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**COURT OF APPEALS, DIVISION II
OF THE STATE OF WASHINGTON**

NORTHWEST SPORTSFISHING INDUSTRY ASSOCIATION,
ASSOCIATION OF NORTHWEST STEELHEADERS, PACIFIC
COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS,
INSTITUTE FOR FISHERIES RESOURCES, AND IDAHO RIVERS
UNITED,

Appellants,

v.

WASHINGTON DEPARTMENT OF ECOLOGY,

Respondent,

and

NORTHWEST RIVERPARTNERS,

Intervenor-Respondent.

**RESPONSE BRIEF OF RESPONDENT WASHINGTON
DEPARTMENT OF ECOLOGY**

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I. INTRODUCTION

The Washington Department of Ecology (Ecology) is charged with developing water quality standards to maintain and protect all designated and existing uses in the waters of the state. Carrying out that responsibility, Ecology developed a standard for total dissolved gas (TDG), a pollutant that in certain concentrations can be lethal to aquatic life. Washington's statewide standard for TDG, 110 percent of saturation, is identical to the water quality standard adopted by the Environmental Protection Agency (EPA) under the federal Clean Water Act.

A major source of TDG in the Snake and Columbia Rivers is the spilling of water over dams. While such spill can be harmful to aquatic life because it raises the concentration of TDG, it can also be helpful in facilitating passage over the dams for salmon and steelhead (collectively salmon) making their way to the ocean. Thus, Ecology developed a special fish passage exemption for TDG applicable only to the dams on the Snake and Columbia Rivers. WAC 173-201A-200(1)(f)(ii). The special exemption relaxes the stringency of the statewide 110 percent TDG standard for the limited purpose of aiding fish passage.

Focusing solely on the alleged benefits to salmon, Appellants petitioned Ecology to engage in rulemaking to further relax the TDG standard applicable to the Snake and Columbia River dams. After a

thorough review of the petition and available information, and in keeping with its obligation to protect and maintain all designated and existing uses, Ecology denied the petition. Ecology's decision was not arbitrary, capricious, or outside the agency's statutory authority. Rather, a review of the denial and the record demonstrates, as the superior court concluded, that Ecology's denial was the product of reasoned decision making and did not exceed the agency's statutory authority. The Court should affirm the superior court's decision upholding Ecology's petition denial.

II. COUNTERSTATEMENT OF ISSUES

1. Whether Ecology's decision to deny a request to allow increased TDG concentration in certain rivers was arbitrary and capricious, where Ecology's scientific and literature review showed such an increase provided minimal benefit to salmon and created potential harm to other aquatic organisms living in the river?

2. Whether Ecology acted within its statutory authority when it denied Appellant's petition for rulemaking based on its review of literature and scientific studies, and provided Appellants with a written statement of the specific reasons for the denial within 60 days of receipt of the petition?

III. COUNTERSTATEMENT OF CASE

A. **Ecology Is Required To Maintain And Protect All Designated And Existing Uses In Waters Of The State**

Pursuant to the state Water Pollution Control Act, chapter 90.48 RCW, the legislature authorized Ecology to protect the quality of waters of the state. The purpose behind the state's water quality laws is set forth in RCW 90.48.010:

It is declared to be the public policy of the state of Washington to maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industry and others to prevent and control the pollution of the waters of the state of Washington.

Acknowledging the breadth of Ecology's authority over state waters, RCW 90.48.030 provides that Ecology has "the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, water courses, and other surface and underground waters of the state of Washington." Ecology is further authorized to promulgate:

[R]ules and regulations as it shall deem necessary to carry out the provisions of this chapter, including but not limited to rules and regulations relating to standards of quality for waters of the state and for substances discharged therein in order to maintain the highest possible standards of all waters of the state in accordance with the public policy as declared in RCW 90.48.010.

RCW 90.48.035.

Ecology also administers aspects of federal environmental protection laws, including the federal Clean Water Act. Ecology is the “state water pollution control agency for all purposes of the federal clean water act”, 33 U.S.C. §§ 1251–1387, and by statute is authorized to “participate fully in the programs of the act as well as to take all action necessary to secure to the state the benefits and to meet the requirements of the act.” RCW 90.48.260. The goal of the Clean Water Act is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). To effectuate this goal, the Clean Water Act requires states to adopt water quality standards. 33 U.S.C. § 1313(a). Water quality standards “shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.” 33 U.S.C. § 1313(c)(2)(A). The water quality standards for Washington’s surface waters are contained in chapter 173-201A WAC.

Under Clean Water Act Section 303(c), a state shall, at least once every three years, “hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and

adopting standards.”¹ 33 U.S.C. § 1313(c)(1); 40 C.F.R. §§ 131.20(a), (b). States must submit to EPA for review and approval any new or modified water quality standards. 33 U.S.C. § 1313(c)(2); 40 C.F.R. §§ 131.20(c), .21(a). Minimum requirements for water quality standards submitted to EPA for its review include a description of the methods used and analyses conducted to support water quality standards revisions, and water quality criteria sufficient to protect designated uses. 40 C.F.R. § 131.6.

In order to approve a state’s proposed water quality standards, EPA must find, among other things, that the standards protect the designated water uses. 40 C.F.R. § 131.5(a)(2). If EPA determines that a state’s water quality standard does not meet the requirements of the Clean Water Act, it can reject the proposed standard or EPA itself can promulgate the water quality standard for the state. 40 C.F.R. § 131.5(b).

Pursuant to Section 7(a) of the Endangered Species Act, if the state’s proposed water quality standards are likely to adversely affect listed species or their designated critical habitat, EPA must formally consult with the Secretaries of Commerce and/or Interior before it can

¹ This process is commonly referred to as the “triennial review.” Ecology is currently engaged in the triennial review of the state’s surface water quality standards. See <http://www.ecy.wa.gov/programs/wq/swqs/TrienRevComm.html>. During the public comment period, Ecology received three comments regarding the TDG rule. See *id.* comments 1, 33, and 41. Appellants did not submit any comments.

approve the state's standards.² 16 U.S.C. § 1536(a). Where formal consultation is required, the Secretary must issue a biological opinion discussing the effects of the proposed action on protected species and state whether the Secretary believes that jeopardy is likely to result from the action. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14. Where the Secretary believes jeopardy will occur, he must specify reasonable and prudent alternatives to the action which will avoid jeopardy, if such alternatives are available. 16 U.S.C. § 1536(b)(3)(A). If the Secretary, after consultation, concludes that no jeopardy will result from the proposed project, he shall provide the agency and the applicant, if any, with an "incidental take statement". 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i). Once formal consultation is completed, EPA may act on the state's proposed standards.

B. History Of Total Dissolved Gas Water Quality Standard

TDG is created by the spilling of water over the spillways of a dam. AR 1840.13.³ "Spill" is water that passes over or through the dam

² In the consultation regarding Ecology's proposed standards, the Secretary of Commerce is represented by the National Oceanic Atmospheric Administration (NOAA) Fisheries, also referred to as the National Marine Fisheries Service (NMFS) and the Secretary of the Interior is represented by the United States Fish and Wildlife Service (USFWS).

