



CLEAN, FLOWING WATERS FOR THE WEST

The Center for
Environmental Law & Policy

August 6, 2009

City of Spokane
Planning Services Department
Attn: Tamara Palmquist
808 W. Spokane Falls Blvd.
Spokane, WA 99201

E-mail tpalmquist@spokanecity.org

Re: Spokane Whitewater Park EIS, Appl. No. Z2008-084-SCUP

Dear Ms. Palmquist:

Thank you for the opportunity to provide comments regarding the scope of the environmental impact statement for the proposed whitewater park. These comments are submitted on behalf of the Center for Environmental Law & Policy (CELP), a membership-based public interest nonprofit dedicated to protection and restoration of freshwater resources throughout Washington and the Columbia River watershed. CELP's Spokane Flow Project works to restore instream flows to the Spokane River and its tributaries for the purpose of protecting instream values such as fish and wildlife, recreation, and aesthetics.

On June 26, 2009, CELP submitted comments on the SEPA checklist and CUP application that detail our major concerns about the whitewater park. Those comments are incorporated into this letter and attached for your convenience. This letter briefly explains each concern and why CELP believes these matters should be addressed in the EIS. In addition, CELP endorses the EIS scoping letter submitted by Spokane Falls Trout Unlimited.

(1) Alternatives

Given that the City is now requiring an EIS, it is appropriate to identify and discuss alternatives to the proposed location of the whitewater park. While CUP application materials briefly discuss alternative sites, there has not been a thorough public review of the relative merits of this and other sites with respect to the issues raised in the City's DS and the concerns raised below.

(2) Fish Habitat and Population Dynamics

Our primary concern involves the potential impact of the whitewater park on redband trout and other native/wild fish habitat in the vicinity of the park. The City has also identified this issue for the EIS. We note that understanding aquatic habitat impacts will require obtaining baseline data about populations as well as determining how current river dynamics contribute to spawning and how alterations to the river in that area will impact fish.

(3) River Hydraulics

The free-flowing Spokane River has expressed its energy by creating certain features in the whitewater park area, including establishing willow banks and islands (which provide habitat for aquatic and terrestrial creatures), that tend toward creating stability. The whitewater park proposes to make substantial changes, including a fish passage corridor, removal of willow islands, etc. How will these changes alter the stability of the river in this area? When different parts of the energy matrix are changed, what will happen? Is there risk for floods or channel changes near the park or downstream? What displacement of flora and fauna will occur?

(4) Construction in the Dry

A related question is whether and how the whitewater park proponent will be able to construct the dam and other parts of the facility in the river. The Spokane River is notorious for resisting coffer dam type construction. Given the substantial quantities of toxic chemicals required to build the dam, what measures will be in place to assure no discharge of these materials into the river?

(4) Maintenance

Whitewater parks require maintenance – the amount and cost of work depends on the hydraulics of the system. The Spokane River is well-known as an extremely flashy river, with flows that approach 20,000 to 40,000 cfs in the spring. If debris removal is required, who will pay for it? How will such maintenance be conducted to prevent harm to fish and other habitat in the vicinity?

(5) River Toxics

The Spokane River is polluted with toxics chemicals and heavy metals, which tend to accumulate behind structures. Will the whitewater dam attract sediments and associated deposition of contaminants? If so, how does this affect habitat, and to what extent will the project proponent control these chemicals? Is there a human health concern?

(6) Transportation

As noted in our CUP comments, the application materials are inconsistent in their treatment of the question of whitewater park user data. It appears the park is intended to attract large-scale competitions. The intended use of the facility should be thoroughly described. Also, the traffic impacts associated with such use should be fully studied.

(7) North Side Use

The whitewater park is likely to draw more people and cars to the northside access trail. This raises several concerns including the current condition of the road along the bluff (unpaved), erosion on the hillside associated with unofficial pedestrian and bicycle paths, and use of the north bank, both as an access point to the river, and for human elimination.

(8) Cultural Resources

Reportedly, very ancient archaeological sites are located in and around the facility, including a site that is currently being destroyed by pedestrian/bicycle paths that are cutting through

and eroding the slopes on the trail that winds up the northside to the bluff. The archaeological report that accompanied the CUP application was very bare bones. We encourage the City to take a strong position on protection of the sites in this area.

