program be included in any license issued for the Project.

Spokane River Fisheries Public Education and Outreach Program

We recommend adopting WDFW's and IDFG's modified 10(j) recommendations for a fisheries public education and outreach program specific to the wild rainbow trout populations in the Spokane River, without any provisions for law enforcement. However, we also recommend that Avista be responsible for all public outreach activities included in a Commission-approved Spokane River Fisheries Public Education and Outreach Program Plan.[12]

This type of program would benefit native fish species by educating the public on habitat protection and enhancement measures undertaken by Avista in the Spokane River to protect and enhance native fish and on measures that can be taken by the public to minimize their impacts on native fish and their habitats.

We recommend that the plan be developed in consultation with WDFW, IDFG, and the USFWS, and that the program focus on educating the public through the placement of signage throughout the Project area where sensitive and important habitat areas for native fish exist and measures have been implemented by Avista to enhance native fish populations. We estimate that the annual cost of

[11] Although Avista has proposed an annual cost cap of $125,000 for plan implementation, there is no way for us to relate this cost to any environmental measures because none were actually proposed. We therefore cannot assess the benefits or costs of the program.

[12] Although we have no objection to Avista entering into a cooperative agreement to undertake the measures, Avista would ultimately be responsible for complying with all measures included in a Commission-approved plan.

the program would be $11,300. We conclude that the benefits of the program would justify the cost.

Fishery Enhancement Supplementation and Monitoring

We do not recommend adopting the Spokane Tribe's recommendation for fish stocking downstream of Long Lake Dam. The Spokane Tribe does not provide any specific measures for fish stocking; therefore, we cannot determine the benefits of these measures or their nexus to the Project.

We do not recommend adopting WDFW's modified recommendation for a Fishery Enhancement/Supplementation and Monitoring Program. The program would require that Avista provide for the stocking of adipose fin-clipped, sterile female rainbow trout in Project reservoirs in the size range of 3.5 fish per pound annually. The annual stocking levels would be 155,000 fish in Lake Spokane; 9,000 fish in Nine Mile Reservoir; and 6,000 fish in Upper Falls Reservoir. We estimate that the costs of WDFW's recommended stocking would be $144,500 annually.

As a component of the Fishery Enhancement/Supplementation Program, WDFW also recommends that Avista conduct monitoring and creel surveys for the first 10 years of any license issued to determine the harvest efficacy, native fish interactions, and sustainability and feasibility of the program. Additional creel surveys would be conducted every fifth year thereafter until the program was terminated or the license expired. We estimate the costs of the monitoring would be $19,300, while the creel surveys would cost $39,000 annually. Also under WDFW's recommendation, fish supplementation would be transferred to other trout lakes in Washington within 35 miles of Spokane or Project reservoirs if certain conditions were not met. We could not determine the costs to transfer the trout to other lakes up to 35 miles from the Project because there is insufficient detail in WDFW's recommendation for us to develop a cost estimate for this measure.

In section 3.3.4.2.4, we find that WDFW's recommended program could potentially provide increased recreational fishing opportunities at the Project; however, we find WDFW's recommendation problematic for several reasons. First, given the complexity of the existing fish community in Lake Spokane, there is too much uncertainty as to the benefits of the program—specifically, whether the trout would survive in sufficient numbers over the term of the license to contribute to the recreational fishery or whether they would adversely affect the existing fish community. Second, many non-Project factors would affect the ability to achieve a recreational fishery goal of 40,000 angler trips with an average rate of return of 2.5 fish per angler visit. Third, WDFW contemplates stocking fish in various lakes as far as 35 miles from the Project area as mitigation in the event

the program does not meet its stated goals; however, we find no nexus between any of these lakes and the Project. For these reasons, we conclude that the benefits of WDFW's Fishery Enhancement/Supplementation and Monitoring Program would not justify the annual cost of $202,800, and therefore, would not be in the public interest.

We are instead recommending that Avista, for the term of the license, annually stock 6,000 catchable-sized sterile trout (6 to 8 inches) in Upper Falls Reservoir (40 trout per acre) and 9,000 catchable-sized sterile trout in Nine Mile Reservoir (20 trout per acre. As we state in Chapter 3.0, Avista has been annually stocking several thousand catchable-sized trout in Upper Falls and Nine Mile Reservoir, providing a cold-water trout fishery that is popular with public. We estimate that the annualized costs of the program would be $12,800 and conclude that the benefits of continuing this cold-water, put-and-take fishery would justify the costs.

We also recommend that, beginning the second complete year following license issuance and continuing for the next 4 years thereafter (5 consecutive years), Avista annually stock 155,000 catchable sized sterile trout in Lake Spokane (Long Lake Reservoir) and annually conduct creel surveys to monitor the success of the Lake Spokane stocking program. The specific components of the stocking program and the creel surveys would be devised through the development and implementation of a Lake Spokane Trout Stocking and Creel Survey Plan in consultation with the WDFW. We envision that the plan would contain the specific release locations and quantities for stocked rainbow trout, as well as the appropriate protocols to determine through creel surveys whether the program is successful in creating a put-and-take fishery for stocked rainbow trout in Lake Spokane. By the beginning of the seventh year following license issuance, Avista would submit a report of the results of the Lake Spokane Trout Stocking and Creel Survey Plan along with Avista's proposals and WDFW's recommendations for future stocking.

Our analysis in Chapter 3.0 suggests that there is some uncertainty as to the benefits of stocking a large quantity of trout in Lake Spokane due to the existing, predominantly warm-water fish community and the large quantity of predators in the lake. Stocking trout for 5 years and monitoring the contribution of the trout to the recreational fishery would ensure that the program is successful. We estimate that the annualized costs of the initial 5 years of trout stocking and the Lake Spokane Creel Survey Plan would be $76,500. We conclude that the recreational fishery benefits of the program would be worth the cost.

If, after 5 years, monitoring indicated that the program was successful, the annual stocking of 155,000 fish could be continued through the term of the

license. We estimate that the costs of stocking trout through the term of the license would be an additional $79,000 annually.

Spokane River Trout PME Programs

We do not recommend the development and implementation of a Spokane River Trout PME Program as recommended by the Sierra Club and the Lands Council. Neither entity proposed specific environmental measures to be implemented and associated locations as part of the programs; therefore, we are unable to: (1) conclude that the program and its measures would be related to Project effects and purposes; (2) assess the benefits and costs of implementing the program; and (3) determine whether the program's measures would have a nexus to the Project. We therefore have no justification for recommending that the Sierra Club's and Lands Council's recommended trout PME programs be included in any license issued for the Project.

Spokane River Benthic Community Studies and Mitigation

We do not recommend a license condition requiring Avista to carry out studies to evaluate the effects of habitat alteration on the benthic community, design mitigation measures, and develop a plan to implement such mitigation, as recommended by the Sierra Club. We have the information, contained in Chapter 3.0 of this FEIS, to characterize the existing benthic community. We also find that Avista's proposed changes in operation are unlikely to produce a significant change in the benthic community relative to existing conditions. Therefore, we find that little to no benefit would be derived from monitoring the benthic community and conclude that the lack of benefits associated with implementing the measure would not justify the annual cost of $400 plus additional costs for as-yet-unidentified mitigation measures.

Spokane River Mitigation Trust Fund

We do not recommend that Avista establish and implement a mitigation trust fund as recommended by the Sierra Club and the Lands Council for purposes of mitigating for alleged ongoing Project effects that would not be addressed through structural or operational changes to the Project. Specific mitigation measures, including the location of implementation, and specific effects that would be mitigated have not been identified by the recommending entities. We therefore are unable to analyze the specific existing conditions that would be enhanced by the measures, the specific benefits provided by the measures, and the relationship of the measures to the Project and Project effects. Due to this lack of information, we have no justification for recommending the fund.

Erosion Control Measures in the Spokane River

As we discuss in section 3.3.1.2.4, there is little connection between Project operations and erosion at Lake Spokane or Nine Mile Reservoir.

To provide erosion control on Project lands, Avista is proposing erosion protection measures in its SRP-TR-1, Lake Spokane/Nine Mile Terrestrial, Riparian and Wetland Habitat Protection and Enhancement measure, along with funding to support regional efforts to reduce erosion (and downstream sedimentation) in the Hangmen Creek Watershed.

Avista is also proposing continued adherence to the current drawdown limit of 14 feet, so the frequency and magnitude of slope failures at Lake Spokane would not increase.

The Sierra Club and Lands Council filing of July 17, 2006, recommends that Avista prepare, fund, and implement an Erosion Control, Prevention, and Restoration Program for Lake Spokane. WDFW's filing of July 18, 2006, recommends the same plan for Nine Mile Reservoir pursuant to section 10(j).

Because we cannot find a clear nexus between Project operations and erosion at Lake Spokane or Nine Mile Reservoir, the staff finds that no further PMEs are necessary for Lake Spokane and Nine Mile Reservoir. The benefit of providing erosion control on Project lands elsewhere in the Spokane River would be worth the small part of the $350,000 cost to implement SRP-TR-1 along with the $10,000 annual cost for Hangman Creek.

Sediment Transport in the Spokane River

Upper Falls and Monroe Street Developments are currently passing all sediment, aside from highly localized deposition of larger bedload material at Monroe Street, and are not inhibiting natural sediment transport on that portion of the Spokane River. We have no reason to conclude that the occasional increase in base flow during the summer months, or other proposed flow adjustments under the Proposed Action, would change the nature of how these hydroelectric developments influence sediment transport.

The current sediment supply and transport rates in Nine Mile Reservoir and Lake Spokane would continue to be similar to current conditions under the Proposed Action. Proposed Action measure SRP-TR-1 is intended to support regional efforts to reduce erosion and sediment inflow from Hangman Creek.

The Sierra Club and Lands Council filings of July 17, 2006, proposed that Avista fully study sedimentation and perform aggressive sediment management in the Spokane River reservoirs. The WDOE's July 17, 2006, filing and WDFW's

July 18, 2006, filing also urge more study and planning for this issue. Avista recommended in its August 1, 2006, filing that the Commission reject these proposals.

Nine Mile Reservoir and Lake Spokane have been capturing sediment from upstream since their construction. In 1994, two turbines at Nine Mile were replaced due to excessive damage from sediment. In 1996, a sediment bypass tube was installed in an effort to extend the life of the turbines (NHC, 1999). In 1999, it was estimated that approximately 5 years of available sediment storage remained before the area upstream of the spillway is filled (NHC, 1999). Sediment accumulation can alter the Project environment in several ways: channel changes and erosion; increased Eurasian watermilfoil habitat; increased nutrient loading and cycling; increased shallow water habitat, leading to warmer temperatures; and an aquatic environment more favorable to non-native fish species.

The proposal to replace the wooden flashboards at Nine Mile Dam with a more permanent rubber dam has the potential to change the sediment transport and deposition in the upper reach of the Nine Mile pool. Currently, sediment is deposited in the upper reach of the Nine Mile pool up to Seven Mile Bridge. When the 10 feet of flashboards are removed or blown out (to elevation 1,596.6 feet), gradient and velocities in the upper reach increase, reducing sediment deposition. If the pool is maintained 10 feet higher during this period (at elevation 1,606.6 feet), it is possible that the area of deposition will increase.