³ "AR" refers to the administrative record filed in this matter, the index of which is filed at CP 86-120. Citations to the administrative record will appear as AR XXX.yy, with XXX is the document number and yy is the page number. Citations to the Clerk's Papers will appear as CP page number. The supplementary documents filed with the superior court on March 30, 2011, were individually numbered and citations to those

without passing through the power generation turbines. *Id.* When air is trapped in water that spills over a dam, the air is plunged far under the surface where the pressure dissolves both the nitrogen and the oxygen into the water creating TDG. AR 2137.1. “TDG is the measure of the sum total of all gas partial pressures (including water vapor) in water.” CP 150 (Finding of Fact (FF) 1.6);⁴ AR 32.24. When water becomes supersaturated with gas, gas bubbles can form in the blood and tissues of aquatic organisms. AR 32.24. The exposure of fish and other aquatic organisms to excess dissolved gas can produce physiological problems referred to as Gas Bubble Disease (GBD) or Gas Bubble Trauma (GBT). CP 150 (FF 1.6); AR 2148.3–4. “GBD can, in turn, cause rapid acute mortality as well as increase long-term mortality in aquatic organisms.” AR 32.24. The spilling of water over spillways of dams causes most excess TDG and is a major source of elevated TDG in the Snake and Columbia River system. CP 150 (FF 1.6); AR 2148.3.

Pursuant to the requirements of the Clean Water Act, Ecology promulgated water quality standards for fresh water. WAC 173-201A-200. The standards require “that all indigenous fish and nonfish aquatic

documents will identify the bates number for the page(s) cited. Citations to the Appendix to this brief will appear as App. Ex., followed by the exhibit number.

⁴ Appellants did not assign error to any of the superior court’s Findings of Fact. CP 149–54. Unchallenged findings of fact are verities on appeal. *E.g., Hilltop Terrace Homeowners’ Ass’n v. Island Cy.*, 126 Wn.2d 22, 30, 891 P.2d 29 (1995).

species be protected in waters of the state in addition to the key species” described in the rule. WAC 173-201A-200(1). Recognizing the potential harm to fish and nonfish aquatic species caused by excessive TDG, the state water quality standards have long included a limit on TDG in fresh water. CP 149–50 (FF 1.5). Water quality standards promulgated in 1992 and applicable to all fresh water bodies in the state, provided that “[t]otal dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.”⁵ *See, e.g.*, former WAC 173-201A-030(1)(c)(iii).⁶

Although spilling water over dam spillways increases TDG and thus is potentially harmful to aquatic life, spilling also helps fish pass over dams. Acknowledging the need to aid the passage of fish over dams on the Snake and Columbia Rivers, in 1997 Ecology amended the water quality standards to permit a temporary relaxation of the TDG standard for water being spilled for fish passage. CP 149–50 (FF 1.5, 1.6). Former WAC 173-201A-060 established a temporary, limited exceedance of the statewide 110 percent TDG standard:

Special fish passage exemption for sections of the Snake and Columbia rivers: When spilling water at dams is necessary to aid fish passage, total dissolved gas must not exceed an average of one hundred fifteen percent as measured at Camas/Washougal below Bonneville dam

⁵ EPA’s water quality standard for TDG is also 110 percent of saturation. AR 2086.1.

⁶ A copy of the 1997 version of WAC 173-201A-030(1)(c)(iii) is attached as Appendix A.

or as measured in the forebays of the next downstream dams. Total dissolved gas must also not exceed an average of one hundred twenty percent as measured in the tailraces of each dam. These averages are based on the twelve highest hourly readings in any one day of total dissolved gas. In addition, there is a maximum total dissolved gas one hour average of one hundred twenty-five percent, relative to atmospheric pressure, during spillage for fish passage. These special conditions for total dissolved gas in the Snake and Columbia rivers are viewed as temporary and are to be reviewed by the year 2003.

Former WAC 173-201A-060(4)(b).⁷

As required by the regulation, in 2003 Ecology revisited the temporary TDG standard and made the limited deviation from the 110 percent statewide standard permanent.⁸ AR 2561-63. In accordance with Section 303(c)(2) of the Clean Water Act, Ecology submitted its revised water quality standards to EPA for review and approval. 33 U.S.C. § 1313(c)(2); 40 C.F.R. §§ 131.20(c), .21(a). AR 2353-54; 2326-52. Carrying out its responsibilities to coordinate with the Endangered Species Act, EPA determined that the proposed change to the TDG standard was “likely to adversely affect” listed fish species because it exceeded the statewide 110 percent standard. AR 2351. EPA requested formal consultation with the NMFS and USFWS regarding the rule change.

⁷ The forebay is the reservoir of water immediately upstream of the face of a dam. The tailrace is the channel or canal that carries water away from the dam. A copy of the 1992 version of WAC 173-201A-060(4)(b) is attached as Appendix B.

⁸ The exemption from the statewide TDG standard for fish passage is now found in WAC 173-201A-200(1)(f)(ii). A copy is attached as Appendix C.

AR 2355-56. NMFS prepared a biological opinion evaluating the proposed revisions to Washington's water quality standards, in which it concurred with EPA that the increase in TDG was "likely to adversely affect" listed fish species. AR 2290. While recognizing the potential adverse impact to listed species, in the biological opinion NMFS concluded that EPA's approval of the proposed standards was not likely to jeopardize the continued existence of listed species. AR 2189. NMFS did not recommend any modification to the special TDG standard for fish passage. AR 2303-11.

Upon completion of its formal Endangered Species Act consultation, EPA approved Ecology's proposed revisions in February 2008. AR 2664-65. With respect to the proposed revisions to the TDG standard, EPA concluded that it "is approving the special fish passage exemptions for the Snake and Columbia Rivers in WAC 173-201A-200(1)(f)(ii) as protective of the designated uses and consistent with the Clean Water Act and its implementing regulations at 40 C.F.R. 131." AR 2610. At no time during the review process did EPA or NMFS state that a further excursion from the statewide standard to aid salmon outmigration was warranted by either the Clean Water Act or the Endangered Species Act.

C. Ecology's Response To Requests To Change Total Dissolved Gas Standard

In March 2007, Save Our Wild Salmon submitted a petition to Ecology under the Administrative Procedure Act (APA), ch. 34.05 RCW, requesting that the agency further relax the special TDG standard for the Snake and Columbia Rivers by removing the 115 percent forebay requirement or setting both the forebay and tailrace requirement to 120 percent. AR 1714.1-5. At approximately the same time, the Oregon Department of Environmental Quality (Oregon DEQ) was directed by the Oregon Environmental Quality Commission to evaluate the potential elimination of the 115 percent forebay TDG requirement for fish passage.⁹ CP 153-54 (FF 1.16); AR 1840.17. Oregon and Washington subsequently agreed to convene an Adaptive Management Team to examine TDG levels in the Snake and Columbia Rivers.¹⁰ The Adaptive Management Team,

⁹ Oregon's water quality standards limit TDG to 110 percent of saturation. In addition, Oregon has a 105 percent TDG limit for waters less than two feet in depth. AR 1840.11. In contrast to Washington's TDG water quality standard, Oregon has a process through which a party can seek a waiver of that state's 110 percent TDG standard for fish passage. AR 1840.11. Waivers issued by Oregon to the Army Corps of Engineers for the lower Columbia River dams allowed for relaxation of the 110 percent TDG standard to (1) 115 percent in the forebay; (2) 120 percent in the tailrace; and (3) not to exceed 125 percent for more than two hours in every 24 hours in the forebay and tailrace. *Id.*

¹⁰ Pursuant to CWA Section 303(d), both Washington and Oregon identified segments of the Lower Columbia River as water quality impaired due to TDG levels exceeding state water quality standards of 110 percent of saturation. 33 U.S.C. § 1313(d); AR 1840.14. The two states subsequently prepared a joint Total Maximum Daily Load (TMDL) which addresses TDG in the mainstem of the Columbia River from the mouth of the Snake River to its mouth at the Pacific Ocean. As noted in the TMDL, the 110 percent TDG criterion "provides a margin of safety due to its stringency as

chaired by Oregon (through Oregon DEQ) and Washington (through Ecology), was composed of representatives of NOAA Fisheries, United States Army Corps of Engineers, Save our Wild Salmon, Confederated Tribes of the Colville Reservation, Columbia River Inter Tribal Fish Commission, Grant County PUD, EPA, Northwest RiverPartners, and USFWS.¹¹ AR 1840.19. Save our Wild Salmon ultimately decided to participate in the Adaptive Management Team in lieu of pursuing its petition. The Adaptive Management Team met approximately monthly from November 2007 through September 2008. AR 1840.19.