(9) City Shoreline Master Program

We are concerned that placement of the whitewater park in this location may not be consistent with various policies and elements of Spokane's Shoreline Master Program (SMP), including ecological goals to preserve the shoreline in its natural state, implementation elements, designation of the gorge area as a conservancy area, the shoreline use element that calls for preservation of the river in its natural state, the conservation element, which calls for allowing the river to flow undisturbed and conservation of the bluff area. The City's SMP regulations (Section 13.05) prohibit construction of dams that are not absolutely necessary, prohibit channel modifications except those necessary to save life and property, and maintenance of scenic qualities, unique landscapes, and natural features.

A thorough evaluation of the whitewater park in the context of the City's SMP is appropriate for the EIS.

(10) Cumulative Impacts

As noted in our CUP comments, this area has been targeted for development, both by Friends of the Falls and Kendall Yards. What are the cumulative impacts on the river corridor of this and other reasonably foreseeable projects, including impacts on habitat, human access and use, hillside erosion?

(11) Kendall Yards Settlement

During consideration of the Kendall Yards CUP, as an individual, I entered into a settlement agreement with the City that includes a variety of commitments to mitigate impacts of the project. That settlement is incorporated into these comments, and a copy attached. Certain elements of the settlement agreement would provide appropriate mitigation for the whitewater park project, should it be built in the proposed location. Relevant elements include preparation of a habitat management plan for the river corridor from Monroe Bridge downstream along City property, and completion of the Centennial Trail along the bluff.

Thank you again for the opportunity to provide comments on the whitewater park environmental impact study.

Yours very truly,



Rachael Paschal Osborn
Executive Director

enclosures

**Agreement in Principle
October 5, 2006**

In consideration for the mutual benefits derived by the parties to this agreement, the City of Spokane and John and Rachael Osborn (City) agree to the following:

Neighborhood Traffic

- 1) City commits to preparation of base line study of local area traffic and to use best efforts to work with the neighborhood on traffic calming as funds are available (some funds currently exist).
- 2) City commits to use very best efforts to correct conflicts between cars and non-vehicular traffic (e.g., bicycle, pedestrian) and safety issues.
- 3) City recognizes that traffic calming is important.
- 4) Centennial Trail – City will use best efforts to assure CT is completed prior to completion of Phase I or any occupancy west of Maple.

Land Use

- 5) City to create web page and links on KY to serve as comprehensive source of public information concerning upcoming public processes, permits and decisions relating to the development. The web page will be operational prior to the end of 2006 and will be updated weekly. Planning Services will maintain the web page, and will coordinate with all other City departments with jurisdiction over aspects of KY project to ensure that web information is comprehensive, up-to-date, and reliable.
- 6) Public involvement will be encouraged in the creation of design guidelines for the KY project. Design Review committee meeting will be posted in advance (goal of 2 weeks in advance) on web site. City commits to host two open houses in connection with design review process to establish design guidelines, the purpose being to inform, educate and receive public input on the proposed guidelines.

Spokane River

- 7) City will require Kendall Yards to abide by all Habitat Management Plan (HMP) guidelines/rules. City will contract with a biologist (with graduate education and substantial experience) to assist city staff in reviewing Kendall Yards draft HMP. Within existing legal framework, City will coordinate with Washington Department of Fish & Wildlife review of Kendall Yards draft HMP and adopt all WDFW recommendations into the Kendall Yards HMP. City will announce availability of draft HMP on KY website and distribute copies to the public as requested.
- 8) City will create a Habitat management plan for city-owned riverside property and natural areas adjacent to KY site. City HMP will include public process, including citizen advisory committee, scoping, public review of draft documents, opportunity for comment and public meetings. The City HMP will occur at the same time as or shortly after the KY HMP is created.

Affordable/Low Income Housing

- 9) Mayor will form a community task force to address low/moderate income housing and social services in the West Central neighborhood. Staffing to include representatives from City Human Services and Community Development Departments. The goal of the task force is to stabilize and promote development of low and moderate income housing in West Central, and recommend actions for the City and private/nonprofit sector to promote social and economic improvements in West Central. The task force will also assess definitional issues around "workforce housing" and other terms as needed. City

commits to make best efforts to implement recommendations of the task force, including immediate and near-term actions as necessary to address speculative housing market.