Near the Nine Mile Dam site, sediment buildup on the inside bar is pushing the thalweg to the opposite (west) side of the bend (NHC, 1999), causing some undercutting of the bank. Downstream of Nine Mile Development, future sediment deposition is expected to occur mainly within 1 to 8 miles from the dam (Golder, 2005b). In the next 30 to 50 years of operation, bed level changes in the upper portions of Lake Spokane could increase.

In SRP-TR-1, Avista focuses on Hangman Creek as the source of new sediments to the system. That effort would contribute to reducing the new sediment load; however, the resources allocated to sediment reduction in Hangman Creek are a small fraction of the resources associated with that PME.

The WDOE's July 17, 2006, filing claims that the PDEA discussion on sediment does not lead to concise statements of effects. The WDOE estimates that during the next 50 years, the deepest point of the river channel downstream of the Nine Mile Development will decrease in depth by 2 to 4 feet due to sediment deposition and that sediments trapped by the developments have the potential to impact water quality.

Staff finds that Project operations store, transport, and control new sediments supplied to the system (and also years of sediments stored within the system). Sediment transport and deposition within the system also has implications for fish and benthic organisms.

Staff agrees with the need for additional measures (see Table 5.2-1, item 19 on page 5-79) and proposes that Avista develop a Sediment Management Plan for the Nine Mile and Long Lake Reservoirs (including the two related Project developments). This plan should address sediment transport (or the lack thereof) and the impacts to the river system; sediment characterization; a process for regular monitoring of sediments trapped by the developments; and a plan for final disposition of sediments. The plan should document current deposition and transport rates and patterns in the reservoirs, including the effect of the dams on how sediment is stored in the reach (Table 5.2-1, item 19 on page 5-79).

Spokane River DO

As part of the Washington Water Quality PME (SRP-WQ-2), Avista proposed to conduct a feasibility study to identify potential mechanisms for increasing DO in Long Lake Development discharge and implementing reasonable and feasible measures, such as changes in Project operations or physical structures, that would improve DO levels downstream of Long Lake Dam. Monitoring and enhancement of DO levels downstream of Long Lake Dam would improve conditions for aquatic resources in the lower Spokane River. We estimate that the annualized cost of this program would be $62,200. We conclude that the benefits of implementing this program would be worth the cost and we recommend that this measure be included in any license that is issued for the Spokane River Developments. However, because this measure is packaged as part of SRP-WQ-2 with other measures that are unrelated to the effects of the Spokane River Developments,[13] we do not recommend that SRP-WQ-2 be included in any license that is issued for the Spokane River Developments. Instead, we recommend that Avista develop and implement a separate Long Lake Oxygen Monitoring and Enhancement Plan. This plan would incorporate the components of SRP-WQ-2 that address DO conditions at Long Lake Development.

The Sierra Club's July 17, 2006, filing and the Lands Council's July 17, 2006, filing proposed that Avista undertake projects to improve DO in Long Lake Reservoir and downstream. They suggest that to address DO conditions upstream of Long Lake Dam, Avista should fund projects to address Avista's contribution to the DO problem in the Spokane River and fund and implement a feasibility study

[13] SRP-WQ-2 includes water quality monitoring in the Spokane River downstream of Post Falls Dam and upstream of the effects of the Spokane River Developments. The upstream monitoring is related to the effects of the Post Falls Project and is unrelated to the operation and effects of the Spokane River Developments; therefore, we address the need for this monitoring in section 5.1.1 above.

of an in-reservoir aeration/oxygenation system, operational changes, and non-point source nutrient management to improve DO levels. They indicate that Avista should quantify the potential benefits of these projects, conduct DO monitoring in Long Lake Reservoir, report results to WDOE, and seek funding partners.

Our analysis suggests that low DO conditions in Long Lake Reservoir are primarily caused by nutrient loading into Long Lake Reservoir. While operation of Long Lake Dam may influence the release of waters with low DO levels to downstream areas in the Spokane River, we have no evidence to indicate that operation of the Long Lake Dam influences oxygen levels within the reservoir. The costs of the measures recommended by Sierra Club and the Lands Council to address oxygen levels upstream of Long Lake Dam are unknown but are likely high. Because these measures are not related to operation of the Long Lake Dam or operation of the other Spokane River Developments, we conclude that they have no nexus to the Project and we do not recommend including them in any license that is issued for the Spokane River Developments.

To address DO levels downstream of Long Lake Dam, the Sierra Club and the Lands Council recommend that Avista conduct real-time monitoring of DO in the forebay and tailwater of Long Lake Dam and aerate/oxygenate forebay water or discharge flows. As part of the Long Lake Oxygen Monitoring and Enhancement Plan that we recommend above, Avista would monitor DO in discharge from Long Lake Dam and study the feasibility of improving DO levels downstream of Long Lake Dam. While this measure would focus on the tailwater area, rather than the Long Lake Dam forebay, we conclude that implementation of a Long Lake Oxygen Monitoring and Enhancement Plan would address the Sierra Club's and Lands Council's recommendations to monitor and study the feasibility of improving DO levels in waters downstream of Long Lake Dam.

As part of the Long Lake Oxygen Monitoring and Enhancement Plan that we recommend above, Avista would study the feasibility of improving DO conditions below Long Lake Dam for 2 years, implement any selected measures for improving DO in year 3, and file the monitoring results in year 5. In a letter filed on July 17, 2006, CELP indicated that 2 years is inadequate to understand and gage the success of any enhancements and recommended that the program continue until year 10 of the license. While not specifically stated, it appears that CELP is recommending that Avista conduct 7 years of monitoring after implementation of any measures in year 3.

We would expect that the success of any physical structures or operational measures to improve DO conditions would be readily apparent and would not require more than 2 years of monitoring to determine the success of the measures. However, other measures, such as reduction or control of nutrients entering Long Lake Reservoir, could take longer to affect DO levels. While our analysis indicates

that operation of the Project does not influence nutrient input to the Spokane River system, measures to control or reduce nutrient inputs could ultimately be selected by Avista as a cost-effective approach to improving DO conditions downstream of Long Lake Dam. Therefore, we recommend that the Long Lake Oxygen Monitoring and Enhancement Plan include provisions to extend the post-implementation monitoring period under circumstances where effects of the program on DO levels may be delayed more than 2 years.

In comments filed on July 17, 2006, CELP stated that $50,000 is insufficient to provide adequate funding for a feasibility study to improve DO levels downstream of Long Lake Development. In the discussion above, the staff recommends implementing the measures and study proposed by Avista for addressing DO conditions at Long Lake Dam, and we use Avista's proposed funding levels to estimate costs for our economic analysis. However, by using these cost estimates, we are not establishing or recommending spending limits on Avista's responsibilities to conduct the recommended program. The Commission cannot constrain the fulfillment of its statutory responsibilities by agreeing to spending limits. The $50,000 figure associated with the recommended program should be viewed as an estimate of the cost for the study, rather than a spending limit. Based on available information, we find no need to increase the amount of this estimate.

Spokane River Water Quality Monitoring Station

The Sierra Club recommends that Avista install water quality monitoring stations on the Spokane River upstream and downstream of Long Lake Dam. The Sierra Club indicates that these stations would monitor discharge and would be installed to determine attainment or nonattainment of standards for water temperature, TDG, DO, and turbidity. While a schedule is not specifically stated in its filing, we assume that the Sierra Club's recommendation includes monitoring during each year of any license issued for the Spokane River Developments. We estimate that the cost of each station would be approximately $52,300 per year.

Our analysis indicates that Project operations can affect TDG in the Spokane River downstream of Long Lake Dam. Elsewhere in this section, we are recommending that Avista implement the TDG Control and Mitigation Program (SRP-WQ-1) to monitor Project effects on TDG during the initial years of any license. Additionally, we are recommending that Avista implement a Long Lake Oxygen Monitoring and Enhancement Plan that would include monitoring DO downstream of Long Lake Dam. Both of these recommended measures would require monitoring of water temperatures, since TDG and DO levels are affected by water temperatures. We find that these measures would be sufficient to address the Sierra Club's concerns with Project effects on TDG and DO. With regard to monitoring turbidity, we have no evidence that turbidity levels in the lower

Spokane River are related to operation of Long Lake Dam; therefore, we have no evidence to support monitoring turbidity. For the reason stated above, we do not recommend including these monitoring stations as a requirement of any license that is issued for the Project.

In addressing the Sierra Club's desire for monitoring throughout the license term, we note that it is standard practice for a monitoring article to include provisions for report preparation, stakeholder review of results, and recommendations for additional monitoring or measures to address any problems revealed by the monitoring. Therefore, while we are not currently recommending water quality monitoring throughout the license term, the Commission could direct Avista to do so upon analysis of the monitoring results.

Spokane River TDG

The Sierra Club and the Lands Council recommend that Avista monitor TDG and implement operational measures to minimize TDG increases downstream of the Spokane River Developments. These measures are included in Avista's proposal, and we are recommending that they be included in any license issued for the Spokane River Developments. However, the Sierra Club and the Lands Council also recommend that Avista be required to develop a compensation program to address the losses of aquatic biota when TDG attainment would not be possible. The Sierra Club and the Lands Council indicate that elevated TDG can result in harm to aquatic organisms and that levels above 110 percent saturation have been recorded downstream of the Spokane River Developments.

The Sierra Club and the Lands Council do not provide any evidence documenting or quantifying harm to aquatic organisms downstream of the Spokane River Developments. Additionally, they do not specify how Avista should quantify harm that may occur during periods of elevated TDG. Finally, neither group provides any information to describe the form of compensation Avista should provide. Without more specific information, we are unable to assess the environmental and economic effects of this recommendation and we cannot recommend it. Additionally, because the staff-recommended measures would improve TDG conditions downstream of the Spokane River Developments and the FPA does not impose a no-net-loss requirement,[14] we do not recommend including this measure in any license that is issued for the Spokane River Developments.

Modifications to Long Lake Dam to Reduce TDG

The Sierra Club and the Lands Council recommend that Avista install deflectors (flip-lip-like devices) or make other modifications to Long Lake Dam to

[14] *See, e.g., Ohio Power*, 71 FERC ¶ 61,092 (1995) and *Indiana Michigan Power Co.*, 82 FERC ¶ 61,247 (1998).

minimize the deep plunge of water immediately downstream of the dam. Modifying Long Lake Dam to reduce the plunge depth of spilled flows may limit increases in TDG at Long Lake Dam; however, without additional information, we are unable to assess the environmental or economic effects of such modifications or recommend a specific modification. Avista proposes to monitor TDG and implement operational measures to minimize TDG increases downstream of the Spokane River Developments. If operational measures alone did not improve TDG conditions, Avista would evaluate the effectiveness of flip-lips and other structural modifications as part of SRP-WQ-1. As indicated above, we are recommending that SRP-WQ-1 be included in any license that is issued for these developments. Operational measures alone may improve TDG conditions and eliminate the need for structural modification of the dam; therefore, devices such as flip-lips could be unnecessary, and we cannot recommend installation of these devices at this time since they may not be worth the cost. However, including SRP-WQ-1 in any license issued for these developments would allow for consideration of such devices if operational modifications are unsuccessful. To some extent, including SRP-WQ-1 in any license that would be issued for these developments would partially address the Sierra Club's and the Lands Council's recommendation to install flip-lips or similar devices.

