AMERICAN WHITEWATER

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Sent Via Email: <ConditDam@ECY.WA.GOV> (hard copy to follow via regular mail)

November 15, 2005

Mr. Derek Sandison
SEPA Responsible Official
Washington Department of Ecology
15 W Yakima Ave., Ste. 200
Yakima, WA 98902-3452

Re: Proposed Condit Dam Removal Project, FERC No 2342
Draft Supplemental EIS

Dear Mr. Sandison:

On September 30, 2005, the Washington Department of Ecology (WDOE) released for public comment its Draft SEPA Supplemental Environmental Impact Statement (SEIS) for the proposed Condit Dam Removal Project, FERC No. 2342. The SEIS, as a supplement to previously released environmental assessments conducted by the Federal Energy Regulatory Commission (FERC), constitutes a comprehensive analysis comparing the effects of continued operation of the dam with the removal of the dam.

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American Whitewater has been involved in the Condit Dam relicensing for more than a decade and is a party to the settlement agreement for dam removal. American Whitewater is a national non-profit 501(c)(3) river conservation organization founded in 1954. We have over 6,700 individual members and 100 canoe club affiliates, representing approximately 80,000 whitewater paddlers across the nation. American Whitewater's mission is to conserve and restore America's whitewater resources and to enhance opportunities to enjoy them safely. As a river conservation organization, American Whitewater has a strong interest in the future of the White Salmon River and, therefore, the proposed removal of the Condit Dam. Removing the dam will restore several miles of whitewater and reconnect the White Salmon River which is already considered one of the nation's top whitewater resources. A significant percentage of American Whitewater members reside in the Columbia River Gorge—a short driving distance from this project.

A2-2

American Whitewater strongly believes that removing Condit Dam will have a positive benefit on fishery resources, recreational opportunities, and cultural resources of the White Salmon River. Given our long history of working closely with American Rivers on this issue, we support comments they have filed in response to this SEIS. We make additional comments below:

Fishery Resources

A2-1
Comment acknowledged.

A2-2
Comment acknowledged.

The SEIS states that "one year-class of chum will be lost" (page 1-8, 4.3-26). Evidence presented in the SEIS does not support this conclusion. Chum salmon mature at age 3, 4, and 5 with occasional rare examples of returns at age 2 and 6. A year class generally refers to a single year's cohort (i.e. the year fish emerge from the gravel and not the year they return) and given the variability in returns one would expect to see fish from the 2005, 2006, 2007, and possibly the 2004 and 2008 year classes (the spring they emerge) returning to the river in the fall of 2009, the year following dam removal. In subsequent years the 2009 year class, the cohort most directly impacted by disturbance of the dam removal, would be under represented for the next few generation cycles but fish that returned in fall of 2007 and fall of 2009 could quickly (as measured by generation cycles) make up this deficit. This life history strategy is designed to deal with "catastrophic events" that are characteristic of the geologically young rivers of the Cascades. A2-3

Dam removal will make a long-term imprint on the system that will dissipate in the years following removal. However, this event can be described as a pulse disturbance, a type of disturbance that chum are adapted to handle because their year classes are spread out over multiple years. Quinn[1] shows the potential for this distribution in time to be under genetic control and Montgomery[2] presents this as evidence for the species diversity we see among salmon on the more geologically active mountain rivers of the west coast in comparison to the geologically mature east coast with only one species of salmon. In fact, chum salmon are among the best of the salmon species to deal with this type of disturbance given their more limited utilization of the freshwater environment in comparison to other salmon species. From a fish life history perspective, the proposed method and timing of removal is the best means of minimizing impacts on the population. More importantly, it assures the best chance of future success in restoring these runs. A2-4

The SEIS also states that new gravel recruited from upstream may not reach the lower 2.6 miles of river and that this will contribute to the net result of a loss of "several year classes of chum salmon" (page 4.3-26). Limited information is presented on gravel transport to evaluate this statement. However, given the abundance of source material (within the reservoir) and the high gradient and power of this mountain stream, it seems unlikely that gravel transport would not begin immediately. Empirical evidence and observations from the Cedar River and Green River in Washington, both sites of gravel supplementation projects, demonstrates that gravel is swiftly transported downstream during periods of winter flow. Significantly, both of these systems have altered flow regimes where peak flows are reduced due to the presence of dams. Gravel transport would be much more efficient in the White Salmon River given that peak flows would not be regulated, and gravel transport would reach full potential immediately following dam removal. A2-5

[1] See Quinn, T.P. 2005. The behavior and ecology of Pacific salmon and trout. University of Washington Press. Seattle, WA.
[2] See Montgomery, D.R., 2004. King of fish: the thousand-year run of salmon. 2003. Westview Press. Cambridge, MA.