10) City commits to a concentrated effort in West Central to create affordable housing with a goal of creating a minimum of an additional 25 units by 2017, beyond what would have been created with base line programs now in place.

The parties further agree this document will be formalized at a later date.

DATED this 5th day of October.



Mayor Dennis Hession



Rachael Paschal Osborn on behalf of
John and Rachael Osborn



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The Center for
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June 26, 2009

City of Spokane
Planning Services Department
Attn: Tamara Palmquist
808 W. Spokane Falls Blvd.
Spokane, WA 99201

E-mail tpalmquist@spokanecity.org

Re: Spokane Whitewater Park CUP Application & SEPA Checklist
Application No. Z2008-084-SCUP

Dear Spokane Planning Department:

Thank you for the opportunity to provide comments on the proposed whitewater park. These comments are submitted on behalf of the Center for Environmental Law & Policy (CELP), a membership-based public interest nonprofit dedicated to protection and restoration of freshwater resources throughout Washington and the Columbia River watershed. CELP's Spokane Flow Project works to restore instream flows to the Spokane River and its tributaries for the purpose of protecting instream values such as fish and wildlife, recreation, and aesthetics.

CELP has several concerns about the whitewater park. We are not opposed to the park in general, but we do believe that all impacts must be identified and mitigated. After all, it makes no sense to build a recreational facility that comes at the cost of other environmental values, right? Of particular concern are the impacts of the park on wild fish, on river hydrology and dynamics, and on the movement of toxic chemicals in the river. We trust that the City of Spokane – working with regulatory agencies including the Department of Fish & Wildlife (WDFW), Department of Ecology (Ecology), and the Corps of Engineers (ACOE) – will ensure that the potential impacts of the whitewater park are fully identified and mitigated before issuing permits.

Free Flowing River

Construction of the proposed whitewater park involves placing a substantial rock and concrete structure in the Spokane River, securing it with grout and cement. All of this is to be done in an important free-flowing reach of the Spokane River. It's no small feat to build a structure in a river and the complexity of building and maintaining the structure, as well as its impacts on river dynamics and habitat, should not be taken for granted. The SEPA Checklist is incomplete in describing many aspects of the river in this reach, including the Spokane River's famously flashy hydraulics and fish and wildlife. The Checklist is big on promoting the economic and social benefits of the whitewater park, but short on discussing

what it means to construct an underwater dam in this reach of the River. We respectfully request that the City re-visit the Checklist, including possible issuance of an environmental impact statement to ensure that all impacts of the project are identified, properly analyzed, and fully mitigated.

Protecting Wild Fish

The City should be aware that the Spokane River in the area of the proposed park provides important habitat for wild fish, particularly redband trout and mountain whitefish. Assertions that there are no spawning areas in the direct vicinity of the park, including those contained in the David Evans report of 4/17/09, are unsupported (in fact that document states that the consultant does not know where the spawning areas are located).

The importance of these fish populations and their habitat is reflected in two WDFW documents: the Wild Salmonid Policy and the Spokane River Fisheries Biological and Management Goals & Objectives. See Attachment 1. WDFW has identified redband trout as a focal species and established a goal to achieve a population abundance of 800-1,000 of wild redband trout per mile. Unfortunately, recent WDFW population assessments reveal that redband trout numbers are declining overall in the Spokane River.

WDFW's Wild Salmonid Policy and Spokane River Biological Objectives indicate that human activities that impact wild fish must mitigate or compensate for fish losses. This management objective must be integrated into the City's CUP and SEPA process. The documents accompanying the application (i.e., the original and revised habitat management plans) fail to quantify or even estimate the impacts on redband trout and other wild species that inhabit the reach of river proposed for the whitewater park. The SEPA checklist states that "quantifiable impacts are difficult to determine for aquatic life . . ." and makes a vague promise that avoidance and minimization measures will be incorporated into the project "if practicable." This is a decidedly underwhelming statement of commitment to dealing with potential significant environmental impacts. It is also legally inadequate.