One of the questions reviewed by the Adaptive Management Team was whether the 115 percent forebay TDG requirement during fish passage spill should be retained. AR 1840.17. In analyzing that question, the Adaptive Management Team considered data and analytical results regarding spill volume, fish survival, and gas bubble trauma incidence. AR 1840.21. With respect to spill volume, the Adaptive Management Team evaluated the potential increase in spill over the dams if the 115 percent forebay TDG limit were removed. AR 1840.23–32. The Fish Passage Center, created by the Northwest Power Planning Council to

compared to site-specific effects documented by extensive site-specific research on TDG and aquatic life in the Columbia River.” AR 2114.15, .81–82. The proposal to create the Adaptive Management Team originated in the joint TMDL.

¹¹ The Adaptive Management Team process was open to the public, with the Bonneville Power Administration, D. Rohr and Associates, Fish Passage Center, and Douglas PUD regularly participating in the meetings. AR 1840.19.

provide technical services to fisheries agencies and tribes impacted by the operation of the Federal Columbia River Power System, prepared a spill volume analysis which predicted the range of the benefit to salmon of increased spill under three potential spill scenarios (Scenarios B-D). The Adaptive Management Team concluded that Scenario B was more likely to occur and that it would result in 1–2 percent more water spilled. AR 1840.9, .25 (Table 3), .61.¹²

Using the additional spill indicated by Scenario B, the Adaptive Management Team analysis determined that the overall increase in salmon survival was less than 1 percent. AR 1840.38 (Table 7). This determination was based on the results of studies evaluating the potential survival of juvenile salmon under the three spill scenarios if the 115 percent forebay limit were removed. AR 1840.37–40. The USFWS Comparative Survival Study found a 0–1 percent increase in survival under Scenario B. AR 1840.38 (Table 7). Similarly, the NOAA COMPASS model found only very small increases in survival, as well as one decrease, if the 115 percent forebay TDG limit was removed. AR 1840.39–40 (Tables 8–10) (COMPASS model survival estimates

¹² The 60 percent increased spill figure relied upon by Appellants comes from the highly unrealistic Scenario D spill regime. AR 1840.9, .42. Even the proponents of this increase in spill admitted that this is the “upper portion of the range of possible spill volume.” AR 1918.5.

ranged from -0.02 percent to 0.2 percent).¹³ These studies support the conclusion that there will be minimal improvement in survival by eliminating the 115 percent forebay standard.

Consistent with Ecology's responsibility to consider impacts on other aquatic life as well as salmon, the Adaptive Management Team also examined the impacts that increased TDG would have on aquatic life. Accordingly, the Team considered the results from three literature reviews and from the GBT field monitoring program.¹⁴ AR 1840.47–55. All three reviews agreed that “a one meter or more depth compensation would protect aquatic species if TDG levels were at or below 120%.” AR 1840.55. That is, the impacts to aquatic species are lowered if such species are able to move below the top one meter of the river where TDG concentration is greatest. However, not all aquatic species are able to depth compensate. Accordingly, after noting that “high mortalities are not found in the Snake and Columbia Rivers when TDG reaches [110, 115 and 120 percent], presumably due to depth compensation[,]” the Adaptive Management Team stated that “[i]t is also important to include a

¹³ By contrast, the 9 percent steelhead survival figure relied upon by Appellants is derived from application of the unrealistic Scenario D spill regime. AR 1840.38 (Table 7).

¹⁴ The literature reviews, prepared by Ecology, NOAA Fisheries and Parametrix, involved analyzing various studies evaluating the impact on selected aquatic organisms exposed to varying concentrations of TDG. AR 1840.47–53. The GBT field monitoring program run by the Fish Passage Center gathered field data regarding the incidence of fin GBT from exposure to increased levels of TDG. AR 1840.53–54.

significant margin of safety since high mortality is a very undesirable outcome.” AR 1840.48.

The process culminated with the issuance of a final report in January 2009 summarizing the findings of the Adaptive Management Team and articulating each state’s determination regarding retention of the 115 percent forebay TDG requirement. AR 1840.1–70. Based on the findings of the Adaptive Management Team, Ecology elected not to remove the 115 percent forebay water quality criterion for the Snake and Columbia Rivers.

Ecology’s statewide total dissolved gas criterion in the water quality standards is 110%. This criterion is designed to fully protect salmon and all other aquatic life. In the 1990s, Ecology added a specific exemption for the Columbia and Snake Rivers for higher TDG levels to allow additional spill of water over the dams to aid salmon migration. Ecology allows TDG up to 120% in the tailrace immediately below the dam and 115% in the forebays behind the dams. While this level of gas is less protective than our statewide criterion, it does allow for additional spill that benefits salmon.

TDG levels in the tailrace are typically higher just after the water plunges over the dam. However, most aquatic life spends more of their time in the forebays. The 115% forebay criterion provides an additional margin of safety for chronic protection against gas bubble trauma in all aquatic life.

Ecology determined that there would be a potential for a small benefit to salmon related to fish spill if the 115% forebay criterion was eliminated, but there would also be

the potential for a small increase in harm from increased gas bubble trauma.

AR 1840.62. Concluding that removal of the 115 percent forebay monitoring requirement “will not cause excessive harm to the beneficial use, aquatic species in the Columbia River, during fish passage spill season,” Oregon elected to remove that requirement from waivers issued under its water quality standards. AR 1840.61.

Five months after the report was issued, Save Our Wild Salmon and other groups, including some of the Appellants, submitted a second petition to Ecology under the APA, again asking that the agency engage in rulemaking to either (a) eliminate the forebay monitoring requirement, or (b) set the forebay and tailrace TDG standards to 120 percent. AR 1914.1–11. The petition raised five issues as supporting the request to change the TDG rule: (1) spill is a vital salmon and steelhead protective measure; (2) the 115 percent forebay limit was not based on sound science; (3) forebay monitors do not provide credible data necessary for monitoring compliance with water quality standards; (4) the 115 percent forebay limit does not protect the most sensitive designated use; and (5) Ecology should amend the TDG rule to remedy its violations of federal and state law. Ecology assigned its lead on the Adaptive Management Team, Andrew Kolosseus, to review the petition and prepare a response.

AR 1912.1. As required by RCW 34.05.330(1), within 60 days of receipt of the petition Ecology issued a written denial specifically responding to concerns raised by the Appellants. AR 1912.1–4.

