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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF OREGON

DESCHUTES RIVER ALLIANCE, an Oregon nonprofit corporation, Plaintiff, v. PORTLAND GENERAL ELECTRIC COMPANY, an Oregon corporation, Defendant.	Case No. 3:16-cv-01644-SI OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY'S AMICUS CURIAE BRIEF ON SUMMARY JUDGMENT

INTRODUCTION

Defendant Portland General Electric ("PGE") and Confederated Tribes of the Warm Springs Reservation ("CTWS") co-own and operate the dams at the Pelton Round Butte Project (the "Project"). The Oregon Department of Environmental Quality ("DEQ") is the agency charged by state law to implement the federal Clean Water Act ("CWA") and issue section 401 water quality certifications ("401 certificates") for federally-licensed Projects, including

hydroelectric projects. ORS 468B.035, ORS 468B.040. As states are "the 'prime bulwark in the effort to abate water pollution,'" *Keating v. FERC*, 927 F.2d 616, 622 (D.C. Cir. 1991) (*quoting United States v. Puerto Rico*, 721 F.2d 832, 838 (1st Cir. 1983)), and the 401 certificate at issue in this case is DEQ's, it submits this brief to make the Court aware that there are material issues in dispute about existing water quality conditions on the Lower Deschutes River, and to correct what appears to be a misunderstanding on plaintiff's behalf about the goals and accomplishments of DEQ's current regulatory approach.

That is, plaintiff's allegations and suggestions in their declarations are misplaced in two significant respects. First, the vast majority of the alleged "violations" are in reference to former water-quality standards that are not in fact the existing, applicable state water-quality standards (*i.e.*, not the U.S. Environmental Protection Agency ("EPA") approved standards). DEQ urges the Court to evaluate plaintiff' allegations against *currently applicable* standards. Further, DEQ believes it is important that the Court understand DEQ's interpretation of the adaptive management provisions in the relevant documents, and the benefits that have accrued as a result of implementing this approach.

Second, plaintiff's description of existing conditions in the Lower Deschutes River lack scientific support and refers to an inappropriate baseline for comparison. For example, plaintiff's comparison is focused on conditions prior to construction of a Selective Water Withdrawal system ("SWW") (*e.g.*, "pre-SWW" conditions), and not the conditions that existed prior to dam construction. This "pre-SWW" baseline represents artificially cold conditions caused by the dam's impact on the natural temperature regime that adversely affected beneficial uses. Additionally, plaintiff's characterization of the Lower Deschutes River conditions overlooks that the 401 certificate itself recognizes in several places that exceedances were occurring prior to and at the time of certification. Data and modeling provided reasonable assurances that the Project, as conditioned, including but not limited to construction and operation of the SWW, would not cause or contribute to exceedances of water quality standards.

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DEQ did not then expect that compliance with standards would be immediate and be achieved at all times. Thus, it determines compliance with the Project's 401 certification in light of progress with meeting or implementing conditions of that certification.

DEQ disagrees that water quality conditions exist to justify Court intervention at this time. Instead, DEQ believes it is more appropriate for any determination as to whether refinement to 401 conditions are necessary or appropriate be left to the anticipated modification to the Project's 401 certification that will occur in the near future. The Settlement Agreement established a process for collaboration in operation of the facility, and effectively enabled great progress in successful restoration of anadromous fish in the Deschutes River. DEQ thus suggests the plaintiff to work *with* the Fish Committee, as well as through the 401 modification process, to raise and address its concerns. For these reasons, DEQ does not support co-opting CWA citizen-suit authority[1] to circumvent a process established by numerous stakeholders to a comprehensive settlement.

In short, DEQ submits this amicus filing because it is concerned that, although plaintiff have not yet specified the relief they will seek, the Court might enter an order overturning this thoughtful, science-based adaptive management approach based upon allegations that use an inappropriate baseline for comparison and outdated water quality standards. As shown below, this would endanger the progress made toward restoring salmon runs and toward returning the river's annual temperature regime to its more natural state. Consequently, DEQ asks that the Court deny plaintiff's motion for partial summary judgment.