Spokane River Project Erosion Control and Habitat Protection

The USFWS recommends that Avista develop and implement an Upland Habitat Protection and Enhancement Plan. In this plan, the USFWS recommends that Avista identify areas at Lake Spokane where lakeshore protection may control erosion and protect upland habitat, including at least 24 acres of upland habitat adjacent to the lake. The USFWS recommends that the plan include enhancement activities for developing older and larger trees for cavity nesters, bald eagle nest and perch trees, shrubs to provide cover and forage for big game, nesting habitat for migratory birds, and overall habitat diversity. The USFWS recommends that Avista submit an annual report to the USFWS and WDFW describing Avista's progress implementing this recommendation.

The USFWS says its recommended Upland Habitat Protection and Enhancement Plan is needed because portions of the steep slopes on the lower end of Lake Spokane are actively eroding due to Project-related lake level changes, wind, and boat wave action. The USFWS says some of these upland areas adjacent to Lake Spokane are not able to support vegetation due to their slope, soil, and aspect, and therefore, have reduced value for upland wildlife. Further, the USFWS says shoreline erosion caused by lake level fluctuations has resulted in a loss of large conifer trees, thus decreasing bald eagle nesting and foraging habitat. The USFWS estimates that steep slopes with limited vegetation cover a total of 24 acres along about 40 miles of Lake Spokane's shoreline. The USFWS restated its recommendation and rationale for an Upland Habitat Protection and

Enhancement Plan in a letter dated April 16, 2007, responding to our section 10(j) meeting (held March 20, 2007).

Avista, in its September 1, 2006, reply, recommends that the Commission reject this recommendation, saying studies conducted in support of the application found that Project operations are not the direct cause of erosion along Lake Spokane's shoreline. Further, Avista asserts that the steep slopes referred to by the USFWS are naturally susceptible to erosion and that historic photos of the area show that more vegetation exists on these slopes now than in the 1950s.

Given the relatively stable lake levels at Lake Spokane and the naturally steep slopes that exist adjacent to the lake, it appears that lakeshore erosion and any ongoing loss of shoreline trees and vegetation are unrelated to Project operations. Considering this finding, and considering the fact that Avista would protect additional areas of shoreline habitat (an estimated 47 acres of wetlands and 320 acres of shoreline) under proposed measure SRP-TR-1, we do not recommend the USFWS's Upland Habitat Protection and Enhancement Plan.

In its section 10(j) recommendations filed July 17, 2006, WDFW recommends that Avista include all of the lands it owns in the vicinity of Lake Spokane (about 1,976 acres) within the Project boundary and manage these lands for wildlife during the term of the license. WDFW recommends preserving these lands from future development and enhancing these lands for wildlife using forest management practices, tree and shrub plantings, weed control, snag enhancements, and shoreline protection and enhancement measures. WDFW recommends that Avista develop plans for wildlife habitat management and provide $30,000 or $15/acre annually for habitat maintenance and enhancement activities. The WDFW also recommends that Avista provide an unspecified amount of funds to obtain management control over about 300 acres of shoreline property and wetland habitat that is contiguous with Lake Spokane or other Avista-owned property. WDFW recommends that Avista provide $75/acre annually to manage and enhance these 300 acres by tree and shrub plantings, snag enhancement, and other activities for increasing wetland diversity and function.

WDFW says its recommended protection of all Avista-owned lands in the vicinity of Lake Spokane (about 1,976 acres) is needed because: (1) about 5,060 acres of terrestrial/riverine habitat were originally inundated by construction of the Project; (2) continued Project operations, including lake level fluctuations, have limited floodplain development, riparian habitat diversity, wildlife foraging opportunities and wildlife migration along and across the river and have increased recreation, thus affecting wildlife use; (3) surrounding land-use practices have led to the conversion, loss, and degradation of significant tracts of land due to clear-cuts, agriculture, hobby farms, cattle grazing, residential development, and road construction; and (4) the remaining 1,976 acres of Avista-owned land include

some of the most significant wildlife habitat remaining around Lake Spokane and are needed because they provide large parcels of interior forest habitat and other habitat features that are becoming limited in the Project area.

WDFW also says its recommendation that Avista purchase about 300 acres of land contiguous with Lake Spokane or other Avista-owned property is needed because: (1) inundation and sedimentation have created additional shallow water habitat and have expanded aquatic bed vegetation in the lake; (2) the replacement of flashboards with a rubber dam at Nine Mile Development would permit Avista to refill the reservoir earlier and would alter, displace, and eliminate forested and scrub-shrub wetlands along the shoreline; (3) non-native plants have reduced the function and diversity of most wetland habitat in Lake Spokane; and (4) wetlands provide important habitat for wildlife protection, nesting, feeding, and movement, and wetlands are increasingly becoming scarce due to development in the Lake Spokane vicinity.

In its September 1, 2006, reply, Avista recommends that the Commission reject WDFW's recommendations to protect all Avista-owned land (about 1,976 acres) and to purchase about 300 acres of land in the vicinity of Lake Spokane. Avista says WDFW's justification is based either upon a pre-Project baseline or upon effects that have no nexus to the Project. In the DEIS, we agreed with Avista that most effects cited by WDFW were based on a pre-Project baseline or are the result of actions by third parties that are unrelated to the Project. We also identified in the DEIS, and in our section 10(j) meeting, our difficulty in finding a nexus between Project operations and upland habitat enhancement. However, in an April 3, 2007, filing, WDFW demonstrated that there is a nexus between Avista-owned land (about 1,976 acres) and the Project for the following reasons: (1) continued lake level fluctuations affect riparian habitat along Lake Spokane's shoreline, (2) the quality of this habitat affects wildlife using the Project area, including bald eagles, hawks, ospreys, song birds, and other wildlife, and (3) wildlife use both riparian habitats along Lake Spokane's shoreline and upland habitats located on Avista's nearby land (about 1,976 acres). WDFW's same argument—that continued lake level fluctuations affects riparian habitat—also demonstrates that there is a nexus between Project operations and the 300 acres along the shoreline that it recommends Avista acquire.

We agree with WDFW that there is a nexus between the Project and the adjacent Avista-owned lands as discussed above. However, we still do not recommend these measures because the cost of requiring Avista to dedicate and acquire the above lands and to manage the lands for wildlife are too high to justify the benefits and because Avista proposes SRP-TR-1, which would provide some

of the above-recommended benefits at a reasonable cost and would enhance habitat above existing conditions.[15]

In the DEIS, we estimate that there would be no capital cost associated with including Avista's 1,976 acres of land in the Project boundary because Avista already owns these lands. We also estimate that the annual cost of managing all Avista-owned lands for wildlife would be about $197,600. However, the above costs do not reflect the lost development costs associated with this recommendation. These development costs would likely cost millions.

In the DEIS, we estimate that the costs of acquiring and restoring 300 acres along the shoreline of Lake Spokane would be about $3,000 per acre, for a total capital cost of $900,000. We estimate that the cost of annually managing these lands at about $100 per acre would be about $30,000/year. In its letter filed April 3, 2007, WDFW provided examples of wetland projects in the area where land was acquired for less than $1,500 per acre. In a letter filed April 16, 2007, the USFWS provided one example of a wetland project near Rathdrum, Idaho, that cost about $975 per acre.

As stated above, Avista does not propose changing operations at Lake Spokane, and we foresee no additional Project-related effects to wildlife in the future compared to existing conditions. WDFW's recommendations—include all Avista-owned land in the Project boundary, acquire 300 acres of wetlands adjacent to Lake Spokane, and manage all these lands for wildlife—would cost millions, in part from lost development costs. Further, Avista already proposes SRP-TR-1, which would result in the acquisition of about 47 acres of wetlands and the inclusion of about 320 acres of Avista-owned land along the shoreline in the Project boundary. We find that implementation of Avista's proposed SRP-TR-1 would provide adequate enhancement to wildlife resources. For these reasons, we do not recommend WDFW's above measures.

As discussed in section 3.3.5.2.1, replacing flashboards with a rubber dam at the Nine Mile Development would result in altered water levels during the spring and summer growing seasons that could adversely affect wetlands. In an October 14, 2005, filing, Avista estimates that up to 6 acres of wetlands could be affected by a more stable pool elevation throughout the year, as compared to a variable pool elevation that occurs as a result of flashboard removal and replacement. Avista proposes to acquire about 47 acres of wetlands at Lake Spokane, which would mitigate the adverse effects of losing up to 6 acres of habitat due to the rubber dam at Nine Mile Development. However, to ensure that the proposed rubber dam did not result in a net loss of wetlands at the Spokane

[15] We also note that Avista does not propose changing operations at Lake Spokane, and we foresee no Project-related additional effects to wildlife in the future compared to existing conditions.

River Developments, we recommend that Avista include in its proposed measure under SRP-TR-1 a provision to monitor wetlands after the rubber dam has been installed and to mitigate for any vegetated wetland habitat lost in excess of that habitat acquired and/or enhanced under SRP-TR-1.

The Lands Council, in its July 17, 2006, comments, recommends that Avista implement a program to identify and acquire available riparian properties, implement erosion control measures, and develop protective easements on all Avista-owned shorelines on Long Lake Reservoir. The Lands Council also recommends the establishment of a habitat mitigation trust fund. The Sierra Club, in its July 14, 2006, comments, recommends that Avista implement measures to prevent or reduce erosion on Lake Spokane, which includes identifying and acquiring available riparian properties, implementing erosion control measures, and developing protective easements. The Sierra Club also recommends the establishment of a mitigation trust fund.

We do not recommend the above measures because it appears that lakeshore erosion and any ongoing loss of shoreline trees and vegetation is unrelated to Project operations. Further, Avista already proposes to acquire about 47 acres of wetlands and to add about 320 acres of shorelands to the Project boundary under SRP-TR-1. Implementing Avista's proposed measures under SRP-TR-1 would provide adequate enhancement of Project resources.

Bald Eagle Surveys, Monitoring, Management, and Education

In its section 10(j) recommendations filed July 18, 2006, the USFWS makes several recommendations to protect bald eagles at both the Spokane River Developments and the Post Falls Project. For the same reasons discussed earlier for the Post Falls Project (see section 5.1.1.3), we recommend USFWS's recommendations for bald eagle surveys, monitoring, and Nest Management Plans at the Spokane River Developments. We also recommend that Avista incorporate into its Spokane River Public Outreach PME, to be developed under SRP-REC-3, provisions that implement the USFWS's recommended Bald Eagle Educational and Interpretive Program. We estimate that such provisions would cost $6,200 annually. We find that the benefits of these provisions would justify the costs.

Control of Noxious Weeds

In its section 10(j) recommendations filed July 18, 2006, the USFWS recommends that Avista survey Project lands for noxious weeds and develop a Noxious Weed Management Plan for the Spokane River Developments. Again, for the same reasons discussed earlier for the Post Falls Project, we recommend that Avista incorporate into its Spokane River Developments Land Use Management Plan, to be developed under SRP-LU-1, provisions that implement the USFWS's recommended Noxious Weed Management Program. These provisions should

include both monitoring and control measures and should require that an annual monitoring report be filed with USFWS, WDFW, and the Commission. We estimate that these provisions would cost $11,200 annually. We find that the benefits of these provisions would justify the costs.