Rather than seeking judicial review of the denial of their second petition, on March 8, 2010, the same groups petitioned Ecology a third time asking for the identical relief sought in the previous petitions. AR 1753.1–42. In addition to repeating the five issues raised in the second petition, the Appellants alleged that Ecology (a) failed to consider relevant studies demonstrating that aquatic life will not be harmed by the removal of the 115 percent requirement, (b) misrepresented the studies it did consider, (c) inappropriately relied on experimental studies, and (d) when conducting its risk-benefit analysis, the agency did not consider benefits to salmon and other aquatic life from potential increases in spill that would result from a rule change. *Id.*

Because the petition raised the same issues previously addressed by Ecology through the Adaptive Management Team and 2009 petition denial and characterized Ecology's previous response as insufficient, the agency assigned review of the petition and preparation of a response to Chad Brown, a member of the Water Quality Program staff, who had not participated in either process. AR 1504. Mr. Brown was specifically requested to review the additional information and studies cited by

Appellants as supporting their request for a rule change. *Id.* Again following the requirements of RCW 34.05.330(1), within 60 days of receipt of the petition Ecology issued a written response denying the petition and specifically addressing the concerns raised therein. AR 1754.1–8.

D. Judicial Review Of Petition Denial

Dissatisfied with Ecology’s denial, some of the petitioning groups filed a Petition for Judicial Review and Declaratory and Injunctive Relief (Petition) under the APA, RCW 34.05.570, with the Thurston County Superior Court. CP 3–79. The Petition identified three causes of action: (1) alleging that Ecology’s petition denial was arbitrary and capricious, contrary to law, and in excess of the agency’s statutory authority; (2) alleging that by failing to adopt the TDG standard preferred by Appellants, Ecology failed to perform a duty required by law; and (3) challenging the existing TDG rule, WAC 173-201A-200(1)(f)(ii). CP 22–26. Prior to merits briefing before the superior court, Appellants abandoned their second and third causes of action.

The superior court rejected Appellants’ remaining cause of action, concluding that Appellants had not met their burden of proving that Ecology’s denial of the rulemaking petition was arbitrary or capricious or

contrary to law. CP 155–56. Appellants timely sought review of Judge Sutton’s decision by this Court.

IV. STANDARD AND SCOPE OF REVIEW

Any person may petition an agency to adopt, amend, or repeal a rule. RCW 34.05.330(1). An agency’s denial of a petition for rule-making is subject to judicial review under the APA. *Northwest Ecosystem Alliance v. Forest Practices Bd.*, 149 Wn.2d 67, 74, 66 P.3d 614 (2003). The agency decision to deny a petition is “other agency action” reviewable under the standards in RCW 34.05.570(4)(c). Relief will only be granted if the court determines the decision to forego rulemaking is unconstitutional, outside the agency’s authority, arbitrary and capricious, or made by unauthorized persons. RCW 34.05.570(4)(c). In making that determination, the court will review the agency record. RCW 34.05.558. The party challenging agency action bears the burden of demonstrating the invalidity of such action. RCW 34.05.570(1).

Appellants allege that Ecology’s petition denial was arbitrary and capricious. Arbitrary or capricious agency action has been defined as action that “is willful and unreasoning and taken without regard to the attending facts or circumstances.” *Port of Seattle v. Pollution Control Hearings Bd.*, 151 Wn.2d 568, 589, 90 P.3d 659 (2004) (quoting *Wash. Indep. Tel. Ass’n v. Wash. Utils. & Transp. Comm’n*, 149 Wn.2d 17, 26,

65 P.3d 319 (2003), and *Hillis v. Dep't of Ecology*, 131 Wn.2d 373, 383, 932 P.2d 139 (1997)). Where there is room for two opinions, and the agency acted honestly upon due consideration, the Court should not find that an action was arbitrary and capricious, even though the Court may reach an opposite conclusion. *Port of Seattle*, 151 Wn.2d at 589 (citing *Buechel v. Dep't of Ecology*, 125 Wn.2d 196, 202, 884 P.2d 910 (1994)). “[N]either the existence of contradictory evidence nor the possibility of deriving conflicting conclusions from the evidence renders an agency decision arbitrary and capricious.” *Rios v. Dep't of Labor & Indus.*, 145 Wn.2d 483, 39 P.3d 961 (2002) (citations omitted).

Under the arbitrary and capricious test, a court will not set aside a discretionary decision of an agency absent a clear showing of abuse. *ARCO Prods. Co. v. Wash. Utils. & Transp. Comm'n*, 125 Wn.2d 805, 812, 888 P.2d 728 (1995). Moreover, “[i]n reviewing matters within agency discretion, the court shall limit its function to assuring that the agency has exercised its discretion in accordance with law, and shall not itself undertake to exercise the discretion that the legislature has placed in the agency.” RCW 34.05.574(1); *Rios*, 145 Wn.2d at 501–02 n.12. Indeed, the court’s job is to review the record to determine if the result was reached through a process of reason, “not whether the result was itself reasonable in the judgment of the court.” *Rios*, 145 Wn.2d at 501.

The court must accord particular deference when an agency's decision is based heavily on factual matters, especially those which are complex or involve agency technical expertise. *Rios*, 145 Wn.2d at 501–02 n.12. “[I]t is well settled that due deference must be given to the specialized knowledge and expertise of an administrative agency.” *Dep’t of Ecology v. PUD No. 1 of Jefferson Cy.*, 121 Wn.2d 179, 201, 849 P.2d 646 (1993), *aff’d*, 511 U.S. 700, 114 S. Ct. 1900, 128 L. Ed. 2d 716 (1994). This case involves technical issues regarding whether to modify the existing water quality standard for TDG. Because Ecology was exercising its expertise in the area of water quality, this Court should give due deference to the agency’s expertise in this factually complex and technical area. *Port of Seattle*, 151 Wn.2d at 594–95. Finally, the court accords substantial weight to the “agency’s view of the law if it falls within the agency’s expertise in that special field of law.” *Puget Sound Harvesters Ass’n v. Dep’t of Fish & Wildlife*, 157 Wn. App. 935, 945, 239 P.3d 1140 (2010) (citation omitted).

V. SUMMARY OF ARGUMENT

Under the arbitrary and capricious standard of review, an agency’s refusal to engage in discretionary rulemaking is at the high end of the level of deference accorded by the court. Ecology’s denial of Appellants’ petition requesting a weakening of water quality standards, which was

based on application of the agency's technical expertise and credible scientific evidence in the record, was not arbitrary or capricious. Rather, it was the product of a thorough analysis of the available information and in full regard for Ecology's statutory obligation to protect and maintain all designated and existing uses in waters of the state.

Ecology's denial also complied with the requirements of RCW 34.05.330. The mere fact that Appellants disagreed with Ecology's conclusion does not convert the denial into arbitrary and capricious action. Rather, as required by RCW 34.05.330, within 60 days of receiving the petition for rulemaking Ecology prepared a written denial responding to the concerns raised. Appellants' assertions that the petition denial process should be scrutinized as if it were a challenge to the promulgation of a rule should be rejected.

Finally, Ecology did not exceed its statutory authority in denying the petition. Under RCW 34.05.330, Ecology can deny a petition and did so here. Contrary to Appellants' claims, RCW 90.48.580 does not apply to review of a petition denial, but rather applies only to the promulgation of rules and TMDLs. Regardless, Ecology's denial is based on credible scientific information and literature. Ecology's denial, which was not arbitrary, capricious or in excess of the agency's statutory authority, should be affirmed.