Washington state law requires more. Washington fisheries law requires that wild salmonid fisheries be protected. Washington state water quality standards require that aquatic habitat in this reach of the Spokane River be sufficient to protect salmonid spawning and rearing. WAC 173-201A-602 (Table, pp. 42-43). The State Environmental Policy Act requires that all impacts of a project be identified. WAC 197-11-060. Once identified, impacts must be mitigated. WAC 197-11-660. Indeed, SEPA requires that mitigation measures relate to specific, adverse impacts that are clearly identified in the environmental document for the proposal. WAC 197-11-660(b). By failing to identify the impacts of the whitewater park on redband trout habitat and populations, a problem that is explicitly acknowledged in the Checklist, the Checklist limits both the public's ability to comment and the state agencies' ability to utilize SEPA information as a basis for appropriate regulation. While we otherwise concur with and support all aspects of the comment letter provided by WDFW (dated 5-1-09), we disagree that the whitewater park proponents may defer discussion of impacts and mitigation to the hydraulic permit approval process. The SEPA Checklist is the single most important process by which citizens may participate in evaluation of the project's environmental impacts.

The City is subject to the state laws cited above. We do appreciate that the project design has been amended to provide for fish passage, however the lack of data regarding the impacts of the structure and intensified use of the river as they affect wild fish habitat and populations renders the SEPA Checklist deficient. The City must require the project

proponent to identify impacts and to fully mitigate for those impacts, including avoidance or mitigation for any action that reasonably might contribute to the decline of redband trout populations. We request and expect full mitigation for all probable impacts to this important fishery and its habitat.

City Shoreline Master Program

The affected reach of the Spokane River is designated as a shoreline of statewide significance. In addition to state law requirements, the whitewater park proposal appears to be inconsistent with the City's Shoreline Master Program policies and goals relating to ecological function, shoreline use, and conservation, as well as the shoreline use regulations. The City's SMP does not support placement of a structure in the middle of a free-flowing stretch of the Spokane River.

River as Wildlife Corridor

The SEPA Checklist is incorrect in asserting that the Spokane River in this reach is not a wildlife corridor. This area receives substantial use by many bird and animal species that are not identified in the Checklist, and of course the macroinvertebrates that inhabit the riverbed.

CELP-Sierra Club-Avista settlement

CELP and Sierra Club recently concluded a settlement agreement with Avista concerning re-licensing of the Spokane River dams. That agreement has been incorporated into the 401 Certification and federal license for the dams. Section 5.3(D)(2) of the Certification requires intensive assessment and monitoring of trout habitat in the vicinity of the whitewater park, along with a restoration plan. See Attachment 2. We are concerned about Avista's ability to obtain baseline data and improve habitat in this reach of the Spokane River while potential detrimental impacts associated with the whitewater park are just getting underway. We request that these processes be coordinated, including deferral of construction of the whitewater park until initial baseline data can be collected.

We also request that, should the Avista studies reveal that the whitewater park supports spawning, rearing and migration areas for redband trout, that CUP conditions require park closure at appropriate times to protect fisheries.

Toxic Substances in the Spokane River

The Spokane River has the dubious distinction of being polluted with an alphabet soup of toxic substances, including PCBs, PBDEs, dioxins and furans, and heavy metals. These chemicals are transported downriver, usually attached to sediments that accumulate behind structures. The SEPA Checklist contains no discussion or analysis of the potential for toxic contamination of the Spokane River behind the whitewater park structure.

Construction Zone Issues

We are concerned about the proposal to construct a coffer dam given WDFW's comment that this approach to construction in the Spokane River has never been successful. The potential for failure of this approach needs to be addressed, and contingency plans prepared and discussed.

Maintenance Activities

1. Impacts of dredging

Whitewater parks require maintenance, sometimes including dredging. The SEPA Checklist and CUP Application fail to discuss the frequency, duration, intensity and impacts of dredging requirements for the whitewater park. The revised Habitat Management Plan does not answer these questions. Maintenance dredging is a matter of concern for several reasons, including the potential for disturbing and releasing toxic contaminants that settle into the whitewater structure and impacts on wild fish habitat.