Recreation Resources

Avista proposes to implement a Recreation Plan for the Spokane River Developments (SRP-REC-1), which we discuss in section 3.3.8. In this section, we discuss Avista's Spokane River Developments proposed PME measures for recreation as identified in Appendix B of its Proposed Action, SRP-REC-1 to SRP-REC-4.

We recommend Avista's recreation measures for the Spokane River Developments in part only, because the proposed Recreation Plan primarily focuses on partnering with certain entities and providing funds (cost-share). Some of the recreation sites are located within the existing Spokane River Developments boundary (e.g., Long Lake Dam overlook, Long Lake Dam river access, and Huntington Park). Other sites (e.g., up to 10 boat-in-only semi-primitive campsites) are outside the existing boundary. The proposed Recreation Plan identifies Avista's proposal to remove land occupied by the Nine Mile cottages; however, the plan does not specify the estimated acres for removal. Based on the best available information, we find that certain recreation sites are not needed for Project purposes, which we discuss herein.

For those recreation sites that currently lie outside the Spokane River Developments boundary, we determined, based on the record and GIS, that certain recreation sites would enable the public better access and enjoyment of Project lands and waters and would serve a Project purpose; the land occupied by such sites should therefore be brought into the Spokane River Developments boundary. We discuss our findings below.

Spokane River Recreation

Under the Spokane River Recreation (SRP-REC-2) PME measure, Avista proposes to cooperate with various entities to develop a Water Avenue access site. Avista states that the preferred location for the access site is at the west end of Water Avenue near its intersection with Ash Street. Avista would provide funds (not to exceed $20,000) for site development and would enter into a separate agreement with the City of Spokane to provide $5,000 annually to supplement its O&M.

As stated in the Commission's *Policy Statement on Hydropower Licensing Settlements*, it is important that the parties base proposed recreation measures on evidence supporting the need for the proposed facilities and that they link the

measures to the Project. Neither Avista's PDEA nor the PME (SRP-REC-2) for the Project clearly explains how the proposed Water Avenue access site would be used in connection with the Project or demonstrates the need for the facility. The Louis Berger Group (2004a) did not identify the site, and we could not find any Project-related recreational use data for the area. Although Avista refers to the site as "preferred," there is an ambiguity because the measure also identifies Spokane Parks and Recreation Department as owning and managing the site; yet, it is unclear as to the current site amenities. We do not recommend Avista's proposal to develop a Water Avenue access site because there is not a nexus between the Project and the site. We therefore do not recommend the measure as a requirement in any license issued for the Project.

Centennial Trail Extension

Avista proposes to improve pedestrian/bicycle access to Lake Spokane by extending the Centennial Trail approximately 1 mile from Sontag Park to the Nine Mile Resort. In so doing, Avista would cooperate with WSPRC and the Friends of the Centennial Trail and provide funds (not to exceed $100,000) for trail development, as stipulated under the Proposed Action (SRP-REC-4). Currently, the trail ends at Sontag Park near Nine Mile Development.

As discussed in section 3.3.8, a high level of participation (more than 50 percent) occurs in on-shore activities, such as hiking and wildlife viewing, at the Nine Mile Reservoir shoreline (Louis Berger Group, 2004a). Extending the Centennial Trail would connect the trail with the Nine Mile Development and enhance public access to Project lands and waters. Consequently, the approximate 1-mile-long segment of the Centennial Trail would provide the public better access to Project lands and waters and would serve a Project purpose; therefore, the trail segment should be made a Project facility.

In comments on the DEIS, the WSPRC noted that if the intent of the staff-recommended measure for the Centennial Trail is for Avista to operate and maintain the 1-mile-long segment of the trail, then WSPRC would be willing to allow its lands, upon which the trail would be located, to be brought into the Spokane River Developments boundary.

Avista, in comments on the DEIS, concurred with the staff's conclusion that the trail extension would benefit the public. However, Avista disagreed that the trail segment should be a Project facility because it suggested that a one-time expenditure and expansion of the Project boundary to include the segment would complicate the development and management of the trail. In response to Avista's comment on a one-time expenditure, we note that Avista proposes to provide annual O&M costs (not to exceed $85,000) for all of the recreation projects (SRP-REC-4), including the Centennial Trail segment, once they are completed.

In light of the comments we received on the DEIS, we continue to recommend that Avista develop the estimated 1-mile-long segment of the Centennial Trail and include it within the Project boundary. Although Avista and another party (e.g., WSPRC) may enter into an off-license agreement for the Centennial Trail segment, Avista would have the ultimate responsibility for operating and maintaining this portion of the trail.

The annualized cost for developing the estimated 1-mile-long Centennial Trail segment would be $13,100. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

Boat-in-only Campgrounds

Avista proposes to cooperate with WSPRC and WDNR to identify and develop up to 10 boat-in-only semi-primitive campsites on Lake Spokane (SRP-REC-4). Avista proposes to consult with WDFW to minimize impacts on terrestrial resources during the development of these sites. Avista would provide funding (not to exceed $50,000) for site development and $10,000 annually for O&M.

Based on the best available information, we find that a nexus exists between the Spokane River Developments and the proposed 10 (approximately) boat-in-only semi-primitive campsites on Lake Spokane. We find that these campsites are needed for Project purposes because the sites would provide additional public access for boaters; therefore, the land occupied by the campsites should be brought into the Spokane River Developments boundary. We recommend that Avista include a provision for identifying and developing up to 10 boat-in-only semi-primitive campsites in a final Recreation Plan. Signage at the campsites should identify them as part of the Spokane River Developments. Avista and another party (e.g., WSPRC, WDNR) may enter into an off-license agreement for the above purposes, but Avista would have the ultimate responsibility for operating and maintaining the boat-in-only campgrounds.

The annualized cost for this measure would be $16,500. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

Nine Mile Resort

Under the Proposed Action (SRP-REC-4), Avista proposes to cooperate with the WSPRC to reconfigure Nine Mile Resort as a day-use area that would complement the WSPRC's proposed new campground at Riverside State Park. Riverside State Park was developed in 1982 through the LWCF (see section 5.4.5). The measure would provide new recreational opportunities, including public access sites to Project waters. Under the Proposed Action, Avista

would retain ownership of the resort property, but would either manage the property with a concessionaire or enter into a management agreement with the WSPRC. Avista proposes to provide $250,000 for the measure.

As discussed in section 3.3.8, Nine Mile Resort is at capacity during the summer season. Avista states that the proposed measure, when coupled with the WSPRC's new campground at Riverside State Park, would substantially expand recreational opportunities at the upstream end of Spokane Lake. Based on our cumulative effects analysis, we find that Nine Mile Resort offers public recreational use of Project waters and that providing day-use facilities would have an indirect beneficial effect on the adjacent Riverside State Park. We conclude that the Nine Mile Resort should be made a Project facility, and we recommend that Nine Mile Resort be brought into the Project boundary.

In comments on the DEIS, the WSPRC requested clarification regarding Avista's responsibility for the Nine Mile Resort. Although Avista and another party (e.g., WSPRC) may enter into an off-license agreement for Nine Mile Resort, Avista would have the ultimate responsibility for ensuring the operation and maintenance of the Nine Mile Resort.

The annualized cost for this measure would be $32,700. We find that the benefits of this measure would justify the cost and therefore would be in the public interest.

Recreation Plan

In light of our recreation findings, we recommend that Avista develop and, upon Commission approval, implement a final Recreation Plan for the Spokane River Developments. The plan, at a minimum, should provide one or more maps that clearly identify all Project-related recreation sites and associated acreage, including those identified above by the staff to be included within the Spokane River Developments boundary. For the Project, we identify, at a minimum, those facilities as Huntington Park; Nine Mile/Spokane House; Nine Mile Portage; an approximate 1-mile-long section of Centennial Trail (from Sontag Park to the Nine Mile Resort); Nine Mile Resort; relocation of the Nine Mile Dam overlook to accommodate the disabled; up to 10 boat-in-only semi-primitive campsites on Lake Spokane; Long Lake Dam overlook; and Long Lake Dam river access site.

The final Recreation Plan should include the following items: (1) provisions for specific measures to improve recreation sites or public access; (2) signage provisions; (3) provisions for soil erosion and sediment control measures where ground-disturbing activities are proposed; (4) provisions for periodic monitoring and site clean-up at the recreation sites, or assessment and implementation of a "carry-in/carry-out" policy for the public to carry out their

trash; (5) a discussion of how the needs of the disabled were considered in the planning and design of each recreation facility; (6) an implementation schedule, including construction; (7) cost estimates and schematic drawings of the facilities; and (8) documentation of consultation with the WSPRC, WDNR, WDFW, NPS, USFWS, EPA, Spokane County, Stevens County, and Friends of the Centennial Trail and specific descriptions of how the agencies' comments and recommendations are accommodated by the plan.

The final Recreation Plan should be developed in concert with the staff-recommended Spokane River Developments measure to control and/or eradicate noxious weeds. To address DOI's comments and to ensure protection of the federally listed bald eagle, the final Recreation Plan should identify and address potential conflicts between the bald eagle, including associated habitat, and Project-related construction and/or improvements of recreational facilities.

Under the Staff Alternative, the annualized cost for developing and implementing a final Recreation Plan for the Spokane River Developments would be between $60,000 and $144,000. The benefits of this measure would justify the cost and therefore would be in the public interest.

We do not recommend Avista's proposals for cooperating with (1) WSPRC and WDFW to provide parking, hiking, and watchable-wildlife opportunities at Devil's Gap Trailhead and the surrounding area, including a funding provision for $5,000 annually for O&M; and (2) WDNR to expand camping at its Lake Spokane Campground, including a funding provision of $140,000 for site development. Avista and the resource agencies did not clearly demonstrate why the proposed measure is necessary and how the measure is linked to the effects and purposes of the Project. Although we found a reference to Long Lake Campground in the Louis Berger Group (2004a) survey, we are unsure whether this is the same campground identified in the Proposed Action as the Lake Spokane Campground. Survey results did not identify Devil's Gap Trailhead.

In any case, these measures do not include enough detail to allow the staff to assess their potential benefits. For these reasons, we have no justification for recommending that such provisions be included as a requirement in any license issued for the Project. Avista and the agencies, however, are free to enter into an off-license agreement for the sites.

Land Use and Management

Avista proposes to implement a Land Use Management Plan for the Spokane River Developments (SRP-LU-1). As discussed in section 3.3.9, Avista filed on March 21, 2006, its draft Land Use Management Plan, dated February

2005, for the Spokane River Developments. In the measure, Avista would provide financial support, which we discuss herein under *Other Measures/Funds*.