A2-3

The statement that "one year-class of chum salmon" would be lost is accurate. The statement in the DSEIS concerning the long-term impact was that "at least several 4- to 5-year generation cycles for Chinook and chum salmon" would be affected, not 4 to 5 generation cycles. Section 4.3 of the DSEIS also stated that variation in age-at-return would allow a lost year-class to rebuild over several generations. Depending on the salmon stock, the majority of returning adults from a given year-class of fry would likely have a dominant age-at-return. If the dominant age-at-return is 4 years (the general case for chum salmon), with a subdominant age-at-return of 3 or 5 years, then 4 years after the loss of a year-class, the run would be composed primarily of 3-and 5-year-old fish from the previous and subsequent year-classes (and hence, greatly reduced). An unusually high survival of 3- and 5-year-old return adults would speed recovery, while a low survival rate and small return of 3- and 5-year returning adults would cause a slow recovery. Because of this, it is impossible to predict how many generation cycles would be required for a complete recovery, but it would likely be several generation cycles before recovery is complete.

Section 4.3 of the FSEIS has been modified to emphasize the minimal short-term impact of dam removal on chum salmon and the long-term benefit to establishing a viable chum salmon run in the White Salmon River.

A2-4

Impacts to chum salmon from dam removal are based primarily on the timing of the dam removal preventing reproduction during the immediate fall/winter following removal and the behavioral characteristics of chum (the tendency to spawn in lower reaches of higher gradient stream and avoid leaping falls unless a chute is available to swim through). This means that chum salmon would be unlikely to access clean gravels above the upstream end of the reservoir behind Condit Dam and that several years may be necessary before available spawning gravel is free of fine sediments. Chum salmon do have a greater range of age-at-spawning (about 3 to 5 years of age) than pink or coho salmon, which does give enough overlap to allow recovery when a year-class is lost because of

stochastic events. In combination with the almost complete lack of freshwater rearing after emergency of fry from the spawning gravels, chum are well adapted to handle stream basins that are subject to frequent pulse disturbances. Because the few chum salmon observed in the White Salmon River at the present time are thought to be strays from a population downstream from Bonneville Dam and do not represent a viable population at this time, the short-term impacts of the pulse created by the removal of Condit Dam would be minimal and the long-term increase and improvement in available spawning gravels should greatly increase the potential for chum salmon to recolonize the White Salmon River and establish a viable population. Section 4.3 of the FSEIS has been modified to emphasize the minimal short-term impact of dam removal on chum salmon and the long-term benefit to establishing a viable chum salmon run in the White Salmon River.

A2-5

New gravel recruited from upstream may not reach the lower 2.6 miles during the first year following dam removal. The gravel that does reach the lower portion of the stream would likely be heavily embedded with fine sediments. It is likely that larger sediment particles would be deposited closest to the dam site, and deposited sediments become progressively finer downstream immediately after dam removal. In addition, much of the larger particles would be initially deposited in the deeper pools, to be gradually released during seasonal high flows. After the Mount St. Helens eruption, the two major Toutle River tributaries (South Fork Toutle River and Green River) eroded through mudflow or tephrafall deposits and returned to preeruption streambeds within a few years (Bisson et al. 2005). It is optimistic to expect suitable spawning gravel to be present in the lower 2.6 miles of the White Salmon River in the first year following dam removal, but suitable spawning gravel should be present within a few years. The estimate of 1 to 3 years is consistent with the recovery of larger streams following the eruption of Mount St. Helens. This is much faster than the decades many fishery managers predicted in the Toutle River basin for the recovery of salmon and steelhead habitat following the eruption of Mount St. Helens (Bisson et al. 2005).