[1] As DEQ's prior amicus efforts explained, the CWA provides citizens the important right of action for judicial review of alleged violations of water quality conditions. However, in this case, it is not the most productive approach with regard to plaintiff' concerns. To be clear, DEQ disagrees with PGE's contention that the Fish Committee "is the proper and only forum for resolving the complex adaptive management issues raised," (PGE's Motion to Dismiss at 4), but DEQ does agree that in this instance it is the preferable forum for raising and addressing plaintiff's concerns.

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FACTUAL BACKGROUND

A. Regulatory Background

1. Relicensing in 2001

The original license for the Project was issued in 1951, prior to adoption of the CWA and its provision for state license conditioning authority. This license, though amended several times to accommodate additional hydropower facilities, expired in 2001. (Declaration of Eric Nigg ("Nigg Decl.") ¶ 5).

At that point, application for the new license was made by both PGE and CTWS as joint applicants. The co-applicants and their consultants conducted studies from the mid-1990s through the early 2000s in support of the application to DEQ for a 401 certification and to FERC for a renewed license. These studies included data collection, mathematical modeling of reservoirs and the Deschutes River below the Project, as well as engineering studies needed to accomplish the construction and operation of facilities that would improve water quality and provide for downstream fish passage. At the time, DEQ staff judged these studies to adequately support DEQ's conclusion that the Project, as conditioned, provided reasonable assurance that water quality standards would be met. (*Id.*)

The 401 certifications for this project were issued on June 24th, 2002 by DEQ and on June 25th, 2002 by the CTWS. The Project 401 certifications were coordinated to provide a consistent set of requirements for the operators. (*Id.* ¶ 6).

2. The Settlement Working Group and Resulting WQMMP

Several stakeholders objected to the proposed 401 certification and the joint licensees initiated settlement discussions with these stakeholders in January 2003, forming the Settlement Working Group (SWG). The SWG Parties were: PGE, CTWS, U.S. Department of the Interior (USDOI)-Bureau of Indian Affairs, USDOI-Bureau of Land Management, USDOI-Fish and Wildlife Service, National Marine Fisheries Service, U.S. Department of Agriculture -Forest Service, DEQ, Oregon Department of Fish and Wildlife, Oregon Water Resources Department,

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Oregon Department of Parks and Recreation, Deschutes Co., Jefferson Co., City of Bend, City of Madras, City of Redmond, Avion Water Company, American Rivers, The Native Fish Society, Oregon Trout, Trout Unlimited, and Water Watch of Oregon. (*Id.* ¶ 7). Thus, the group included both licensees, regulators, other interested government parties and environmental groups. (*Id.*)

The 401 certification included a Water Quality Management and Monitoring Plan (WQMMP) when issued, but that certification also required the Joint Applicants to revise it soon after issuance. (*Id.* ¶ 16). The revised WQMMP set forth the then-applicable water-quality standards for the Project, and describes their application to the Project, as well as the measures and monitoring necessary to provide reasonable assurance of compliance with those standards. Notably, an agreement among DEQ, CTWS, and PGE in 2002 sets forth the intention of DEQ and CTWS to reconsider the appropriateness of developing conditions necessary to ensure compliance with the water quality standards for designated bull trout habitat areas in the Deschutes River Basin in the required revised-WQMMP. (*Id.* ¶¶ 17-18).

At that time, significant questions were raised by fisheries biologists, DEQ, and the Tribe's Water Control Board as to whether that species existed in the Deschutes River below the Project, which called into question the appropriateness of requiring compliance with that standard. (*Id.* ¶ 18). The water quality standards in effect below the Project prior to March 2004 assumed bull trout were present and included a 10ºC spawning criterion and a 12ºC criterion for non-spawning periods, along with a year-round spawning criterion of 11mg/L for dissolved oxygen. In order to meet the former requirement, this required the SWW to blend surface and bottom water very early in the season as temperatures were increasing. With respect to the latter requirement, there was an option to allow dissolved oxygen for the spawning period to be met by demonstrating that intergravel dissolved oxygen concentration of 8mg/L (applied to protect fish larvae living in spaces amid gravel) could be maintained if the concentration in the water column met 9mg/L. Although modeling of the reservoir suggested this criterion could be met throughout

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the year, there were times both prior to and since construction of the SWW under the revised WQMMP when the criterion could not be met immediately below the Project. (*Id.* ¶ 22).