Because we recommend that certain lands occupied by a recreation site be brought into the Spokane River Developments boundary and be reflected in a final Recreation Plan, we recommend that Avista develop and implement a final Land Use Management Plan in concert with its final Recreation Plan. The Land Use Management Plan should identify, on one or more maps, Avista's proposal for adding 350.1 acres and removing 68.8 acres from within the Project boundary. Avista should also specify the removal of the land occupied by the Nine Mile Cottages.[16] The plan, at a minimum, should contain the following items: (1) a table that identifies land use categories and associated acres; (2) a buffer zone; (3) a schedule, including update(s) to the plan; (4) a provision to implement the USFWS-recommended Noxious Weed Management Program; and (5) documentation of agency consultation. As stated in Chapter 4.0, *Developmental Analysis*, the cost for developing and implementing a final Land Use Management Plan is assumed to be included in the cost of the draft plan.

Furthermore, in the Louis Berger Group (2004a) survey and identified as LS-09 (Riverside State Park - Boat Launch and Canoe Take-Out), our GIS analysis indicates that Avista's 2005 existing boundary for the Nine Mile Development is incorrect. The existing boundary shows a connected waterway, but the GIS data indicate that the area is a peninsula and not connected. If a license were issued for the Spokane River Developments, we recommend that Avista modify its existing Nine Mile Development boundary to accurately reflect the Project boundary.

Aesthetic Flows

Prior to the issuance of the DEIS, the Sierra Club/Center for Environmental Justice (Sierra Club) recommended that Avista (1) extend the hours to release 200 cfs aesthetic flow for the Upper Falls Development to a 5 a.m.-to-midnight schedule, and (2) provide 500-cfs aesthetic flow for the Upper Falls Development if stream channel modification is not feasible. Upon issuance of the DEIS, the Sierra Club and the general public requested a 500-cfs aesthetic flow from 5 a.m. to midnight year-round; however, they provided little information to support the higher flow, extension of time, and year-round duration.

The amount of water, timing, duration, and cost of flow release are factors in determining an appropriate aesthetic flow. In section 3.3.10.2, we find that the majority of people view the Upper Falls between noon and 7 p.m. from Memorial

[16] These cottages are historic properties; thus, removal from Commission jurisdiction would require Avista to consult with the Washington SHPO on a plan to ensure continued protection of these historic properties. Provisions for this would be included in Avista's HPMP.

Day until the end of September. This timeframe is within the timeframe of 10 a.m. until one hour after sunset and during the peak summer season proposed by Avista. From our review of the Louis Berger Aesthetics Study and the recommendations of the RLUAWG, we conclude that Avista's proposal provides the best aesthetic flow. In Chapter 4.0, Table 4.3-2, we find that extending the hours and flow duration as proposed by the Sierra Club would increase the average annual cost from $74,500 per year to $340,100. Also in Table 4.3-2, we find that increasing the aesthetic flow from 200 cfs to 500 cfs would increase the annual loss of electrical generation from 748 to 6,060 MWh per year. We do not find incremental aesthetic effects that would be achieved by the Sierra Club's additional flow release, extended hours, and flow duration. The Sierra Club's proposal would not be worth the costs and therefore would not be in the public interest.

The Sierra Club recommended that Avista conduct a feasibility study of altering the north channel of Upper Falls to spread water across the entire width of the channel and eliminate the current channelization. Avista has proposed to evaluate the potential to modify/restore the existing channels. It is estimated that the study would cost $50,000. We recommend that Avista complete the channel modification study for the purpose of determining the feasibility of modifying the channel and file a report of its findings with the Commission along with any proposal for implementing channel modifications based on the results of the study. We find that the benefits of conducting the study would justify the cost.

Other Measures/Funds

Under the Proposed Action, Avista proposes to provide financial support for enforcement of land- and water-based laws and regulations administered by federal, state, and local governmental entities. The entities would apply to Avista for funds prior to an annual spring meeting in order to allow Avista and the entities to evaluate their proposals.

Avista also proposes to: (1) purchase and maintain a boat to support PME measures (total cost to be shared 50/50 with the Post Falls Project); (2) support office staff time and expenses associated with new PME measures; (3) provide for administrative overhead costs for new PME measures; and (4) provide funds to ensure continued public access and to develop new and/or reconstructed recreation projects on or adjacent to the Project.

WDOE contends that the 23 miles of shoreline along Lake Spokane (in Spokane and Stevens counties) have been subject to residential subdivision since before the passage of the Washington State Shoreline Management Act. The act regulates development along shorelines and is intended to provide for coordinated management of shoreline resources. WDOE recommends that Avista contribute

resources or funds necessary for Spokane and Stevens counties to enforce shoreline development regulations along Lake Spokane and the Spokane River.

For our findings on these issues, see our discussion in Post Falls Project section 5.1.1.3, subsection *Other Measures/Funds*. The conclusions drawn in that section also apply for the Spokane River Developments. In short, we do not recommend that such provisions be included as a requirement in any license issued for the Project.

5.2 SUMMARY OF SECTION 10(J) RECOMMENDATIONS AND 4(E) CONDITIONS

5.2.1 Recommendations Pursuant to Section 10(j) of the FPA

Under the provisions of the FPA, each hydroelectric license issued by the Commission shall include conditions based on recommendations provided by federal and state fish and wildlife agencies for the protection, mitigation, or enhancement of fish and wildlife resources by the Project.

Section 10(j) of the FPA states that whenever the Commission believes that any fish and wildlife agency recommendation is inconsistent with the purposes and the requirements of the FPA or other applicable law, the Commission and the agency shall attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agency.

On July 17, 2006, IDFG filed section 10(j) recommendations for the Projects. The USFWS[17] and WDFW filed section 10(j) recommendations on July 18, 2006. In the DEIS, we determined that 14 of the 38 recommendations filed pursuant to section 10(j) were within the scope of section 10(j). Of the 14 recommendations that we found to be within the scope of section 10(j), we determined that three of WDFW's recommendations may be inconsistent with the purpose and requirements of the FPA or other applicable law.

On January 9, 2007, we sent a letter to WDFW informing it of the inconsistencies. On March 5, 2007, USFWS filed a letter modifying some of its 10(j) recommendations. IDFG and WDFW filed letters on March 6, 2007, also modifying some of their 10(j) recommendations.

On March 20, 2007, we held a section 10(j) teleconference to discuss the inconsistencies between WDFW's recommendations and the FPA or other applicable law. During the meeting, we did not resolve any of the inconsistencies. IDFG and USFWS also participated in the section 10(j) conference call.

[17] DOI filed these recommendations on behalf of USFWS.

On April 3, 2007, WDFW filed additional information in support of its 10(j) recommendations. IDFG and USFWS also filed additional information in support of their respective 10(j) recommendations on April 6, 2007.

Table 5.2-1 summarizes federal and state recommendations and our conclusions on whether the recommendations are within the scope of section 10(j). The table also states whether we adopt the recommendations. Recommendations we consider to be outside the scope of section 10(j) have been considered under section 10(a) of the FPA and are addressed in the appropriate resource sections. The specifics of WDFW's remaining inconsistencies and our determinations are discussed below.

Large Woody Debris Management

In the DEIS, we did not recommend adopting WDFW's recommendation for large woody debris management at the Spokane River Developments. We find that there would be no benefit to placing large woody debris downstream of the dams, because large woody debris would not likely remain in the river channel to provide cover for fish and contribute to overall habitat complexity. Information provided by Avista corroborates this finding by showing that large woody debris likely did not historically accumulate in the Project area but was flushed downstream. We conclude that the few benefits (if any) resulting from large woody debris management would not justify the cost of doing so. We therefore made a preliminary determination that WDFW's recommendation for large woody debris management may be inconsistent with the public interest standard of section 4(e) of the FPA and the comprehensive planning standard of section 10(a) of the FPA.

In its letter filed on March 6, 2007, WDFW modified its 10(j) recommendation for a large woody debris management program, instead seeking "out-of-kind" mitigation for large woody debris through its recommended Fishery Enhancement and Supplementation Program.

In this FEIS, we find that certain aspects of the Fishery Enhancement and Supplementation Program, including fish population monitoring and creel surveys, are not specific measures to benefit fish and wildlife. Additionally, the potential out-of-basin fish supplementation contemplated under the program has no nexus to Project effects. For these reasons, the program does not fall within the scope of section 10(j). In any event, we are not recommending the Fishery Enhancement and Supplementation Program as explained in section 5.1 of this FEIS; therefore, there is no resolution of the large woody debris issue.