2. Who pays?

Although the revised Habitat Management Plan provides a barebones analysis of how the structure will be monitored, there is no discussion of who will pay to maintain the whitewater structure. This expense should not accrue to the citizens of Spokane.

Trip Generation Estimates

The trip generation study and related SEPA Checklist discussion does not provide adequate discussion and analysis of the number of visitors to the whitewater park and the impacts of their transportation needs. There is a distinct contradiction in the prediction that the park will generate only 30 trips per day (the trip report lacks any citations to support this statement) versus the notion that the kayak park should be intensively marketed as an economic venture and that visitors will include spectator viewers, "city, school and adventure boating programs," "youth-oriented paddling programs," and "national and international competitive events." Exactly how many people are expected to visit the whitewater park, how will they arrive, and what impacts are associated with their transportation? What are the cumulative impacts? To simply state that the park will support events "like Bloomsday" that bring crowds to the area does not adequately address this issue.

In addition, the SEPA Checklist contains no discussion of the traffic that the whitewater park will bring to the north side of the river.

Documentary Support

The CUP application file contains a number of documents, but the SEPA Checklist does not reference or incorporate many of them. Of particular concern is a memo dated 4/17/09 from the project consultant that attaches revised maps, a revised habitat management plan, a description of maintenance activities, and a Q&A. This document post-dates the revised SEPA Checklist by 6 weeks. Is it incorporated? Must the public comment on these documents as part of the SEPA process? SEPA allows for reference to other documents, but they must be identified. The application file is confusing and possibly not in conformity with SEPA requirements.

Miscellaneous Comments

The Checklist contains no discussion of cumulative impacts, including traffic and degradation of the river corridor, associated with future development of Kendall Yards.

There is no restroom planned for the picnic structure on the north bank. The walk across the bridge is fairly lengthy. Project proponents need to clarify bathroom facilities based on use estimates –so as to reduce the likelihood that people will use the north shore as a “porta potty”.

The Checklist notes that the whitewater park will displace other uses of the area, including angling (fishing) and birdwatching. How will these impacts be addressed?

The Checklist notes that the park may increase the need for emergency services. How will emergency access requirements affect the river environment, particularly if needed on a repeat basis?

The Checklist indicates that a temporary water right will be required to establish riparian plantings. It is not possible to obtain a right to divert water from the Spokane River because of low flow problems. How will these temporary water rights (assuming they can be obtained) affect flows? If temporary water rights cannot be obtained, what is the alternative?

Thank you for the opportunity to provide comments on this important project.

Yours very truly,



Rachael Paschal Osborn
Executive Director

Attachments

Cc: WA Department of Ecology
WA Department of Fish & Wildlife
Army Corps of Engineers

401 Certification-Order

Spokane River Hydroelectric Project Certification Amended Order No. 6702 FERC License No. 2545

May 8, 2009



Policy of the Washington Department of Fish and Wildlife Concerning Wild Salmonids.

The goal of WDFW's Wild Salmonid Policy is to protect, restore, and enhance the productivity, production, and diversity of wild salmonids and their ecosystems to sustain ceremonial, subsistence, commercial, and recreational fisheries, non-consumptive fish benefits, and other related cultural and ecological values. Highlights of the policy include the following.