3. The Updated Water Quality Standards

As was anticipated, by the time the revised WQMMP was finalized, the Oregon Environmental Quality Commission ("EQC") had recently adopted new water quality standards for temperature (and EPA approval was received in March of 2004). These standards included for the first time thorough designations of fish use and spawning periods for salmon and steelhead trout. After that standards revision, the bull trout temperature criteria were no longer applied to the Deschutes River below the Project, and as a consequence, the applicable temperature criteria for the Project were higher and the non-spawning dissolved oxygen criteria were lower. New standards included a spawning criterion for salmon and steelhead from October 15 through June 15 of each year. The temperature in the non-spawning period (June 16 through October 14) is now Core Cold Water with a criterion of 16ºC. There was also no longer a year-round spawning criterion in effect for dissolved oxygen. Instead, the spawning criterion of 11mg/L is effective during the salmon and steelhead trout spawning period and the non-spawning period has the cold water aquatic life criterion of a 30-day mean minimum of 8mg/L dissolved oxygen. (*Id.* ¶ 23).

Although, the need for updated water quality standards was specifically anticipated at time DEQ issued its certification, for reasons perhaps lost to history, DEQ did not then modify the Project's 401 certification to amend the conditions to align, or otherwise, incorporate these new federally-approved criteria. (*Id.* ¶24). Instead, to-date, the Project's 401 Certification references the outdated standards that are relied upon by plaintiff in this case.

B. Goals of the Revised WQMMP and SWW

To step back, however, the revised WQMMP explains the goals of the SWW.

> As a major mitigation measure for the new license period, the Joint Applicants propose to reintroduce anadromous fish upstream of the Project. To enhance

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> surface currents in Lake Billy Chinook, the reservoir upstream of Round Butte Dam, the Joint Applicants propose to construct a selective water withdrawal facility (SWW) at the existing Round Butte Dam intake tower. This new facility will allow water withdrawal from both the surface (warmer epilimnion) and the bottom (cooler hypolimnion) of the reservoir. This new facility will meet two significant purposes:
>
> • Help the Project meet temperature and water quality goals and standards in the lower Deschutes River and Project reservoirs, and,
>
> • Allow the withdrawal of surface waters during salmonid smolt migration periods to facilitate the capture of downstream emigrating smolts from Lake Billy Chinook in support of the anadromous fish reintroduction goal.

(WQMMP at 1-2).

Thus, the SWW was designed to mitigate the unnatural river conditions caused by dams by blending warmer surface water with cold bottom water to mimic the temperature expected if the reservoirs were not there. Target temperatures are calculated in near real-time based on a mathematical relationship between upstream inflows and downstream river temperatures. This relationship provides a target for the downstream river temperature that would occur if the dams were not present and the blending is managed to match that temperature target. Blending surface water into the discharge is also intended to increase dissolved oxygen concentrations. The modeling indicated temperature profiles and dissolved oxygen concentrations would be improved relative to the pre-SWW operation, but that pH would increase to some small degree. (Nigg Decl. ¶ 14).

As provided in the revised WQMMP, the other chief interest of the SWW was fish passage above and below the facility. As noted above, construction of the dams eliminated an important migratory pathway for anadromous fish in the basin important to the basin as a whole. Earlier attempts to affect passage were unsuccessful and the SWW was designed with a Fish Handling Facility to attract, capture, sort and facilitate fish passage downstream of the project. The SWW provides surface currents that attract fish in the reservoir to the outflow and allow capture and transport. (*Id.* ¶ 15).

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However, the WQMMP recognized the complexity of achieving these goals and the numerous unknowns in such a complex system. It therefore provides for an adaptive management approach:

> Because operation of the selective withdrawal facility has the potential to affect numerous water quality parameters, as well as fish passage success, changes in the operation of the selective withdrawal facility must consider all possible impacts, not merely a single water quality parameter. In addition, actual impacts to water quality and currents will not be known with certainty until the selective withdrawal facility is constructed, operated, and monitored, highlighting the need for an adaptive management approach to ensure compliance with water quality standards.

(WQMMP at 2).