Table 5.2-1. Fish and wildlife agency recommendations

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
1. Maintain 600-cfs minimum flow release at Post Falls Dam with allowances for 500 cfs during July 1 – Sept 15 of each year (PF).	IDFG	Yes.	Included in Avista's proposal.	Adopt.
2. Release 600-/500-cfs minimum flow release at Post Falls Dam with adaptive management for initial 5 years, followed by setting a final instream flow release of between 800 and 500 cfs (PF).	WDFW	No. WDFW is not considered a 10(j) agency for Post Falls Project because the Project is located in the State of Idaho. 18 CFR § 4.30(b)(9)(i) defines a state agency as the agency in charge of administrative management over the fish and wildlife resources in the state in which a proposed hydropower project is located. In this case, the state 10(j) agency is IDFG.	No additional costs for 600-/500-cfs instream flow release. $5,700 for adaptive management program.	Adopt in part. Yes, for 600-/500-cfs minimum instream flow releases at Post Falls Project. No, for adaptive management program because we have sufficient information in the Project record to determine an instream flow release; therefore, the benefits of the adaptive management program would not justify the costs.
3. Provide spring flows for trout incubation at Post Falls Dam (PF).	WDFW	No. WDFW is not considered a 10(j) agency for Post Falls Project because the Project is located in the State of Idaho. 18 CFR § 4.30(b)(9)(i) defines a state agency as the agency in charge of administrative management over the fish and wildlife resources in the state in which a proposed hydropower project is located. In this case, the state 10(j) agency is IDFG.	Indeterminate	Not adopt. We find that the benefits would not justify any potential costs to Post Falls power generation and the ability of Avista to fill and maintain the lake for summer recreation.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
4. Operate Post Falls Project to comply with the Upper Spokane Rainbow Trout Spawning Fry Emergence Protection Plan (PF).	IDFG	Yes.	Included in Avista's proposal	Adopt.
5. Operate Post Falls Dam to follow a downramping rate that does not exceed more than a 4-inch-per-hour drop in downstream water levels (PF).	IDFG, USFWS	Yes.	Included in Avista's proposal	Adopt.
6. Operate Post Falls Dam to follow a downramping rate that does not exceed more than a 2-inch-per-hour drop in downstream water levels (PF).	WDFW	No. WDFW is not considered a 10(j) agency for Post Falls Project because the Project is located in the State of Idaho. 18 CFR § 4.30(b)(9)(i) defines a state agency as the agency in charge of administrative management over the fish and wildlife resources in the state in which a proposed hydropower project is located. In this case, the state 10(j) agency is IDFG.	Indeterminate	Not adopt. At this time, the additional benefits of a more restrictive ramping rate would not justify the substantial upgrades that the facility would require to provide the recommended ramping rate.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
7. Implement PF-TR-1 (Coeur d'Alene Lake and Tributary Erosion Control and Wetland and Riparian Habitat Protection and Enhancement Plan) with modifications to: (1) restore 532 acres of PFO1, and (2) restore 250 acres of PSS wetlands (PF).	USFWS	No. No nexus to Project effects.	$430,000	Not adopt. Because of the lack of a nexus to the Project, we have no justification for recommending the measure. However, USFWS indicated in its April 16, 2007, filing that PF-TR-1 would satisfy this recommendation.
8. Implement PF-TR-1 (Coeur d'Alene Lake and Tributary Erosion Control and Wetland and Riparian Habitat Protection and Enhancement Plan) with the following modifications: (1) unused funds accumulate, (2) projects should not be selected based solely on cultural resource values, (3) allocate funds for erosion vs. wetlands, and (4) modify project selection process (PF).	IDFG	No. Not specific measures to protect fish and wildlife.	$0	Not adopt. We have no basis for recommending these modifications. We instead recommend PF-TR-1 with the modifications that Avista ensure implementation of all of the plan's measures, notwithstanding the proposed spending caps, and that a monitoring report be filed annually instead of every 5 years.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
9. Implement PF-TR-1 (Coeur d'Alene Lake and Tributary Erosion Control and Wetland and Riparian Habitat Protection and Enhancement Plan) with modifications: (1) priority given to natural levees in lower St. Joe River, excluding areas covered by other USFWS recommendations (PF).	USFWS	Yes.	$0	Adopt.
10. Implement Post Falls Fish Protection, Mitigation, and Enhancement Program, annual funding commitment to restore tributary habitat as mitigation for Project-related inundation of 5 miles of tributary habitat and 5 miles of the lower Coeur d'Alene River (PF).	IDFG	No. The program is too general and uncertain with respect to the specific fish and wildlife measures and locations where Avista would implement such measures.	$175,000 based on IDFG's recommended funding commitment; $592,900 based on actual costs to restore 10 miles of tributary habitats.	Not adopt. We find that the restoration measures contemplated by the funding commitment would have minimal benefits because other factors (e.g., degraded water quality) would continue to occur; therefore, the minimal benefits to native fish populations would not justify the costs.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
11. Implement Post Falls Fish Protection, Mitigation, and Enhancement Program, fish monitoring and recreational fishery and/or aquatic habitat protection and enhancements within the Spokane River and/or Coeur d'Alene Lake (PF).	IDFG	No. The program is too general and uncertain with respect to the specific types of fish and wildlife measures and locations where Avista would implement such measures. Additionally, a funding commitment for fish population monitoring, aquatic habitat protection, and public outreach is not a specific measure for fish and wildlife.	$80,000 based on IDFG's recommended funding commitment ($45,000 for fish population monitoring, $30,000 for aquatic habitat protection, and $5,000 for Public Education and Outreach Program).	Adopt in part. Yes, for fisheries public education and outreach measures included in Commission-approved plans. No, for general fish population monitoring and for aquatic habitat protection and enhancements, because minimal benefits to fish would not justify the costs.
12. Develop and implement a Post Falls Project Fish Protection, Mitigation, and Enhancement Program to restore a cumulative distance of 6.6 miles of tributary habitat to mitigate for inundated habitat in the Coeur d'Alene and St. Joe Rivers (PF).	USFWS	No. The recommended program is very general and uncertain with respect to the specific types of fish and wildlife measures and locations where Avista would implement such measures; therefore, the recommendation is not a specific fish and wildlife measure.	$394,300	Not adopt. We find that the restoration measures contemplated by the plan would likely be ineffective, because other factors (e.g., degraded water quality) would continue to occur in the tributaries, so the benefits of the plan would not justify the costs.
13. Survey Project lands and develop provisions to control noxious weeds (ALL).	USFWS	Yes.	$22,400	Adopt.
14. Develop a Bald Eagle Educational and Interpretive Program (ALL).	USFWS	Yes.	$12,400	Adopt.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
15. Annually monitor bald eagle nests for occupancy and nesting productivity on Project lands (ALL).	USFWS	Yes.	$20,000	Adopt.
16. Annually survey for new bald eagle nests on Project lands (ALL).	USFWS	Yes.	$20,000	Adopt.
17. Develop Bald Eagle Nest Management Plans and monitor actual bald eagle use on Project lands (ALL).	USFWS	Yes.	$12,400	Adopt.
18. Develop and implement an Erosion Control, Prevention, and Restoration Program for Lake Spokane and Nine Mile Reservoir (SR).	WDFW	No. Not a specific measure to protect fish and wildlife.	$0	Not adopt.
19. Develop and implement a Sediment Management Plan to enhance fish and wildlife habitat in Nine Mile Reservoir and Lake Spokane (SR).	WDFW	Yes.	$700 plus the cost of indeterminate implementation measures	Adopt.
20. Develop and implement a Trout Stock Status Monitoring Program (PF).	WDFW	No. General fish population monitoring is not a specific fish and wildlife measure.	$13,100	Not adopt. General monitoring information would provide no benefits to aquatic resources. The lack of benefits does not justify the cost of performing the monitoring.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
21. Develop and implement a Spawning Gravel Management Program (SR).	WDFW	Yes.	Up to $152,600 annually to develop the plan and to purchase gravel, with likely substantial additional costs to haul and place the materials.	Not adopt. We find that the lack of benefits to rainbow trout spawning habitat from gravel augmentation would not justify the costs.
22. Develop and implement a Fisheries Public Education and Outreach Program specific to the protection of wild trout in the Spokane River (SR).	WDFW	Yes	$11,300	Adopt, to the extent that we recommend that Avista implement all Spokane River fisheries public education and outreach measures included in a Commission-approved plan.
23. Develop and implement a Fishery Enhancement / Supplementation and Monitoring Program (SR).	WDFW	No. Certain aspects of the program, including fish population monitoring and creel surveys, are not specific measures to benefit fish and wildlife. Additionally, potential out-of-basin fish supplementation has no nexus to Project effects.	$202,800	Adopt in part. Yes, for fish stocking in Nine Mile and Upper Falls Reservoirs for term of license, and fish stocking and creel surveys in Lake Spokane for first 5 years of license issuance. No, for fish population monitoring, creel surveys, and trout stocking in Lake Spokane for the term of the license because at this time, the benefits would not justify the costs.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
24. Develop and implement a Lake Spokane Aquatic Weed Management Plan, focused on control of Eurasian watermilfoil and other invasive plant species, to enhance fish and wildlife habitat. Monitor for presence of noxious aquatic weeds in Nine Mile Reservoir and potential future development and implementation of Nine Mile Reservoir Aquatic Weed Management Plan (SR).	WDFW	Yes.	Lake Spokane aquatic weed management included in Avista's proposal. Additional costs for Nine Mile Reservoir aquatic weed monitoring would be $10,500 plus the indeterminate costs of developing and implementing a Nine Mile Reservoir Aquatic Weed Management Plan.	Adopt in part. Yes, for Lake Spokane aquatic weed management to the extent that we recommend that Avista be responsible for complying with all weed management measures included in an approved Lake Spokane Aquatic Weed Management Plan, but we do not recommend Avista's proposed spending caps. Yes, for even-year aquatic weed monitoring in Nine Mile Reservoir. No, for Nine Mile Reservoir Aquatic Weed Management Plan. Avista's studies show that invasive aquatic weeds do not occur in Nine Mile Reservoir; therefore, we lack substantial evidence for recommending an aquatic weed control plan for Nine Mile Reservoir.

Table 5.2-1. Fish and wildlife agency recommendations (continued)

Recommendation (Applicable Projects)[a]	Agency	Within the Scope of 10(j)?	Total Levelized Annual Cost (2007$)	Conclusion
25. Implement SRP-TR-1 (Lake Spokane/Nine Mile Terrestrial, Riparian and Wetland Habitat Protection and Enhancement Plan) with modifications: prepare an Upland Habitat Protection and Enhancement Plan to protect shoreline and enhance at least 24 acres of upland habitat (SR).	USFWS	No. No nexus to Project effects.	$11,800	Not adopt. Because of the lack of a nexus to the Project, we have no justification for recommending the measure.
26. Implement a Project Transmission Line Management Program (SRP-TR-2) (SR).	USFWS, WDFW	Yes.	$6,100	Adopt.
27. Protect and manage all Avista-owned lands (about 1,976 acres) around Lake Spokane for wildlife (SR).	WDFW	Yes.	$30,000. However, costs of lost development potential would be substantial.	Not adopt. No proposed operational changes; no Project-related additional effects anticipated; costs too high to justify benefits; SRP-TR-1 would provide some benefits at reasonable costs.
28. Provide funds to purchase 300 acres of shoreline property and wetland habitat contiguous with Lake Spokane or other Avista-owned property (SR).	WDFW	Yes.	$147,600	Not adopt. No proposed operational changes; no Project-related additional effects anticipated; costs too high to justify benefits; SRP-TR-1 would provide some benefits at reasonable costs.

a. PF – Post Falls Project, SR – Spokane River Developments, All – both

Source: Staff

Gravel Augmentation

In the DEIS, we did not recommend adopting WDFW's recommendation for Avista to develop and implement a spawning enhancement program in the Spokane River. We found that placing gravel in the free-flowing reaches of the Spokane River in the Project area would likely provide few, if any, benefits for the resident trout population, and that the minimal benefits of the program would not justify the costs. We therefore made a preliminary determination that WDFW's recommended spawning enhancement program may be inconsistent with the public interest standard of section 4(e) and the comprehensive planning standard of section 10(a) of the FPA.

In its March 6, 2007, filing of modified 10(j) recommendations, WDFW provided additional information in support of its recommendation and removed any provisions for creation of a spawning channel as proposed in its original 10(j) recommendation for the spawning enhancement program. Its modified 10(j) recommendation includes provisions for: (1) augmenting natural bedload material removed from the Monroe Street Development (up to 10,000 cubic yards annually) to the free-flowing portions of the Spokane River with gravel size appropriate for resident spawning salmonids; (2) sieving the dredged material to the appropriate size for spawning, and placing the gravel in areas with high likelihood of success for rainbow trout spawning; (3) conducting a spawning habitat assessment prior to gravel supplementation and every 3 years thereafter; and (4) acquiring and placing appropriate-size spawning gravel and strategic placement in free-flowing sections of the Spokane River in consultation with WDFW.

At the March 20, 2007, 10(j) teleconference, we requested that WDFW provide more specific information to support its recommendation because our analysis in the DEIS indicated that gravel would be flushed from the system due to the relatively high channel gradient and the high velocity of the Spokane River stream flows in this reach. We also requested that it provide specific information as to the locations of the areas of river where the gravel would be augmented

In its April 3, 2007, filing, WDFW filed additional information identifying the locations that it found to be suitable for gravel augmentation. WDFW determined that there are approximately 7 miles in the lower Spokane River with places suitable for spawning gravel augmentation between river mile 67 and 74. WDFW indicated that typical sites for spawning gravel placement and supplementation within the 7-mile section of river are found in low-velocity areas on the downstream side of large objects such as boulders and floodplain vegetation. Specifically, it stated that the section of river above the confluence with Latah Creek has several good locations for augmentation. It also stated that in

addition to supplementation, removing sediment-laden gravels and replacing them with clean gravels would also be beneficial under the program.