- Spawner abundance goals will be established for individual, separate breeding populations (stocks) in all areas that have existing or restorable habitat capacity to support naturally reproducing, self-sustaining stocks, with the intent to encourage local adaptation (high productivity) and maximize long-term surplus production that sustains harvest, recreational opportunities and other ecological benefits.
- Genetic diversity within and among stocks will be maintained or increased to encourage local adaptation and sustain long-term productivity. Conditions will be created that allow natural patterns of genetic diversity and local adaptation to occur and evolve.
- Wild salmonid stocks will be maintained at levels that naturally sustain ecosystem processes and diverse indigenous species and their habitats. Healthy populations of other indigenous species will be maintained within levels that sustain or promote abundant wild salmonid populations and their habitats.
- Use programs of stable, cost-effective artificial production to provide significant fishery benefits while maintaining the long-term productivity of naturally spawning salmonids and their ecosystems. Protect, rehabilitate, and re-establish naturally spawning populations using integrated principles of genetic conservation, ecology, hatchery production, and fish management.
- Maintain or increase the quality and quantity of habitat necessary to sustain and restore salmonid populations.
- Maintain or restore the physical processes affecting natural basin hydrology. In addition, manage water use and allocation in a manner that would optimize in-stream flows for salmonid spawning, incubation, rearing, adult residency, and migration, that would address the need for channel-forming and maintenance flows, and that would address the impacts of water withdrawals on estuarine and marine habitats.
- Provide for water and sediments of a quality that will support productive, harvestable, wild salmonid populations, unimpaired by toxic or deleterious effects of environmental pollutants. Manage watersheds, stream channels, and wetlands for natural rates of sediment erosion, deposition, and routing, to within the limits of salmonid life requirements.
- Functional riparian habitat and associated wetlands are protected and restored on all water bodies that support, or directly or indirectly impact, salmonids and their habitat.
- Maintain or restore lake and reservoir habitats that are conducive to wild salmonid passage, rearing, adult residency and spawning.

Spokane River Fisheries – Biological and Management Goals & Objectives

Biological and management objectives focus on protecting and providing healthy, sustainable, and harvestable resident fish populations in the Spokane River. Wild salmonid conservation requires the protection and restoration of the productive capacity of salmonid habitat to the extent possible.

The focal species is native redband trout: WDFW's specific biological objective for redband trout in the free-flowing portions of the Spokane River is to achieve and maintain a population abundance of 800-1,000 wild redband trout *Oncorhynchus mykiss gairdneri* (two years and older) per river mile.

In altered environments such as reservoirs, biological objectives focus on rearing habitat.

GOALS

Protect and expand habitat and ecosystem functions as the means to significantly increase the abundance, productivity, and life history diversity of resident fish to the extent that they have been affected by human activities, including but not limited to the development and operation of dams on the Spokane River.

Restore native resident fish species (subspecies, stocks and populations) to near historic abundance throughout their historic ranges where suitable habitat conditions exist and/or where habitats can be restored, with emphasis on sensitive, native salmonid stocks.

Administer and increase opportunities for consumptive and non-consumptive resident fisheries for native, introduced, wild, and hatchery reared stocks that are compatible with the continued persistence of native resident fish species and their restoration to near historic abundance.

BIOLOGICAL AND MANAGEMENT OBJECTIVES

Mitigate or compensate for fish losses caused by human activities, including but not limited to the operation of dams.

Develop and meet conservation plan goals for sensitive native resident fish species.

Protect and restore instream and riparian habitat to maintain functional ecosystems for resident fish, including addressing the chemical, biological, and physical factors influencing aquatic productivity.

Develop and implement projects directed at protecting, restoring, and enhancing fish habitat for fish, through improvements in riparian conditions, hydropower operations, and aquatic conditions.

Relationship to the Idaho 401 Certificate:

The minimum discharge provisions in this 401 Certification apply to the Monroe Street and Upper Falls Dams. Although the Avista Post Falls, Idaho facility is the first control structure on the Spokane River system, the operation of the Post Falls, Idaho facility is subject to the Idaho 401 Certification and the terms and conditions of the final FERC license for that facility. Nothing in this Certification is intended as a condition on the Post Falls facility.

Pursuant to the section 401 certification of the State of Idaho issued on June 5, 2008, for the Post Falls facility, Avista is required to complete certain monitoring studies on how incremental increases of flow in specified summer periods will affect temperature and water quality, including temperature and water quality downstream in the State of Washington. Avista shall provide Ecology and the FERC with copies of all reports and other submittals relating to such monitoring studies at such time as they are submitted to the State of Idaho. If the section 401(a)(2) process of the CWA relating to the Post Falls certification is triggered by the State of Washington, the FERC shall condition the related license “in such manner as may be necessary to insure compliance with applicable water quality standards.”

D. Fisheries

The Spokane River dams influence aquatic conditions in the reservoirs including habitat types, species composition and abundance, and harvest opportunities. Discharge operations influence spawning success, rearing habitat, population abundance, and harvest opportunities in the river. Development and implementation of the following measures, is required:

1. Upper Falls Dam

Avista shall conduct a three-year baseline assessment to provide information pertinent to understanding potential effects of the proposed operational change related to aesthetic flows, on resident fish.