That is, the parties recognized that balancing competing water quality objectives, in particular the balance between temperature, dissolved oxygen, and pH would be a challenge. There is no operational procedure that can lower pH without adversely affecting temperature or dissolved oxygen. Bottom water that has a lower pH also has less dissolved oxygen. Releasing bottom water when not necessary for temperature control diminishes the available volume of cold water that is needed later to reduce temperatures downstream. The current operations that target compliance with EQC and federally-approved criteria increase the likelihood that there will be that available cold water. (Nigg Decl. ¶ 32). The plan thus invoked adaptive management and set some priorities in the specific management plans by parameter, establishing a clear priority to maintain high quality with respect to temperature and dissolved oxygen, facilitate fish passage, and then mitigate pH as much as possible. (*Id.* ¶ 35).

C. SWW Operation and Interim Agreements

The SWW began operating in late 2009. It became apparent early in the operating season that controlling temperatures with the existing automated systems would be a challenge and fine-scale management might be impossible. Moreover, the reservoirs had not completely filled following the construction period and were not set up as assumed in the modeling used to

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calculate blending parameters. A mistaken release of bottom water resulted in a sharply lower temperature and suggested that new systems needed to be developed. It also became apparent that the SWW had a limit on the proportion of cold bottom water it could release at any time and this limited the ability to cool the outflow in the late summer and early fall when cold water could be depleted. Management of dissolved oxygen in mid-summer was a challenge due to the competing nature of blending, because the cold water needed to reduce temperatures was oxygen depleted compared to the warmer surface waters. (*Id.* ¶ 25).

These facts suggested the licensees needed the time to learn how to operate the facility and optimize mitigation of water quality exceedances. To accomplish this in the context of adaptive management as required by the WQMMP, DEQ chose to enter into temporary agreements with the co-operators that specified appropriate water-quality limits and tolerance for exceeding these limits until the facilities were operating at their highest potential. (*Id.*) DEQ and PGE entered into annual Interim Agreements with DEQ beginning in 2011 following the first full year of operation. These agreements acknowledged the stated water quality standards in the WQMMP and modified these targets in several ways for the period of one year from the date of signature. For example, the temperature and dissolved oxygen requirements were made consistent with the EPA and EQC-approved criteria. Additionally, DEQ allows temperatures to exceed the target by up to 0.5ºC for up to 3 days when there are rapidly changing temperatures. Such conditions particularly occur in the early part of the operating season and make meeting the criterion of 0.3ºC challenging. (*Id.* ¶ 26).

The last six years of Interim Agreements have facilitated the experimentation necessary to better understand the system. Since SWW operation began, the data has illustrated strengths and weaknesses that were not always anticipated. It took several years for the operations to be smooth and predictable enough for DEQ to reasonably expect to see routine compliance with the applicable criteria. DEQ has continued to enter Interim Agreements on an annual basis to allow operators to implement the current state water quality standards for the reach below the project.

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DEQ believes that the studies generated during this interim period are necessary and important to inform any modification to the 401 certification. (*Id*. ¶ 27).

Beginning in 2013, DEQ included a provision in the Interim Agreement that changes to the WQMMP would likely require modification of the 401 certification once DEQ had a better understanding of the complex interactions between operations and reservoir response. DEQ has also coordinated with the CTWS regarding inconsistencies between several of its respective water quality standards. CTWS is in the process of adopting revised criteria for the Deschutes River and is expected to complete this in the coming months. DEQ has indicated to PGE, CTWS, and others that once CTWS' water-quality-revision process was completed, DEQ would proceed with modifying its 401 certification, which will include a public notice and comment period. (*Id*. ¶ 28).

Plaintiff's claims of widespread violation of water quality standards do not address compliance with the current EQC-adopted and EPA approved water quality standards for the Deschutes River, but rather the outdated standards. DEQ receives monthly and annual reports from PGE that provide complete data for all parameters required by the WQMMP. These reports demonstrate that the facility has largely met water quality standards for temperature and dissolved oxygen for approximately the last 5 years as modified in the Interim Agreements described above. (*Id*. ¶ 29). When there was a departure from expected temperatures or dissolved oxygen (e.g., summer of 2015), the operators made timely changes in timely order and to balanced competing processes (release of cold bottom water results in lower dissolved oxygen) as well as possible. (*Id.* 32)