The SEIS is also vague on the subject of habitat condition upstream of the current dam. The SEIS notes that the 2004 NOAA critical habitat designation for chum includes the reach from the base of Condit Dam to the mouth of the river (page C-17). If we currently have suitable habitat to the base of the dam for chum salmon, then this boundary would extend further upstream following dam removal. A2-6

The SEIS discusses the need to remove the coffer dam and the impacts this structure will have on fish passage immediately following dam removal. While we agree with the need to evaluate the options for removal and potential impacts on fish populations, does a potential also exist for this derelict dam to fail during reservoir draining in which case fish would have immediate access to upstream habitat? In evaluating the full range of alternatives, the possibility of dam failure should be considered. A2-7 Failure is relevant to the discussion of winter-run steelhead, that may or may not have access to upstream reaches in the months following dam removal depending on the state of this coffer dam. Again however the claim that an entire year class of steelhead would be lost if the coffer dam cannot be removed until spring 2009 (page 4.3-19) is not valid for reasons stated above for chum salmon. Indeed steelhead display even more variability than chum in life history strategies with regard to return date for spawning and can be iteroparous. A2-8

The dam removal will have an impact on benthic invertebrates present at the time of dam removal. As with fish, however the native species of the Pacific Northwest are adapted to pulse disturbance and the potential for a "slow recovery" (page 4.3-20) and "several years to fully reestablish" (page 4.3-26) invertebrate populations is not well supported by the information in the SEIS. The impact of increased quantities of organic material and nutrients from returning salmon and their impact on recovery of benthic invertebrates is not discussed. Many species of invertebrates benefit from this subsidy, which would have an immediate impact on populations upstream of the dam. So while these invertebrates are in fact an important component of the primary food base for juvenile salmonids, they themselves benefit from the returning adults in an important feedback cycle that is not discussed in the context of invertebrate population status and recovery. As invertebrate populations upstream of the dam site benefit from restored access to marine nutrients and carbon, it is likely that they will quickly recruit and colonize available habitat downstream of the dam site. A2-9

To summarize the impacts to the fishery and aquatic resources, the SEIS provides a good overview but does not adequately acknowledge the fact that the impact of the dam removal as proposed represents a pulse disturbance. This is in contrast to a press disturbance (i.e. a sustained impact over a period of time). While removal of the dam is a human action, it more closely mimics the type of disturbance these species are adapted to deal with given their evolutionary legacy in the young and geologically active Cascade Mountains. The most important point is that the ultimate long-term effect of the proposed action will be, as quoted in the SEIS, "improvement of spawning conditions for chum salmon and fall-run Chinook salmon". Indeed, benefits will extend beyond these species and benefit all aspects of the White Salmon River ecosystem. A2-10

A2-6
There is potentially suitable habitat above the dam, possibly up to Husum Falls. However, other falls between RM 2.6 and Husum Falls may be partial or complete barriers to chum salmon passage. Therefore, it is not clear that additional habitat above the dam location would be utilized by chum salmon. Section 4.3 of the FSEIS has been modified to further clarify.

A2-7
Section 4.3 of the FSEIS has been modified to acknowledge the possibility that the coffer dam may not be a barrier when the reservoir is drained.

A2-8
The entire year-class of age-0 (juveniles produced during the spring of the year of dam removal) winter-run steelhead is expected to be lost as a result of turbidity levels in the river associated with the proposed dam removal. This would substantially reduce the number of expected returning adult steelhead 4 years in the future, when the majority of the lost year-class of steelhead would have been expected to return. During that year, the return of winter-run steelhead would be composed primarily of 3-year-old steelhead and strays from other river basins. Returns of winter-run steelhead would likely be reduced every fourth year for several generation cycles. A portion of the previous year-class of steelhead juveniles (age-1 fish) would also be lost. Section 4.3 of FSEIS has been modified.

A2-9
As stated above for fish, recovery of benthic invertebrates should be relatively rapid. Impacts to benthic macroinvertebrates and their recovery are discussed in Section 4.3.2 of both the DSEIS and the FSEIS in subsections Dam Breaching and Removal, Sediment Transport. Additional information describing the rapid posteruption erosion of stream channels through sediments deposited by the Mount St. Helens eruption and recolonization of stream habitat by aquatic organisms has been added to Section 4.3.2 of the FSEIS under Dam Breaching and Removal, Sediment Transport to underscore how quickly recovery can occur.