VI. ARGUMENT

A. Ecology Denied The Petition Due To Reasoned Decision Making And In Due Regard To The Facts And Circumstances

“‘[A]n agency’s refusal to institute rulemaking proceedings is at the high end of the range’ of levels of deference we give to agency action under our ‘arbitrary and capricious’ review.” *Defenders of Wildlife v. Gutierrez*, 532 F.3d 913, 919 (D.C. Cir. 2008) (quoting *Am. Horse Prot. Ass’n v. Lyng*, 812 F.2d 1, 4–5 (D.C. Cir. 1987)).¹⁵ “[W]here the proposed rule pertains to a matter of policy within the agency’s expertise and discretion, the scope of review should ‘perforce be a narrow one, limited to ensuring that the [agency] has adequately explained the facts and policy concerns it relied on and to satisfy ourselves that those facts have some basis in the record.’” *WWHT, Inc. v. FCC*, 656 F.2d 807, 817 (D.C. Cir. 1981) (quoting *Natural Res. Def. Council, Inc. v. SEC*, 606 F.2d 1031, 1053 (D.C. Cir. 1979)). The court, therefore, reviews the record to determine if “the agency employed reasoned decisionmaking in rejecting the petition.” *Defenders of Wildlife*, 532 F.3d at 919.

Ecology satisfied its statutory obligation in promulgating water quality standards that protect all designated and existing uses in fresh

¹⁵ Given the dearth of state cases reviewing rulemaking petition denials, a review of federal cases analyzing petition denials is appropriate. RCW 34.05.001 (in passing APA legislature intended that “courts interpret provisions of the [Act] consistently with decisions of other courts interpreting similar provisions of other states, the federal government, and model acts.”).

water. 33 U.S.C. § 1313. EPA approved Ecology’s existing water quality standards, including the special fish passage exemption from the TDG standard, concluding that it was “protective of the designated uses and consistent with the Clean Water Act and its implementing regulations.” AR 2610. Through their petition, Appellants asked Ecology to engage in discretionary rulemaking—a policy choice—to favor protection of certain species over others and weaken the stringency of the existing TDG standard. Based on its review of the technical data, and relying on its expertise, Ecology declined. “[I]t is only in the rarest and most compelling of circumstances that [the] court has acted to overturn an agency judgment not to institute rulemaking.” *Defenders of Wildlife*, 532 F.3d at 921 (quotations omitted). No such compelling circumstances exist warranting the overturning of Ecology’s petition denial.

1. Appellants cannot meet their burden of establishing that Ecology’s denial was arbitrary or capricious

The record below establishes that Appellants have not met their burden of demonstrating that Ecology’s denial was arbitrary and capricious. In its petition denial, as required by RCW 34.05.330(1), Ecology specifically responded to the concerns raised in the petition and cited to information that supported its conclusion, which included the Adaptive Management Team report, Ecology’s literature review prepared

for the Adaptive Management Team, and scientific studies addressing the impact of elevated TDG on other aquatic organisms.¹⁶ AR 1754.1–8. Ecology responded to the allegation that it did not analyze certain studies, stating that it reviewed all of those studies and further noted that those studies were also contained in Ecology’s literature review. AR 1754.4. Ecology also cited to regulations which require the agency to protect all indigenous fish and nonfish aquatic species, as well as protect and maintain existing uses. AR 1754.3 (citing WAC 173-201A-200(1), WAC 173-201A-310, 40 C.F.R. § 131.12(a)). In contrast to Appellants’ assertions, Ecology’s denial is grounded on facts in the record, based on application of the agency’s technical expertise, and in full regard for the attendant facts and circumstances. Appellants’ disagreement with the outcome does not convert Ecology’s denial into arbitrary or capricious action.

Ecology’s denial of Appellants’ third petition was informed by Ecology’s extensive analysis and discussion of the concentrations of TDG

¹⁶ The studies cited by Ecology included AR 2191 (Colt, J., K. Orwicz, & D. Brooks, 1984. Effects of gas-supersaturated water on *Rana catesbeiana* tadpoles. *Aquaculture* 38(2): 127-136); AR 2192 (Colt, J., K. Orwicz, & D. L. Brooks, 1987. Gas Bubble Trauma in the Bullfrog *Rana catesbeiana*. *Journal of the World Aquaculture Society* 18(4):229-236); AR 2082 (Antcliffe, B.L., L.E. Fidler & I.K. Birtwell, 2002. The effects of dissolved gas supersaturation on white sturgeon larvae. *Transactions of the America Fisheries Society* 127:316-322.) Additional studies reviewed by Ecology and Parametrix in their respective literature reviews for the Adaptive Management Team also support Ecology’s denial due to the potential for GBT to aquatic organisms. See AR 1856.25, .26, .61, .76; 1962.7, .14, .34, .39 (discussing Colt, 1984b; Cornacchia, 1984; Mesa, 2000; Schisler, 1999).

that would adequately protect all aquatic species in the Snake and Columbia Rivers, which Ecology undertook even before receiving the petition. The Adaptive Management Team met periodically over a ten month period to discuss the issue. AR 1840.19. During those meetings, participants made presentations regarding the effect of removing the 115 percent forebay TDG requirement, focusing on the potential for increased spill, fish survival impacts from increased spill, and the impacts of GBT to fish and other aquatic organisms from exposure to increased TDG. AR 1840.20–22. Ecology and Oregon DEQ reviewed comments received on the information presented at the Adaptive Management Team meetings and frequently requested additional information from the preparer of the analysis or the commenter. AR 1840.9. A draft Adaptive Management Team report was submitted to the Adaptive Management Team for comment. *Id.* Ecology and Oregon DEQ provided written responses to all comments received. AR 1842.1–29.

The final Adaptive Management Team report was issued in January 2009 and reflected the joint conclusions of Washington and Oregon. AR 1840.1–70. These joint conclusions included: (1) that removal of the 115 percent forebay requirement would likely increase spill only 1–2 percent; (2) the overall increase in fish survival with this level of additional spill was less than 1 percent; and (3) studies clearly demonstrate

detrimental effects on aquatic life near the surface when TDG approaches 120 percent. AR 1840.9–10. Given the small potential benefit to salmon from weakening TDG water quality standards, the potential harm from such weakening of standards, and that Ecology had already allowed some relaxation from the otherwise applicable TDG water quality standard to allow additional spill, Ecology determined that it would not pursue a change to its existing TDG standard.¹⁷ AR 1840.9–10, .62–63.

At the same time that the Adaptive Management Team was conducting its review, EPA and NMFS independently examined the issue of increasing TDG to facilitate fish passage over dams, and reached conclusions consistent with those reached by Washington and Oregon in the Adaptive Management Team report. In the process of evaluating Ecology's request to make the special fish passage exemption from the statewide TDG standard permanent, both EPA and NMFS recognized that an increase in TDG to allow for additional spill would have a negative impact on listed salmon. AR 2351, 2290. Despite the negative impact on salmon, in its February 2008 biological opinion NMFS found the

¹⁷ Review of Ecology's decision is based on the evidence before the agency at the time the decision was made. *Skokomish Indian Tribe v. Fitzsimmons*, 97 Wn. App. 84, 93, 982 P.2d 1179 (1999). Therefore, Appellants mistakenly rely on *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 2011 WL 3322793 (D. Or. Aug. 2, 2011), as supporting their claim that Ecology incorrectly determined that the benefits to salmon from increased spill are small. See App. Br. at 23 n.15. The evidence in the record supports Ecology's determination. AR 1840.9, .25 (Table 3), .61.

exemption acceptable. AR 2189-90. EPA, which could have rejected the exemption if it determined that it did not protect designated uses, approved the exemption on February 11, 2008. AR 2664-65. At no time since approving the standard has either agency asked Ecology to further weaken the TDG standard. Nor has EPA exercised its authority under 40 C.F.R. § 131.5(b) to promulgate a regulation to replace Washington's TDG standard.