D. Effect of the Project Dams on Water Quality Prior to Adaptive Management under the WQMMP

Setting aside the complex regulatory issues, DEQ believes that it is important the Court understand the environmental benefits of the current adaptive management approach. Anthropogenic factors (*e.g.* agriculture, water withdrawals, grazing, etc.) began impacting flows,

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fish, and habitat in the Deschutes as early as the late Nineteenth Century. The completion of construction of the dams associated with the Project in 1956-1958 had profound effects on fisheries in the Deschutes River, primarily by blocking habitat, but the dams also contributed to alterations in water quality, including but not limited to impacts on downstream flows and temperatures. (French Decl. ¶ 4). As CWTS natural resources manager Bradley Houslet explains, the pre-2010 effect of the dams was particularly severe on Fall Chinook:

> 4. Before the construction of the Pelton Project, the lower Deschutes River experienced a natural, annual warming and cooling cycle; water temperatures warmed during early spring and peaked in mid-July then slowly cooled during the fall and winter months to its lowest temperatures. To illustrate the phenomenon, I am attaching as Exhibit 1 a graph from the United States Geological Survey showing daily temperatures of the Deschutes River near Madras, Oregon, from March 1953 to February 1954.
>
> 5. The Pelton Project was completed in 1964. During the entirety of the original license period, the Project discharged water almost exclusively from the bottom of Lake Billy Chinook. That operating regime altered the natural warming and cooling cycle of the lower Deschutes River. In lay terms, the bottom water discharged from Lake Billy Chinook into the lower Deschutes River made the River below the Project unusually cold in the winter and spring months; the Project's cold-water discharge also shifted the peak warm water temperatures from mid-July to late September. Those changes negatively impacted Fall Chinook salmon survival rates.
>
> 6. Because Fall Chinook salmon are cold blooded, their metabolism is completely controlled by the environment's temperature. When water temperatures are too far below optimal levels, development of Fall Chinook salmon eggs is slower, the emergence from the eggs is delayed, and the juveniles suffer reduced growth rates [which] has contributed to their lower survival rates in the lower Deschutes River because they are smaller and more vulnerable to predation.

(ECF No. 80 ¶¶ 4-6; *accord* Nigg Decl. ¶¶ 9-12).

It is also important to recognize that it was not only native fish runs that were impacted by the artificial conditions created the Project dams during the 1950s to 2010 time period. Overall water quality also suffered. Construction of the dams in the 1950s caused significant changes in the annual temperature profile of the Lower Deschutes River. These changes

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included both decreases and increases in temperature depending on the time of year. The magnitude of these changes varied depending on location, but the entire lower river was affected. (Nigg Decl. ¶ 8). Overall, temperatures were lower in winter, spring and early summer, about the same in August, then were warmer than without the dams in late summer through early fall, reaching 1.5ºC increase in October. (*Id.* ¶ 9).

Temperature is not the only parameter that is important to the health of river. Other factors such as dissolved oxygen and pH also affect fish and other organisms. As noted above, prior to the SWW becoming operational, all water released to the Deschutes River below the Project was discharged from a gate near the bottom of the dam. This release of cold water established an unnaturally cold temperature regime and delayed natural heating. This did not only affect temperature, however. Cold water in the bottom of the reservoir is also oxygen depleted and dissolved oxygen concentrations near the project were chronically lower than water quality standards in reaches just downstream. Prior to operation of the SWW, there were pH concentrations that exceeded criteria in the inflowing rivers, in the reservoirs, and in the river below the project. (*Id.* ¶ 11).The extent of these exceedences varied and bottom release from the reservoirs probably reduced this effect in the Lower Deschutes River, but at the expense or lower dissolved oxygen concentrations. (*Id.* ¶ 12).

E. Progress of the Adaptive Management Program under the WQMMP and Interim Agreements

1. Success in Rebuilding the Fall Chinook Population

The adaptive management approach under the WQMMP is already paying dividends in helping to rebuild stocks of threatened and endangered fish species and, contrary to plaintiff' anecdotal claims, has had no documented negative effect on other species.