After reviewing the additional information filed by WDFW and taking into consideration its comments, we do not recommend adopting WDFW's modified recommendation for a spawning gravel program. In section 3.3.4.2.4 of this FEIS, we find that there may be some benefits to the wild rainbow trout population by improving spawning habitat in this reach of the river. However, we find WDFW's recommendation problematic for several reasons.

The relatively high-gradient channel characteristics and the high volumes of water during spring runoff in this reach of the Spokane River appear to flush most spawning-size gravels from the system. The exception is where spawning-size gravels have accumulated behind velocity breaks such as patches of vegetation, boulders, or concrete slabs.

WDFW did not provide enough detail in its recommendation and supporting information for us to determine with any certainty how much of the dredged material from the intake area of the Monroe Street Development would qualify as "appropriate for salmonid spawning," and therefore would be available for placement downstream. Lacking this information, we assume that Avista would be required to purchase and haul up to 10,000 yards of spawning gravels annually. At a cost of $15 per cubic yard,[18] we estimate that materials costs alone would be $150,000 annually. Additional costs incurred would include:

- hauling and placement costs for up to 10,000 cubic yards of gravel;
- costs to create and restore staging areas for heavy equipment at access points along the river;
- excavation, hauling, and disposal costs for Avista to remove sediment-laden spawning gravels prior to replacement with new gravels;
- costs to construct, install, and maintain flow deflection devices to protect augmented gravels from high flow events; and
- costs to conduct a spawning habitat assessment before initial augmentation and every 3 years thereafter.

While we do not have enough information to estimate the hauling and placing costs, it is likely that these tasks would be costly. We calculate that 10,000 cubic yards of material equates to about 833 truckloads of gravel per year

[18] $15 per cubic yard is based on a cost for washed river rock suitable for gravel augmentation, but does not include any transportation or placement costs.

that may need to be hauled a substantial distances from the point of purchase to the Project area, then placed in the river using excavators, cranes, and other heavy equipment. Further, if the material continued to be washed downstream during high-flow events, as our analysis suggests, it would potentially create additional sediment problems in the Nine Mile Reservoir, which already has sedimentation problems as discussed in Chapter 3.0 of this FEIS.

For these reasons, we find that the benefits to rainbow trout spawning habitat would not be justified by the annualized cost of $152,600 to prepare the plan and purchase the materials and would not be in the public interest. Therefore, there is no resolution of this issue.

Aquatic Weed Management

In the DEIS, we did not recommend adopting WDFW's recommendation for an Aquatic Weed Management Plan focused on control of invasive aquatic plant species in Nine Mile Reservoir. Information provided by Avista shows that exotic weeds such as Eurasian water milfoil do not occur in Nine Mile Reservoir. We therefore made a preliminary determination that WDFW's recommendation may be inconsistent with the substantial evidence standard of section 313(b) of the FPA.

In its March 6, 2007, filing of modified 10(j) recommendations, WDFW provided additional information in support of its recommendation and modified its recommendation to include a provision that Avista be required to monitor for invasive aquatic weeds every even year for the term of any license issued, and then develop and implement an aquatic weed management plan if aquatic weed species are detected in Nine Mile Reservoir.

After reviewing the additional information provided by WDFW in support of its recommendation, and taking into consideration its comments, we conclude that monitoring for aquatic noxious weeds in even years would provide benefits to fish and wildlife resources by helping to limit the spread of aquatic noxious weeds to Nine Mile Reservoir through early detection. We envision that the monitoring component would consist of walking or boating the reservoir and attempting to detect the presence of noxious aquatic weeds. Avista would then file a report by December 31 of every even year documenting the results of the monitoring surveys. We estimate that the costs of monitoring would be $10,500 annually. We conclude that the potential benefits of early detection of aquatic weeds would be justified by the costs.

We do not recommend that Avista develop and implement an aquatic weed management plan if aquatic weed species are detected in Nine Mile Reservoir. Aquatic noxious aquatic weeds do not occur and may never occur in Nine Mile

Reservoir. Therefore, we continue to find that this recommendation would be inconsistent with the substantial evidence standard of section 313(b) of the FPA. There is no resolution of this issue.

5.2.2 Recommendations Pursuant to Section 10(a) of the FPA

Section 10(a)(1) of the FPA requires that any project for which the Commission issues a license shall be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate PME of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

We find 12 of the 28 recommendations listed in Table 5.2-1 to be outside the scope of section 10(j) because they are recommendations for measures that:

- are not specific measures to protect fish and wildlife resources (items 8, 10-12, 18, 20, and 23); or
- are not in the state of jurisdiction of the agency (items 2, 3, and 6); or
- would have no nexus to Project effects (items 7, 23, and 25).

We consider these measures under section 10(a) of the FPA.

Of the recommendations that we find to be outside the scope of section 10(j), we do not adopt nine of them because we cannot make a public interest determination with regard to future uncertain or unspecified measures and we find no nexus between the resource addressed by the measure and the Projects. For the three remaining recommendations that we find to be outside the scope of section 10(j), we adopt those recommendations in part only; the elements of those recommendations that we do not adopt would incur costs that are not justified by the potential benefits. A more detailed explanation of our analysis of the recommendations under section 10(a) that are not adopted can be found in section 5.1.

5.2.3 U.S. Department of the Interior, Bureau of Indian Affairs, and USDA Forest Service Section 4(e) Conditions

In section 2.3.3 and in Table 2.2.4-1, we identify the modified 4(e) conditions submitted by the DOI, BIA, and USDA Forest Service. Section 4(e) of the FPA, 16 U.S.C. § 797(e), provides that any license issued by the Commission "for a project within a federal reservation shall be subject to and contain such conditions as the Secretary of the responsible federal land

management agency deems necessary for the adequate protection and use of the reservation." Thus, any 4(e) condition that meets the requirements of the law must be included in a license issued by the Commission, regardless of whether we include the condition in our Staff Alternative. Of the 14 BIA modified 4(e) conditions filed on May 7, 2007, we consider nine of them to be administrative or legal in nature and not specific environmental measures. In addition, the staff considers all of the USDA Forest Service modified 4(e) conditions (a total of four filed August 21, 2006, and refiled May 3, 2007) to be administrative or legal in nature and not specific environmental measures. We therefore do not analyze these 13 non-environmental conditions in our FEIS.

Table 5.2-2 summarizes our staff conclusions with respect to the modified 4(e) conditions that we consider to be environmental measures. More detailed descriptions of the conditions are presented in Table 2.2.4-1 and in DOI's letter to the Commission dated July 18, 2006. Of the five modified 4(e) conditions submitted by BIA, we include in the Staff Alternative some of the aspects of two of these conditions, for reasons summarized in Table 5.2-2 and, in some cases, discussed in more detail in section 5.1.1.3.

5.3 CONSISTENCY WITH COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA, 16 U.S.C. section 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by a project. Under section 10(a)(2)(A) of the FPA, federal and state agencies filed comprehensive plans that address various resources in Washington and Idaho. We determined that 25 comprehensive plans are relevant to the Post Falls Project and Spokane River Developments (Table 5.3-1). We found no inconsistencies.

Pursuant to section 10(a)(1) of the FPA, we reviewed the following documents that are relevant to the Post Falls Project and the Spokane River Developments: (1) Spokane County Shoreline Master Program; (2) Stevens County Shoreline Master Program; and (3) Watershed Management Plan: Little Spokane River and Middle Spokane River.

Table 5.2-2. BIA modified 4(e) conditions for Post Falls Project

Condition[a]	Annualized Cost	Included in Staff Alternative?
1. Prepare, fund, and implement an Erosion Inventory and Assessment, Erosion Control Design Plan, and Erosion Control Implementation Plan (MC 2).	$100,000	Yes, regarding the identification , mapping, description, and design of existing high-priority erosion sites. We endorse this provision in conjunction with Avista's Coeur d'Alene Lake and Tributary Erosion Control measure (PF-TR-1)
2. Prepare, fund, and implement a Water Quality Monitoring Plan and Program to document the influence of the Project on water quality within the Coeur d'Alene Indian reservation (MC 3).	$199,100	Not adopt.
3. Expand the APE above the 2,128-foot elevation where adverse effects may occur over the term of the new license. Perform ongoing monitoring; protect cultural resources from illegal collecting. Provide funds for upgrading the existing Coeur d'Alene Tribe curation facility (MC 4).	$198,400	Yes, to everything except providing funding to upgrade the Coeur D'Alene Tribe's curation facility. We agree that Avista should implement a program to expand the APE and to inventory, evaluate, and assess effects to cultural resources located within the expanded APE over the term of a new license, implement a monitoring program and ensure protection of cultural resources from illegal collecting, and implement a curation program for cultural material recovered by the Projects. These programs would be incorporated into Avista's final HPMP.
4. Develop and implement an Aquatic Weed Management Plan to eradicate exotic and noxious aquatic weeds in the water affected by the Project that are within the Coeur d'Alene Indian reservation (MC 5).	$3,000	No, we recommend a Coeur d'Alene Lake Aquatic Weed Management Plan.
5. Develop and implement a Coeur d'Alene Indian Reservation Wetland and Riparian Habitat Replacement and Maintenance Plan (MC 6).	$3,000	No, we adopt Avista's Coeur d'Alene Lake and Tributary Erosion Control and Wetlands and Riparian Habitat Protection and Enhancement Measure (PF-TR-1).

a. Letters and numbers in parentheses are the designations for the specific measures in the DOI letter filed May 7, 2007.

Source: Staff

Table 5.3-1. Comprehensive plans relevant to Post Falls Project and Spokane River Developments

Comprehensive Plan	Agency
The Fifth Northwest Electric Power and Conservation Plan, 2000. Council Document 2005-07	Northwest Power and Conservation Council, Portland, Oregon
Protected Areas Amendments and Response to Comments. 1988. Council Document 88-22 (September 14, 1988)	Northwest Power and Conservation Council, Portland, Oregon
Columbia River Basin Fish and Wildlife Program, 2000. Council Document 2000-19	Northwest Power and Conservation Council, Portland, Oregon
Mainstem Amendments to the Columbia River Basin Fish & Wildlife Program, 2003. Council Document 2003-11	Northwest Power and Conservation Council, Portland, Oregon
North American Waterfowl Management Plan. May 1986	U.S. Fish and Wildlife Service, Department of Interior; Canadian Wildlife Service, Environment Canada
Fisheries USA: The Recreational Fishery Policy of the U.S. Fish and Wildlife Service, 1986	U.S. Fish and Wildlife Service, Department of Interior. Washington D.C.
Idaho Panhandle National Forests Plan, 1987. September 17, 1987	U.S. Forest Service, Department of Agriculture, Coeur d'Alene, Idaho
Idaho Fisheries Management Plan, 2001-2006	Idaho Department of Fish and Game, Boise, Idaho
Idaho Water Quality Standards and Wastewater Treatment Requirements, 1985	Idaho Department of Health and Welfare, Boise, Idaho
Idaho Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2003-2007	Idaho Department of Parks and Recreation., Boise, Idaho
State Water Plan, 1986	Idaho Water Resources Board, Boise, Idaho
Statute establishing the State Scenic River System, Chapter 79.72 RCW. 1977	State of Washington, Olympia, Washington
Spokane Resource Area Management Plan and Final Environmental Impact Statement, 1985	Bureau of Land Management, Department of Interior, Spokane, Washington
Decision Notice and Finding of No Significant Impact for the Inland Native Fish Strategy, 1994	U.S. Forest Service, Department of Agriculture, Colville, Washington
An Assessment of Outdoor Recreation in Washington state: A State Comprehensive Outdoor Recreation Planning (SCORP) Document, 2002-2007	Interagency Committee for Outdoor Recreation, Olympia, Washington
Application of Shoreline Management to Hydroelectric Developments, September1986	Washington State Department of Ecology, Olympia, Washington
State Wetlands Integration Strategy, December 1994	Washington State Department of Ecology, Olympia, Washington
Hydroelectric Project Assessment Guidelines, 1987	Washington State Department of Fisheries, Olympia, Washington
Strategies for Washington's Wildlife: 1987-1993, May 1987	Washington State Department of Game, Olympia, Washington