A2-10

Aesthetic and Recreational Opportunities

The SEIS refers to a "loss of aesthetic/scenic resources" (page 1-21). Apparently contradicting this statement, the SEIS later states that the change from a reservoir to a river view may depend on one's perception and "may or may not be a significant impact." From our perspective we do not believe that there will be a loss of aesthetic resources but in fact a gain with the restored view of a scenic free-flowing river. The White Salmon River is widely regarded as one of the most scenic whitewater rivers in the country, appearing in nationally-distributed print media and films.

A2-10 Continued

The SEIS discusses removal of most project facilities but the project powerhouse and parking area would remain (page 1-6, page 3-21). The reason for leaving some project works is not addressed.

A2-11

PacifiCorp has proposed extending the boat launch at Northwestern Lake Park to access the river following dam removal to provide new recreational opportunities (Page 4.10-8). In addition to the important river restoration goals that will be accomplished, our organization has a direct interest in these new recreational opportunities, in particular the opportunity to kayak or raft the White Salmon River from Buck Creek to the confluence with the Columbia River. While the enhancements to the current facility at Northwestern Lake Park will help achieve this objective, recreational use of this section also depends on a safe site to exit the river (i.e. to be considered an enhancement, the collective needs for a put-in and take-out should be addressed). In considering the aesthetic and scenic resources, and the public's opportunity to experience them, the need for safe and legal access to the confluence area and the fate of project lands in this area should be addressed.

A2-12

The SEIS describes several measures to reinforce the Northwestern Lake Bridge (page 4.2-4) that include new concrete wing walls and backfill of a cofferdam and concrete crib structure. Details of the design are not presented but we are concerned with public safety implications of this design for river navigation (not reviewed in section 4.11). Fatalities on bridge pilings have been documented on many rivers across the country[3]. As additional material is placed around bridge pilings, the potential for these types of accidents increases which is significant given the popularity of this river for recreation. Additional safety review of the proposed actions to protect the bridge should be considered along with other alternatives that could meet the need for a safe bridge across the river.

A2-13

Conclusion

Condit Dam removal provides a unique restoration opportunity to restore and maintain the chemical, physical, and biological integrity of the White Salmon River. As FERC staff found in their environmental analysis, dam removal provides the only opportunity for complete ecosystem restoration. The dam has a finite life and removal

A2-14

[3] American Whitewater Accident database. http://www.americanwhitewater.org

Section 4.2 of the FSEIS has been modified to add further clarification that the suspended sediment would flow downstream as a series of episodic spikes or pulses and that this closely mimics the type of natural disturbances that west coast salmonids have been evolutionarily adapted to. The magnitude of the pulses would diminish with time. Long-term benefits are acknowledged.

The FSEIS acknowledges that there would be a trade-off between reservoir-based aesthetics and river-based aesthetics.

A2-11
The retention of the power house was addressed in the FERC FEIS relative to historical/cultural resources and has not been further addressed as an issue in this SEPA SEIS. Since there are residences adjacent to the power house and the road to them is public, that road will remain. Therefore, access to the river at the power house is potentially possible. That would depend on the ultimate ownership of the land containing the power house.

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Comment noted. PacifiCorp is willing to consider what can be done on lands they control, but has no control over most lands near the mouth of the river.

A2-13
Comment acknowledged. The design of the bridge reinforcements would include provisions for navigational markers and, if necessary, signage, in accordance with accepted design standards. Section 4.6 has been amended to include this information.

A2-14
Comment acknowledged.

now also represents the safe and economic alternative. In fact keeping the dam in place will only continue the process of sediment accumulation in the reservoir which one way or another will eventually return to a free-flowing river. As clearly detailed in the SEIS, the long-term benefits of removal far outweigh the short-term impacts in the context of ecosystem function and health. More than 600 dams have been removed across our country[4] and a consistent theme observed at many of these projects is the rapid rate of system recovery and ecosystem benefits.

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A2-16

American Whitewater appreciates the opportunity to comment on the proposed project. Feel free to contact me if you have any questions about these comments, or would like to discuss any issues further. I can be reached at (425) 417-9012.

Sincerely,

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director

A2-15
Comment acknowledged. However, flood events such as the 1996 flood may periodically change the accumulation trends temporarily.

A2-16
Comment acknowledged.