The success of the SWW is perhaps most vividly demonstrated by the growth in Fall Chinook populations. As discussed above, Fall Chinook are one of the species most detrimentally affected by prior dam operations. Since 2011, ODFW has observed some of the

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highest returns on record with an average estimate of 14,921 adults. Although not the sole factor, the SWW likely has contributed to this success.[2] (French Decl. ¶ 6). Thus, the inception of the SWW adaptive management program at the Project and the change from an unnatural to a more natural temperature regime in the Deschutes has likely had a positive influence on the fresh water success of Fall Chinook. This is because high quality habitat and water conditions in the mainstem of the Deschutes River are critical to the success of Fall Chinook due to their life-history. (*Id.* ¶ 7). Unlike other Deschutes salmonids, fall Chinook are mainstem spawners, meaning adults return from the ocean and only spawn in the main channel of the Deschutes, not in tributaries. Spawning is distributed throughout the lower 100 miles of the river and occurs from October to February. Incubation of the eggs occurs during the winter, and larva begin to hatch out of the gravel in late winter/early spring. Juveniles rear on the margins of the river in the spring and begin out-migration to the ocean in late spring and continue to mid-summer. (*Id.*)

As noted above, prior to 2010, the Project contributed to unnaturally cold temperatures in the spring as a result of the artificial temperature conditions created by the dams. The existing temperature releases from the SWW allow for warmer water during the critical spring period after juveniles emerge from the gravel and preserve colder water to be released in late summer and fall when necessary to initiate spawning. This creates juvenile rearing conditions within the optimum metabolic temperature range for feeding and growth. This enables fish to potentially migrate earlier when Columbia River temperatures are more favorable, and potentially at a larger size at the time of migration. (*Id.*)

In contrast and contrary to plaintiff may contend, the SWW has not been documented to harm other species such as summer steelhead. As ODFW biologist Rod French explains, steelhead have the most complex life-history of any of salmonids in the Lower Deschutes River.

[2] Other factors may include substantial riparian habitat recovery during the 1980s and 1990s, a reduction in out-of-basin harvest, improved passage conditions on the Columbia River associated with court ordered spill, and favorable ocean conditions. (*Id.* ¶ 12).

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They generally rear in freshwater from one to four years, before migrating to the ocean, where they typically spend another one to two years, before returning to spawn. Deschutes steelhead spawn in both the mainstem river and tributaries, and can rear in either location. Distribution of spawning in the Deschutes is variable, likely dependent on how much water run-off is present in tributaries during the spring. On good water years, steelhead will enter tributaries at higher rates to spawn while low water years might leave tributaries dry, or with very low flow, such that more spawning will occur in the main stem Deschutes. Juvenile success is also variable depending on water conditions in many tributaries. Thus, juvenile steelhead success has annual variability that may or may not be related to conditions in the main stem Deschutes. Hatchery steelhead have also impacted wild populations. (*Id*. ¶ 10).

Similarly, there is no scientific correlation between the operation of the SWW and the population of Redband Trout. Because they are the same species as steelhead, redband trout can, and frequently do, spawn with steelhead. Progeny from the spawning can be either a resident trout or an anadromous steelhead. Redband trout in the Lower Deschutes have rapid growth rates, mature early, and are relatively short lived compared to many other Oregon redband trout populations. ODFW has carefully studied the Redband Trout population and concluded that the relative health of the population is not declining as a result of the SWW or otherwise. This is confirmed by angler catch rates. (*Id.* ¶¶ 14-15).

Thus, overall, downstream fish passage survival rates to and through the SWW have increased through implementation of adaptive management measures, such as fish stock origination, changes in life stage releases, changes in power generation, along with other measures. It is important to understand, however, the facility has only been in operation for a relatively short period of time. This is particularly true comparing this limited time period from 2010 to the prior 50 years of artificial conditions beginning in the late 1950s. (*Id*. ¶ 32).

DEQ and ODFW recognize that restoring native fish runs will be a long-term process. Project adult return rates have generally been below established goals in the Settlement

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Agreement, but as with the downstream passage, a significant amount of adaptive management has occurred and returns have been showing some signs of improvement. While recent returns have been below stated goals, it should be noted that adult returns are affected by a number of outside factors, such as, ocean conditions, environmental conditions, Columbia River passage, fisheries, along with many others factors outside of the basin that all affect adult return rates. Moreover, the generation time of some species can be as long as seven years, so success can and will take a substantial amount of time to evaluate. Restoring fish to their historic habitat is an important part of restoring ecosystem function. It is also important to consider, however, that returning steelhead back into the historical habitat, and reestablishing a self-sustaining population will be important to achieving recovery of Deschutes River ESA listed Middle Columbia River steelhead in addition to its importance to tribal peoples. (*Id*. ¶ 33).