Appellants' reliance on the comments of various fisheries biologists as support for their claim that Ecology's decision not to lessen the stringency of the existing TDG standard was arbitrary and capricious is misplaced. See Opening Brief of Appellants (App. Br.) at 10–11, 22. If Ecology's only responsibility was to ensure an incremental increase in salmon outmigration, which is apparently the mission of the Appellants, then the agency might have been more inclined to weaken the TDG standard. However, despite Appellants attempts to downplay the breadth of Ecology's mandate, the agency is responsible for establishing water quality standards that protect and maintain *all* designated and existing uses, not just one life stage of one species. RCW 90.48.035, 33 U.S.C. § 1313(c)(2)(A), 40 C.F.R. § 131.5(a)(2). In keeping with its statutory obligations, Ecology reasonably denied Appellants' request to increase the

amount of the pollutant TDG in the Snake and Columbia Rivers, thereby protecting all designated and existing uses.

Moreover, Appellants' reliance on Oregon's decision to drop its TDG waiver requirement is equally misplaced. Unlike Oregon, Washington is home to 13 dams on the Snake and Columbia Rivers that would be covered by any change to the existing TDG standard. As a result, Washington's aquatic species are more at risk if the TDG limit is weakened as there is a real potential for higher TDG to persist throughout those river systems. The fact that Oregon apparently sees its responsibility to protect designated and existing uses somewhat differently—stating in the Adaptive Management Team report that removal of the forebay monitoring “will not cause excessive harm to the beneficial uses, aquatic species of the Columbia River” (AR 1840.63)—does not establish that Ecology's decision to be more protective of its aquatic resources was arbitrary or capricious. Such a conclusion is even more attenuated when one takes into account the approval of Ecology's existing TDG standard by EPA and NMFS. Ecology acted reasonably when it made the discretionary decision not to change the TDG standard.¹⁸

¹⁸ Additionally, as previously stated, Oregon and Washington reached joint conclusions in the Adaptive Management Team report: (1) spill likely to only increase 1–2 percent if 115 percent forebay requirement removed; (2) additional spill would only net an overall increase in fish survival of less than 1 percent; and (3) studies demonstrated harmful effects on aquatic life near water surface when TDG approaches

Finally, Appellants criticize the conclusion Ecology drew from its literature review, asserting that the NOAA and Parametrix reviews more appropriately analyzed the available literature. What Appellants neglect to accept is that the basic analyses of each literature review are essentially the same as they reviewed the same studies, with the exception of the NOAA review being limited to fish. Where the difference emerges is in the conclusions drawn. NOAA and Parametrix relied on depth compensation to attenuate impacts from fish exposure to increased TDG. See AR 1840.52–53. Ecology, considering the impacts to all aquatic life, determined that the potential harm from increased TDG to organisms near the water surface outweighed the small benefit to salmon from removing the 115 percent forebay requirement. AR 1840.55, .62. The fact that reviewers disagreed on the conclusion to draw from the literature does not render Ecology’s conclusion arbitrary and capricious. *Rios*, 145 Wn.2d at 504 (existence of contradictory evidence or possibility of deriving conflicting conclusions from the evidence does not render agency decision arbitrary and capricious). This Court should affirm the superior court and dismiss the present appeal.

120 percent. AR 1840.9–10. The fact that Oregon and Washington chose to pursue different actions based on these conclusions does not mean that either state acted unreasonably. Nor does it make Ecology’s decision not to weaken its water quality standard arbitrary or capricious action.

2. Ecology relied on credible data and studies in reaching its decision

Appellants take issue with Ecology's use of laboratory studies as support for its denial, arguing that laboratory studies are inferior to field studies. App. Br. at 33–41. Appellants further allege that in so doing Ecology violated RCW 90.48.580(1), a statute governing the promulgation and review of water quality standards and TMDLs.¹⁹ Appellants' claims are without merit.

Appellants erroneously assert that Ecology violated mandatory duties by not “us[ing] credible information and literature for developing and reviewing a surface water quality standard” and to set water quality standards that protect the most sensitive designated uses. App. Br. at 20 n.14 (citing RCW 90.48.580(1), RCW 90.48.035, WAC 173-201A-310, WAC 173-201A-200(1)(a)(ii)–(iv)). Both statutes cited by Appellants govern the promulgation of water quality standards—that is, rulemaking—not the review of a petition requesting that the agency engage in rulemaking. RCW 90.48.035 (Ecology given authority to promulgate rules); RCW 90.48.580(1) (use credible data, information, literature in developing and reviewing surface water quality standards).

¹⁹ RCW 90.48.580(1) provides in pertinent part that “[t]he department shall use credible information and literature for developing and reviewing a surface water quality standard or technical model used to establish a total maximum daily load for any surface water of the state.”

The “review” referred to in RCW 90.48.580(1) is the triennial review of standards required by the Clean Water Act. *See* Dep’t of Ecology’s *Water Quality Program Policy 1-11* (WQP Policy 1-11), Chapter 2: Ensuring Credible Data for Water Quality Management, at 6 (Sept. 5, 2006) (copy attached as Appendix D).²⁰ Regardless, the studies relied upon by Ecology in denying the permit are credible and represent sound science. *See supra* at 24–25 and *infra* at 34–36.

Additionally, the regulations cited by Appellants do not mandate the result they seek. For instance, WAC 173-201A-310 states that “existing and designated uses must be maintained and protected.” Appellants interpret that rule to require the protection of salmon above all other uses. If that interpretation were accepted, Ecology would need to rescind the fish passage exception to the TDG standard because the standard most protective of salmon is actually 110 percent of saturation. Recognizing that additional fish passage will be possible if the TDG criterion was loosened, Ecology relaxed the more protective statewide TDG standard. *See* WAC 173-201A-200(1)(f)(ii). However, through the Adaptive Management Team process and in reviewing the petitions for rulemaking, Ecology concluded that a further relaxation of the standard

²⁰ Under RCW 90.48.585(3), the legislature required Ecology to develop a written policy detailing the agency’s use of scientific research and literature in setting and reviewing water quality standards and establishing TMDLs. Ecology developed WQP Policy 1-11 in compliance with RCW 90.58.585(3).

creates the potential for additional harm to aquatic organisms that share the Snake and Columbia Rivers. Ecology's protection of other aquatic life is consistent with its obligations under WAC 173-201A-310 to maintain and protect *all* designated uses, not just salmon.

Appellants also cite to WAC 173-201A-200(1)(a)(ii)–(iv) in support of the proposition that Ecology failed to carry out a mandatory duty. While Appellants' focus is on salmon, Ecology has a broader mandate which is detailed in the portion of the rule ignored by Appellants—"It is required that all indigeneous fish and nonfish aquatic species be protected in waters of the state in addition to the key species described below." WAC 173-201A-200(1). Ecology's existing water quality standards satisfy that mandate. When approving the fish passage exception to the TDG standard, both EPA and NMFS agreed that the 115/120/125 percent fish spill standard is likely to adversely affect listed species. AR 2351, 2290. This demonstrates recognition by those expert agencies that salmon will be adversely impacted by exposure to TDG at levels in excess of 110 percent. Again, Ecology has the responsibility to protect all designated and existing uses, which includes other fish species and aquatic organisms. As detailed above, under the attendant facts and circumstances, Ecology's denial of Appellants' request to further relax the TDG standards was not arbitrary and capricious. *See supra* at 24–31.