The baseline assessment shall include data analyses of the fish population between Upper Falls Dam and Upriver Dam for three years: specifics include the calculation of indices and statistics related to species composition, abundance catch per unit effort (CPUE), age, growth, and condition. This assessment shall begin in year two of the FERC license.

2. Monroe Street Dam to the Nine Mile Dam Pool

Operation of the dams on the Spokane River influences flows, bedload movement and spawning success. The river portion between Monroe Street dam and the Nine Mile dam pool includes spawning habitat important to native trout.

Additional information is needed to better understand how the following specific factors relate to trout spawning success between Monroe Street dam and the Nine Mile dam pool. Within two years after issuance of the new FERC license (except for subparagraph d), below), the Licensee shall in consultation with WDFW and Ecology:

- a) Quantify the quality and quantity of trout spawning habitat: determine the most productive and least productive spawning areas by developing quality strata at all flow/discharge elevations.
- b) Quantify spawn to emergence success: determine survival from egg to emergence by strata using artificial redd construction. Correlate egg-to-emergence survival for each stratum with corresponding flow/discharge and include velocity, depth, and temperature as variables.
- c) Quantify redd dewatering at different flow/discharge elevations for each habitat quality stratum.

- d) Determine redband trout abundance estimates annually (for 10 years) to assess year class association with flow/discharge levels. Correlate year class strength with flow/discharge and egg to emergence survival. Determine overall spawning success with regard to flow/discharge levels and timing.

Once this information is gathered and provided to Ecology and WDFW, Avista shall, in consultation with Ecology, and WDFW, develop an adaptive management plan to be approved by Ecology regarding discharge flows/levels and timing to improve spawning success and produce successful year classes consistent with the Upper Spokane River Rainbow Trout Spawning and Fry Emergence Plan and pursuant to the Idaho 401 certification.

In addition, implementation measures may result from the Monroe Street Dam Sediment Management Plan as it relates to downstream spawning habitat.

E. Non-Native Aquatic Invasive Plants

The Licensee shall develop a Lake Spokane Aquatic Weed Management Program in conjunction with FERC, WDFW and Ecology for review and approval within one year of issuance of the FERC license. The Program shall include but not be limited to:

1. Cooperation/Coordination

The development of monitoring plans to identify, design, and implement an agreed upon in-field action to control the spread and occurrence of Eurasian watermilfoil with a primary focus on access sites.

The Licensee will also work with the cooperating parties to monitor and control the other existing exotic aquatic weeds and any new exotic aquatic weeds that may become established. This may also include educating the public and area landowners about the threats posed by the spread of aquatic weeds and the appropriate means of limiting their spread or reducing their occurrence.

2. Site-specific Weed Control

Specific in-field weed control actions supported by or implemented under this Program may include but not be limited to any or all of the following: mechanical removal of plants, bottom barriers, chemical treatments, biological treatments, and Project operational measures. It is anticipated that, as new technologies for weed control are developed, they will be implemented when and where appropriate.

The Licensee will work with and coordinate Project operational measures related to this Program with the cooperating parties. This includes scheduled drawdowns of Lake Spokane on a multi-year (2 to 4 year) cycle of up to 10 to 14 feet (levels necessary) to accommodate the installation, maintenance and/or replacement of bottom or physical barriers with the cooperating parties. The Licensee shall target anticipated periods of below-freezing temperatures during the months of January or February for these scheduled drawdowns in order to accomplish more reservoir-wide aquatic weed control as outlined below.

3. Weed Control Lake Drawdowns

In addition to scheduled drawdowns associated with placement and maintenance of bottom barriers or other site-specific weed control efforts, the Licensee shall also implement lake drawdowns for the specific purpose of aquatic weed control. Ecology recognizes that winter drawdowns have varying rates of success due to the amount of the exposed lake bed, duration of exposure, presence of springs, and weather conditions at the time of drawdown. This type of operational measure will entail periodic winter drawdowns of Lake Spokane specifically intended to take advantage of freezing conditions that can kill or otherwise adversely affect the exposed aquatic weeds on a reservoir-wide basis.