2. The Alleged Negative Effects of the SWW Alleged By Plaintiff Do Not Withstand Scientific Scrutiny

In contrast to the strong evidence of the positive effects of adaptive management under the WQMMP, plaintiff's declarations paint an anecdotal picture of negative effects to the Lower Deschutes River supposedly resulting from the operation of the SWW at the Project. However, to the extent that plaintiff's allegations are entirely dependent upon its use of a false baseline – namely, the artificial conditions that prevailed from the 1950s to 2010 – plaintiff's claims do not withstand scrutiny.

Invasive Smallmouth Bass and Walleye. Smallmouth Bass and Walleye are nonnative species that can compete with and prey upon native salmonids. For the reasons Mr. French explains in in detail his declaration, "it is not possible to correlate the SWW adaptive management program with increased numbers of smallmouth bass or walleye in the Lower Deschutes." (*Id*. ¶ 21).

Fish Diseases and Parasites. Similarly, "it is not possible to correlate the incidence of fish diseases such as *Ceratonova shasta* and Neascus, or black spot, with the initiation of the

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SWW adaptive management program." (*Id*. ¶ 24). There has been no documented increase in infection rates and the temperature changes caused by SWW are unlikely to have been sufficient to increase frequency. (*Id.*) Nor is there evidence that cyclical increases in the parasite Neascus, or black spot, infestations have had any measurable effect on the health of redband trout or have that these infestations have exceeded natural variations. (*Id*. ¶ 25).

Algae. Plaintiff's blame the SWW for an alleged increase in algae in the Lower Deschutes River. However, ODFW consulted with an expert in this area who found "nothing unusual, or unexpected, and … that algae was relatively scarce to what he might have expected." (*Id.* ¶ 26). In short, one cannot conclude either than the SWW is increasing the prevalence of algae in the Lower Deschutes or that any such increase is negatively impacting fish species. (*Id.*)

Aquatic Macroinvertebrates. Plaintiff appears to contend that the SWW has had a negative effect on the availability of macroinvertebrates[3] on which fish feed. However, again, this is not documented and plaintiff seem to be confused about the insect species that make up trout diet. (*Id.* ¶ ¶ 27-28).

Birds and Bats. Plaintiff implies that the SWW has had some effect on bird and bat populations. However, many of the bird species observed to be in decline, are highly migratory, have complex life histories, and it would be difficult, if not impossible, to correlate a potential change in numbers associated with a change in operation of the SWW. Bat numbers are in decline regionally, and identifying a localized decline in the population would be difficult. (*Id.* 30).

3. The SWW Adaptive Management Program Has Helped to Restore Natural River Turbidity

Perhaps the most clear example in plaintiff's complaint of their confusing the artificial conditions prevailing from the 1950s until 2010 with a healthy, natural ecosystem is their

[3] Macroinvertebrates are animals without a backbone that can be seen with the naked eye (for example, aquatic insects, snails, worms.)

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discussion related to river turbidity. (*E.g.*, Declaration of John Hazel ¶ 12). Although there is no objective data on turbidity, turbidity in parts of the Deschutes is affected more by glaciers on Mt. Hood rather than anything to do with the Project dams (French Decl. ¶ 29). ODFW biologist French has, like plaintiff's members, observed that "that river above White River has been slightly more off color in the spring, early in summer than it was prior to the operation of the SWW." (*Id.*). However, Mr. French goes on to explain that:

> This color change appears to be related to the return of more natural, pre-Dam runoff flows, has limited duration, and likely has little or no effect on fisheries. In the 1950s, prior to construction of the Project, the Crooked River was considered the principal source of turbidity in the Deschutes. Oregon State Game Commission biologists identified April through early June as the period of greatest turbidity in Deschutes (Nehlsen 1995). Dams, and improved land management in the Crooked River Basin, have undoubtedly improved water quality, and reduced turbidity since the 1950s. Changes resulting from the SWW have moved the river back to this natural turbidity during spring runoff, as turbid water from the Crooked River, or others sources does not settle out before released downstream. Some turbidity in the spring may be beneficial to fish, as the more turbid waters provide cover as fish (juvenile salmon and steelhead) from predators as they are migrating out of the Deschutes. (*Id.*).