Table 5.3-1. Comprehensive plans relevant to Post Falls Project and Spokane River Developments (continued)

Comprehensive Plan	Agency
State of Washington Natural Heritage Plan, 1987	Washington State Department of Natural Resources, Olympia, Washington
Washington State Hydropower Development/Resource Protection Plan, December 1992	Washington State Energy Office, Olympia, Washington
Voices of Washington: Public Opinion on Outdoor Recreation and Habitat Issues, November 1995	Washington State Interagency Committee for Outdoor Recreation, Olympia, Washington
Washington State Trails Plan: Policy and Action Document, June 1991	Washington State Interagency Committee for Outdoor Recreation, Tumwater, Washington
Washington State Scenic River Assessment, September 1988	WSPRC, Olympia, Washington
Scenic Rivers Program- Report, January 1988	WSPRC, Olympia, Washington

5.4 RELATIONSHIP OF LICENSE PROCESS TO LAWS AND POLICIES

5.4.1 Clean Water Act Section 401 Water Quality Certification

Avista filed application to the WDOE for Water Quality Certification for the Spokane River Developments on July 12, 2006, and to the IDEQ for the Post Falls Project on July 12, 2006, as required under section 401(a)(1) of the CWA. Neither WDOE nor IDEQ responded to these applications or submitted section 401 conditions. Subsequently, Avista withdrew its July 12, 2006, application for certification for the Post Falls Project and reapplied for certification on June 5, 2007. At the time of this FEIS preparation, Avista had not withdrawn and reapplied for certification for the Spokane River Developments.

5.4.2 Endangered Species Act

Section 7 of the ESA requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of such species.

Avista prepared and filed with the Commission a BA of the Project-related effects on federally listed species on February 10, 2006. Six federally listed species occur in the vicinity of the Project (Avista, 2006c). The BA concluded that the Proposed Action would have no effect on four of the species and that it would

not likely have an adverse effect on bull trout or the bald eagle, both federally listed threatened species.

Staff reviewed the BA and concurred with its findings. Accordingly, we adopted the BA as the Commission BA and forwarded it to the USFWS along with a request for concurrence with our "not likely to adversely affect" findings for bull trout and bald eagles by letter dated January 31, 2007. By letter dated March 1, 2007, the USFWS concurred with our findings for bald eagles but requested more information on bull trout. Specifically, the USFWS requested information on the primary constituent elements of bull trout critical habitat, on the inundation of mitigation corridors, and on migration patterns and timing for all bull trout life stages. By letter dated May 15, 2007, we forwarded to the USFWS a supplement to the BA to address its specific requests and requested concurrence with our findings. The USFWS's concurrence with our findings for bull trout is pending.

5.4.3 National Historic Preservation Act

The NHPA (16 U.S.C. 470 *et seq.*) (as amended) requires federal agencies to manage cultural resources under their jurisdiction and authorizes the Secretary of the Interior to maintain a National Register. The law also provides for the creation of SHPOs to facilitate the implementation of federal cultural resource policy at the state level, and for the responsible federal agency (i.e., agency official) to consult with Native American tribes who attach religious or cultural importance to cultural resources under their jurisdiction. When Indian reservation lands are involved, a designated THPO takes the place of a SHPO. Section 106 of the NHPA requires federal agencies to take into account the effect of any proposed undertaking on properties listed, or eligible for listing, in the National Register. If the agency official determines that the undertaking may have adverse effects on properties listed in or eligible for listing in the National Register, the agency official must afford an opportunity for the ACHP to comment on the undertaking. The relicensing of the Projects is considered an undertaking.

Avista, under the authority of the Commission, has conducted section 106 consultation with the Washington and Idaho SHPOs, the Coeur d'Alene Tribe, the Confederated Tribes of the Colville Indian Reservation, the Spokane Tribe, and other interested parties. This consultation included scheduled collaborative cultural resource workgroup meetings, as well as individual meetings conducted by the applicant. Avista has completed a cultural resources overview, inventory, and historic properties evaluation for archaeological sites and aboveground resources. TCP identifications and evaluations are still in development. Under the Proposed Action, Avista would implement its HPMP, which would provide specific guidance to applicant personnel about the treatment of historic, archaeological, and traditional cultural resources during the term of any new licenses.

Under the Proposed Action, Avista would file, for the Commission's approval, a final HPMP after license issuances. Steps and procedures for Avista to complete the HPMP would be carried through the preparation and implementation of a PA crafted by Commission staff which would be made part of any new licenses for the Projects. Among other requirements involving the HPMP, Avista would provide a schedule in the HPMP to (1) evaluate all remaining cultural resources that are being affected by the Projects for National Register eligibility, and (2) resolve adverse effects to all historic properties (i.e., any structural, archaeological, or traditional cultural resources determined to be eligible for the National Register) that are being affected by the Projects. Avista would prioritize this schedule by first addressing Project-related adverse effects to the 71 archaeological sites already considered eligible for inclusion in the National Register. This would include any other unevaluated archaeological sites that may need to treated as a first priority. Avista would also resolve any Project-related adverse effects to any National Register-eligible standing structure in the APE. Avista would then evaluate the remaining cultural resources and address Project-related effects to those resources considered eligible for the National Register. Avista would also include a program in the HPMP to conduct cultural resource monitoring of historic properties, places known to contain human remains, and areas known to be at high risk from erosion and looting located within the Projects' APE. Avista would also provide in the HPMP the specific treatment measures to be implemented to resolve adverse effects to historic properties affected by the Projects. Avista would provide in the HPMP specific guidance to the applicant's personnel about the treatment of historic properties during the term of the new license. In addition to these measures, Avista would integrate its monitoring program with a program in its HPMP to expand the APE where erosional adverse effects are occurring, or would occur in the future, on archaeological sites above the 2,128-foot boundary line. Avista would also incorporate a curation program in its HPMP that would be suitable to both the Coeur d'Alene Tribe and the Spokane Tribe of Indians. The execution of the PA and subsequent implementation of the HPMP by Avista would fulfill the Commission's responsibilities under section 106 for new licenses involving the Projects.

5.4.4 FPA Section 18 Fishway Prescriptions

Section 18 of the FPA provides the U.S. Department of Commerce and the DOI (USFWS) certain authorities to prescribe measures for physical structures, facilities, and Project operations to facilitate the safe passage of fish upstream and downstream of the Projects. The USFWS filed for reserved authority under section 18 in the Department of Interior's Modified Conditions, Prescriptions, and Recommendations filing of July 18, 2006. This reservation provides for Interior to reserve authority to prescribe fishways for any fish species to be managed,

enhanced, protected or restored to the Spokane River and Coeur d'Alene basins during the terms of the license(s).

5.4.5 LWCF Act

The LWCF Program was established by the LWCF Act of 1965 (Pub. L. 88-578) to preserve, develop, and assure public accessibility to outdoor recreation resources. The program provides matching grants to states, and through the states to local government, for the acquisition and development of public outdoor recreation sites and facilities. Lands and waters purchased through the LWCF are used to (1) provide recreational opportunities; (2) provide clean water; (3) preserve wildlife habitat; (4) enhance scenic vistas; (5) protect archaeological and historic sites; and (6) maintain the pristine nature of wilderness areas.

Properties acquired or developed with LWCF assistance are prohibited by section 6(f)(3) of the LWCF Act from conversion to other than public outdoor recreation use without the approval of the Secretary of the Interior. Such conversions require the advance approval of the NPS, and suitable replacement land must be provided.

Under the Proposed Action for the Post Falls Project, Avista proposes, in consultation with the stakeholders (including the NPS), to enhance and improve the City of Coeur d'Alene Park, Mowry State Park, Heyburn State Park, and Hawleys Landing, which were either acquired or developed through the LWCF Act (Louis Berger Group, 2004a). We find that sufficient reservoir-based recreation and public access at the Project and elsewhere occur or would occur under the Staff Alternative; therefore, City of Coeur d'Alene Park, Mowry State Park, Heyburn State Park, and Hawleys Landing are not necessary for Project purposes. Consequently, for the Post Falls Project, a conversion of use would not occur.

Under the Proposed Action for the Spokane River Developments, Avista proposes, in consultation with the stakeholders (including the NPS), to enhance and improve recreation facilities at Lake Spokane and at Nine Mile Resort. The Nine Mile Resort is located adjacent to Riverside State Park- -developed in 1982 through the LWCF Act. As discussed in section 3.3.8, Avista's proposal to reconfigure the resort as a day-use area would complement the WSPRC's new campground and use at Riverside State Park. Under the Staff Alternative, we find that Nine Mile Resort is necessary for Project purposes and we recommend that this site be brought into the Spokane River Developments boundary. The Louis Berger Group (2004a) survey generally identifies Long Lake (the original name of Lake Spokane) as either acquired or developed through the LWCF Act but does not identify any specific recreation sites associated with the lake.

Nevertheless, under the Staff Alternative for the Spokane River Developments, the measures would provide recreational opportunities, enhance scenic vistas, and through the staff-recommended HPMP, protect archaeological and historic sites. We therefore find that under the Staff Alternative, a conversion of use would not occur.

In the DEIS, we made a finding that a conversion of use would not occur at either the Post Falls Project or at the Spokane River Developments. No comments were received on this issue. We continue to find that a conversion of use would not occur.

5.4.6 Columbia River Fish and Wildlife Program

Under section 4(h) of the Pacific Northwest Power Planning and Conservation Act, the NPCC developed the Columbia River Basin Fish and Wildlife Program to protect, mitigate, and enhance the fish and wildlife resources associated with development and operation of hydroelectric projects within the Columbia River Basin. Section 4(h) states that responsible federal and state agencies should provide equitable treatment for fish and wildlife resources, in addition to other purposes for which hydropower is developed, and that these agencies should take the program into account, to the fullest extent possible.

The Columbia River Basin Fish and Wildlife Program directs agencies to consult with fish and wildlife managers and the NPCC during the study, design, construction, and operation of any hydroelectric development in the basin. The Commission's regulations require an applicant to initiate pre-filing consultation with the appropriate federal and state fish and wildlife agencies and Indian tribes and to provide these groups with post-filing opportunities to review and to comment on the application. As summarized in Avista's license application, this consultation has occurred and resulted in partial settlement or concurrence on many proposed measures.