Moreover, the documents Appellants rely upon as establishing that laboratory studies are not sound science do not, in fact, state such a conclusion. For instance, the Parametrix literature review (AR 1962.49) expresses its author's opinion that field studies regarding the incidence of GBD are more representative than laboratory studies. The opinion of one scientist regarding his view of the accuracy of study methodologies does not inexorably lead to the conclusion that laboratory studies should be disregarded, or that Ecology is arbitrary and capricious in considering the views of more than one scientist.

Appellants also incorrectly allege that "Ecology relied exclusively on only four specific laboratory studies" in concluding that there are detrimental effects to aquatic organisms exposed to TDG above 115 percent. App. Br. at 33. As the denial letter states, "Ecology is denying the petition to change the Washington State Water Quality Standards based on the results of a thorough review conducted in 2007-2009." AR 1754.1. This two-year review included more than the four studies discussed in Appellants' brief. Ecology's purpose for citing those particular studies was to demonstrate that the petition, and the Appellants, did not adequately consider the needs of all affected species. AR 1754.7. Appellants also misrepresent the studies by providing only partial study results. Like other studies cited in the literature review, all four of these

studies found deleterious effects ranging from increased predation risk (AR 2191.9) to GBD (AR 2192.1; AR 2193.4; AR 2088.1) in the species studied at TDG levels below 120 percent. Disregarding this information, Appellants only cite to the mortality results of these studies in their effort to discredit Ecology's review. As Ecology explained, the agency must base its decisions on the effects on all aquatic life, not just salmon. AR 1754.3.

Appellants' assertion that the TDG studies Ecology relied upon do not address indigenous fish or nonfish aquatic species is untrue. Two studies, AR 2193 and AR 2088, addressed white sturgeon and steelhead respectively. Those studies address the early life stage of sturgeon and steelhead which, contrary to Appellants' claim, is not addressed in later studies nor is that life stage readily capable of study in the field. Appellants' assertion that those studies are dated does not undermine the conclusions reached. More importantly, Appellants have not identified any subsequent studies refuting the conclusions reached in AR 2193 and AR 2088. Given the absence of studies evaluating TDG effects on other indigenous aquatic species, Ecology properly relied upon studies addressing the impacts of TDG on non-indigenous species—studies which demonstrated harm when the species were exposed to TDG levels in excess of 115 percent. *See* AR 2191; AR 2192; AR 2082; AR 1856.25,

.26, .61, .76; 1962.7, .14, .34, .39. Ecology's reliance on these studies was not arbitrary or capricious.

Finally, although Ecology does not concede that RCW 90.48.580 applies to preparation of a response to a petition for rulemaking, Ecology's use of laboratory studies is entirely consistent with that statute. After directing Ecology to use "credible information and literature" when developing and reviewing surface water quality standards, the legislature further directed Ecology to develop a written policy "[e]xplaining how it uses scientific research and literature for developing and reviewing any water quality standard" RCW 90.48.585(3). Ecology's policy clearly finds laboratory studies constitute credible information and literature. *See* App. Ex. D. Discussing Ecology's revision of the water quality standards, the policy states that staff examine, among other things, "published, peer reviewed studies" and further states that the information reviewed includes laboratory studies. App. Ex. D at 8. There is simply no evidence that the studies relied upon by Ecology are not credible science. All of the studies cited in Ecology's denial were peer reviewed papers published by recognized scientific journals. Again, while Appellants may disagree with the conclusion reached by Ecology, they cannot assail the technical information relied upon by the agency as being "unscientific."

At bottom, what Appellants are asking this Court to do is to second guess Ecology's determination that it will not risk harm to other aquatic life caused by exposure to increased TDG in favor of a small potential benefit to a portion of one life stage of certain salmonids—that is, the outmigration of juvenile salmon. In light of its statutory and regulatory responsibility to protect and maintain all designated uses and its evaluation of the science, which began with the establishment of the temporary fish passage condition through the third petition review, Ecology concluded that the evidence simply did not support a further relaxation of the TDG standard. Ecology admits that there is science on both sides of this issue and “agree[s] that the resulting increased fish passage . . . ha[s] contributed to increased salmon returns.” AR 1574.3. However, “studies identified in Ecology's literature review point to key studies not mentioned by the Appellants that showed lethal and sublethal effects to some aquatic organisms.” AR 1754.4.

Ecology is not required to prefer salmon over other aquatic species as Appellants contend. Because this issue is within the agency's expertise, the Court should give deference to Ecology's evaluation of the technical information and data. Moreover, even if the Court were to reach a different conclusion, there is substantial evidence in the record that

supports Ecology's decision. Ecology was not arbitrary or capricious when it denied the petition.

3. *Rios* does not support Appellants' claim that Ecology's denial was arbitrary or capricious

Appellants rely on *Rios* as supporting their claim that Ecology's petition denial was arbitrary and capricious. In *Rios*, the state Supreme Court reviewed a challenge to an existing Department of Labor and Industries (L&I) rule and a denial of a petition requesting rulemaking to change the same rule. *Rios*, 145 Wn.2d at 487–489. With the exception of the fact that L&I and Ecology convened technical work groups to evaluate the issue each agency was presented, *Rios* is distinguishable both legally and factually.

The statute at issue in *Rios* required L&I to promulgate rules to protect workers from toxic materials to the extent possible, which the state Supreme Court interpreted to mean economically and technologically possible. *Rios*, 145 Wn.2d at 498–499. Contrary to Appellants' claims, there is no mandatory duty imposed on Ecology to protect salmon above all other aquatic species. Rather, Ecology is required to establish water quality standards that protect and maintain all designated and existing uses. 40 C.F.R. § 131.5(a)(2). Carrying out that responsibility, Ecology promulgated water quality standards protecting all indigenous fish and

nonfish aquatic species. WAC 173-201A-200. The existing TDG standard, approved by EPA, satisfies Ecology's legal obligation.

Rios is factually different as well. In 1993, when L&I adopted its rule that did not require mandatory toxicity testing, the agency concluded that adequate provisions were in place to safeguard workers from toxic materials, and that testing was not economically and technologically feasible. *Rios*, 145 Wn.2d at 502. EPA had also identified uncertainties with the particular test at the time and did not require mandatory testing. *Id.* at 503. Nevertheless, L&I continued to devote resources to the question by forming a Technical Advisory Group to continue studying the issue. A report subsequently issued by the Technical Advisory Group supported the conclusion that testing could be done in an economically and technologically feasible manner, however, the Group concluded that voluntary testing should continue. *Id.* at 506. Despite the analysis in the Technical Advisory Group's report supporting mandatory testing, despite the mandatory duty imposed on L&I by statute, and despite the fact that EPA reversed course and initiated a mandatory nationwide testing requirement, L&I denied a petition requesting that it update its rules to require mandatory testing. *Id.* at 505-506. It was these "extraordinary circumstances" that led the state Supreme Court to conclude that the agency's petition denial was arbitrary and capricious. *Id.* at 507-508.

No such extraordinary circumstances are present in this case. Ecology is not under a mandatory duty to weaken the water quality standards for the potential benefit of one life stage of one designated use. To the contrary, WAC 173-201A-200(1) and the relevant CFRs direct Ecology to promulgate rules to protect all designated uses, defined as indigenous fish and nonfish aquatic species. Moreover, unlike the Technical Advisory Group in *Rios*, the Adaptive Management Team did not reach conclusions that left no doubt that the TDG standard should be weakened. Rather, Ecology's decision is entirely consistent with the joint conclusions of the Adaptive Management Team, which state that (1) removal of the 115 percent forebay requirement would increase spill 1-2 percent, (2) the overall increase in fish survival with the additional spill was less than 1 percent, and (3) studies clearly demonstrate detrimental effects on aquatic life near the surface when TDG approaches 120 percent. AR 1840.9-10.