[4] American Rivers dam removal database, http://www.americanrivers.org

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November 15, 2005

Derek Sandison
Central Regional Office Director
Department of Ecology
15 West Yakima, Suite 200
Yakima, WA 98902-3452

RE: Condit Dam Removal Draft SEPA SEIS

Dear Mr. Sandison:

I am writing on behalf of Columbia Riverkeeper, the Northwest Environmental Defense Center and the Gifford Pinchot Task Force to comment on the Condit Dam Removal Draft SEPA Supplemental Environmental Impact Statement. We believe the draft SEIS is generally accurate and appreciate the Department of Ecology's thorough analysis of those SEPA issues not adequately discussed in previous NEPA EISs prepared by the Federal Energy Regulatory Commission. Our organizations strongly support the Condit Dam removal project for the reasons outlined below.

A3-1

A3-2

I. Long-Term Benefits to Anadromous Salmonids Clearly Outweigh Short-Term Impacts

In the long-term, removal of Condit Dam would provide the best conditions for anadromous salmonids within the White Salmon River sub-basin. In addition, this project would provide more benefits to anadromous salmonids from other sub-basins migrating through the Columbia River corridor than the other alternatives. Despite the short-term impacts of the

A3-3

A3-1
Comment acknowledged.

A3-2
Preference acknowledged.

A3-3
Comment acknowledged.

project on sedimentation, water quality and chum salmon spawning habitat, the following comparison clearly demonstrates how much the long-term benefits outweigh the short-term impacts.

Short Term Impact	Long Term Benefits
Short term loss of fish and aquatic macroinvertebrates within the White Salmon River channel downstream of the dam caused by release of sediment.	Fish and aquatic macroinvertebrates reestablish populations several years later within the White Salmon River channel downstream of the preexisting dam where there will be more suitable substrate.
Loss of several year-classes of chum salmon.	Increased steelhead, salmon and bull trout production potential.
Short term sediment deposit in chum salmon spawning substrate in lower river.	After several years, sediment will be diluted and the recruitment of gravel and large woody debris from sources above the dam site will be reestablished providing better habitat for chum salmon.
Short-term sediment interference with salmon trying to enter the White Salmon River.	After several years, sediment will be diluted and salmon and steelhead entering the White Salmon River will have 33 more miles of river and tributary habitat.
Temporary increases in turbidity, TSS and NTU for several years.	Cleaner and colder habitat for resident and anadromous fish.
Impacts to available thermal refuges in the White Salmon River.	New thermal refuge habitat made available that provides colder water.
	Foraging, wintering, refuge habitat and potentially spawning habitat will be created for Columbia River Bull Trout.
	Salmon carcasses distributed in the watershed above preexisting dam site will return nutrients to the watershed.
	Additional stream habitat created for resident fish.

A3-3
Continued

A3-4
Comment acknowledged.

II. Increased Recreational Opportunities

In addition to providing long-term benefits to resident and anadromous fish species, the removal of Condit Dam will provide numerous opportunities for recreation. Despite the loss of boating and fishing on Northwestern Lake, the benefits to recreation from removing Condit Dam

A3-4

clearly outweigh the costs. In addition, the increase in recreation resulting from the project will benefit local businesses that are dependent upon tourism and recreational income.

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Cost	Benefit
Loss of boating on Northwestern Lake - one of thousands of waterbodies in Washington that provide recreational boating opportunities.	Enhance whitewater recreation on a renowned whitewater river.
Loss of recreational fishing on Northwestern Lake.	Restore a celebrated and greatly missed salmon and steelhead recreational fishery.

III. Additional Benefits

A3-6

Along with the numerous benefits to resident and anadromous fish species, recreation and local businesses, the Condit Dam removal project would provide many other significant benefits including:

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- Restoration of several Native American salmon fishing sites.
- Increase the aesthetic quality of the area by connecting the wild and scenic portion of the White Salmon River with the Columbia River Gorge National Scenic Area.

A3-8

- Provide a unique opportunity for scientists to study the restoration of a river to its natural state.

IV. Conclusion

Thank you for considering these comments. If you have any questions regarding these comments please feel free to contact me at (206) 406-2221.

Sincerely,

Rob Kirschner
Columbia Riverkeeper

A3-5
Comment acknowledged.

A3-6
Comment acknowledged.

A3-7
Comment acknowledged.

A3-8
Comment acknowledged.