The complexity of this issue among others only serves to demonstrate that a court order should not supersede the current adaptive management approach, because not only does the science not support plaintiff's anecdotal reports, but plaintiff conflates the artificial conditions prevailing from the 1950s to 2010 with the natural, pre-dam conditions of the Lower Deschutes River.

ARGUMENT

F. There is No Basis for Relief Sought By Plaintiff

DEQ's concerns that resulted in its filing this amicus brief stem from plaintiff' contention that "[c]ompliance with all conditions of the § 401 certification would improve water quality by lowering water temperatures, lowering pH values, and increasing dissolved oxygen concentrations in Project discharges." (Plt.'s Mot. For Partial S.J. at 14). DEQ understands that plaintiff have not taken a position on the specific remedy they will request, however, as

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discussed above, there is no such thing as free lunch.[4] It is simply not possible to alter one of these parameters without affecting others. DEQ believes that the adaptive management approach set forth in the WQMMP is currently the best way to fine tune a very complex process and is concerned that a court order would both supersede this approach and delay the planned modification to the 401 certification that will incorporate all that has been learned since 2010.

Nor is there any necessary or even logical connection between the relief sought by plaintiff, whatever form that might take, and the alleged "violation" of (outdated) standards the conditions of the 401 certification targeted. DEQ agrees that as the operational approach has been calibrated (and due to conditions such as the 2015 drought) there have been exceedences of those standards and also those in the Interim Agreements. However, as Mr. Nigg explains in his declaration, those exceedences were rectified promptly and much has been learned about their causes and how to prevent them. (Nigg Decl. ¶ 32). Thus, DEQ has concluded that the Project is operating consistent with its certification. (*Id.* ¶ 36).

G. The Importance of Rebuilding Salmon Runs above the Dams and Restoring the Lower Deschutes River to Its Natural Conditions

More important, however, is that even if "violations" have occurred, this is not a reason to discard the SWW and manage the river by court order. The goals of the SWW, the restoration of anadromous fish runs and the return to more natural river conditions, are too important to Oregon to, using another common expression, "throw out the baby with the bath water." The solution to exceedences is to further calibrate the operation of the SWW—as DEQ in conjunction with CWTS and other members of the Fish Committee are doing—and as will be further addressed and codified in an anticipated modified 401 certification.

The federal courts have long recognized that the operation of the dams on the Columbia River System, including the Deschutes, a tributary of the Columbia, has had a significant and

[4] An expression attributed to or popularized by individuals as varied as Rudyard Kipling, Fiorello La Guardia, Robert Heinlein and Milton Freidman. https://en.wikipedia.org/wiki/There_ain%27t_no_such_thing_as_a_free_lunch.

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detrimental effect on salmon and other anadromous fish. *See Trout Unlimited v. Lohn*, 559 F.3d 946, 948 (9th Cir. 2009) ("Human development in the Pacific Northwest has long threatened many salmon and steelhead species with extinction.") To return the Lower Deschutes River to the artificial river conditions created by the Project dams would be detrimental to the goal of remedying the Project's effect on state water quality.

H. Plaintiff Has and Will Have the Opportunity to be Heard

DEQ is not suggesting that plaintiff's views are unimportant or should not be heard. They can make their case to the Fish Committee and DEQ urges them to do so. If they truly have a science-based plan to restore anadromous fish runs and return the river to its pre-1950s state through operation of the SWW, then DEQ would be willing to discuss it with them. When the 401 certification is modified, this will be in a public process in which plaintiff can participate. OAR 340-048-0050(2). However, plaintiff's present allegations are ill-founded or anecdotal, are based on outdated water quality standards and an inappropriate baseline, and in effect endanger all that has been gained and learned by these initial eight years of adaptive management.

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CONCLUSION

For the reasons stated above, amicus DEQ requests that the Court deny plaintiff's motion for partial summary judgment and allow DEQ to continue working with the Project operators to refine, through adaptive management, dam operations in anticipation of modification to the Project's 401 certification.

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Respectfully submitted,

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