The Adaptive Management Team further noted that "high mortalities are not found in the Columbia and Snake Rivers when TDG reaches these levels, presumably due to depth compensation. It is also important to include a significant margin of safety since high mortality is a very undesirable outcome." AR 1840.48. Unlike *Rios*, the Adaptive Management Team Report does not inevitably lead to the conclusion that

Washington's TDG standard must be changed. Ecology, employing its technical expertise as well as complying with the requirements of the state Water Pollution Control Act, ch. 90.48 RCW, the Clean Water Act and their implementing regulations, made the reasoned decision not to weaken the protection of designated uses provided under the existing water quality standards. Ecology's decision to deny the petition for rulemaking was not arbitrary or capricious or contrary to law.

B. The Decision Under Review Is A Petition Denial, Not A Rulemaking Process

Appellant's challenge Ecology's denial of a petition for rulemaking submitted under RCW 34.05.330(1).²¹ The statute provides specific instructions to an agency regarding its obligations when reviewing a petition. Unlike a rulemaking process, an agency's response must be issued in a short timeframe and, if the petition is denied, the agency must provide written responses to the concerns raised in the petition. RCW 34.05.330(1)(a)(i). Appellants do not assert that Ecology's denial

²¹ RCW 34.05.330(1) provides:

Any person may petition an agency requesting the adoption, amendment, or repeal of any rule. The office of financial management shall prescribe by rule the format for such petitions and the procedure for their submission, consideration, and disposition and provide a standard form that may be used to petition any agency. Within sixty days after submission of a petition, the agency shall either (a) deny the petition in writing, stating (i) its reasons for the denial, specifically addressing the concerns raised by the petitioner, and, where appropriate, (ii) the alternative means by which it will address the concerns raised by the petitioner, or (b) initiate rule-making proceedings in accordance with RCW 34.05.320.

violated the statutory requirements. In fact, Appellants do not cite those requirements in their brief. Rather, Appellants erroneously assert that the Court should review the petition denial under the standards applicable to rulemaking. Contrary to Appellants' claims, Ecology's denial fully complied with the statutory requirements governing review of petitions for rulemaking and the agency was not arbitrary or capricious in denying the petition.

1. Ecology's denial complies with the requirements of RCW 34.05.330(1)

Having abandoned their challenge to the existing water quality standard for TDG, WAC 173-201A-200(1)(f), Appellants' sole cause of action before the Court is their challenge to Ecology's denial of the third petition. As stated previously, RCW 34.05.330(1) sets forth the requirements applicable to an agency's review of a petition for rulemaking. The requirements of the statute pertinent to Ecology's petition denial are (1) the issuance of a written decision (2) within 60 days of receipt of the petition (3) which states the reasons for the denial, (4) specifically addressing the concerns raised by the petition. By any measure, Ecology's petition denial met the statutory requirements.

The third petition was submitted to Ecology on March 8, 2010. AR 1753.1-42. Ecology responded to the petition 58 days later, issuing

its written decision on May 7, 2010. AR 1754.1–8. The denial letter explained Ecology’s reasons for denying the petition and specifically addressed the issues raised in the third petition. AR 1754.3–8 (letter divided into five petition issues with discussion on each issue, as well as the new points raised in the third petition). While Appellants may disagree with the content of the denial letter, they cannot assert that the letter did not comply with the requirements of RCW 34.05.330(1).

2. The Court should reject Appellants’ attempt to apply the standards applicable to review of rulemaking

As demonstrated above, Ecology fully complied with the requirements imposed by the legislature for review of a petition for rulemaking. The plain language of RCW 34.05.330(1), as well as the provisions of the APA governing rulemaking proceedings, RCW 34.05.310–.395, demonstrates that the legislature did not intend that review of a petition for rulemaking would be as involved as rulemaking itself. Rather, the legislature requires an agency receiving a petition for rulemaking to respond to that petition within 60 days of receipt. RCW 34.05.330(1). In that discrete amount of time, the agency is required to consider the request set forth in the petition and, if a denial will be issued, provide a written response which specifically responds to the

issues raised in the petition. *Id.* Ecology's denial satisfied the applicable statutory requirements.

Appellants ignore the requirements of RCW 34.05.330(1) and instead assert that Ecology's denial should be reviewed as if the agency had engaged in a full rulemaking process. Although couched in terms of "arbitrary and capricious" action, Appellants assert that Ecology's analysis was not as in depth or wide ranging as they would like. *See, e.g.*, App. Br. at 33 (denial did not analyze the field studies conducted in the Columbia River Basin).²² Moreover, almost all of the cases Appellants rely upon to support their claims that Ecology's analysis is allegedly deficient involved rulemaking. *See Neah Bay Chamber of Commerce v. Dep't of Fisheries*, 119 Wn.2d 464, 832 P.2d 1310 (1992); *Wash. Indep. Tel. Ass'n v. Wash. Util. & Transp. Comm'n*, 148 Wn.2d 887, 64 P.3d 606

²² Appellants erroneously claim that a court "found an agency's petition denial arbitrary because the agency failed to explain why it ignored a single significant study supporting the petitioned action." (Emphasis in original.) App. Br. at 31 n.18 citing *Am. Horse Prot. Ass'n, Inc. v. Lyng*, 812 F.2d 1, 7 (D.C. Cir. 1987). The court made no such finding. Rather, the court concluded that a determination of the "study's validity and significance lie within the institutional competence of the Secretary," and remanded the matter to the Secretary to provide him with "a reasonable opportunity to explain his decision or to institute a new rulemaking proceeding[.]" *Am. Horse Prot. Ass'n, Inc.*, 812 F.2d at 7-8. Essentially, the court gave the Secretary an opportunity to reconsider the petition and make a new decision. Had the court actually concluded that the initial denial was arbitrary, the matter would have been remanded for rulemaking.

(2003); *Puget Sound Harvesters Ass'n v. Dep't of Fish & Wildlife*, 157 Wn. App. 935, 239 P.3d 1140 (2010).²³

Failing to note it is relying on quoted language from a dissenting opinion in a rulemaking challenge, Appellants argue that Ecology was required to provide “an explicit account of how [the agency] reached its decision[.]” App. Br. at 40–41 citing *Nw. Coal. for Alternatives to Pesticides v. U.S. EPA*, 544 F.3d 1043, 1057 n.7 (9th Cir. 2008).²⁴ Since Ecology did provide Appellants with an explanation for why Ecology denied their petition, Appellants apparently contend that Ecology was required to provide more details. However, nothing in the APA specifies the level of detail Ecology was required to provide. The footnote from *Nw. Coal. for Alternatives* that Appellants cite does not support their argument. In that footnote, Judge Ikuta quotes at length from then Judge Scalia’s majority opinion in *Center for Auto Safety*. The majority opinion specifically warned against appellate challenges to rulemaking

²³ Several of the federal cases relied upon by Appellants involved review of biological opinions prepared under the ESA. *Pac. Coast Fed'n of Fishermen's Ass'n, Inc. v. Nat'l Marine Fisheries Serv.*, 265 F.3d 1028 (9th Cir. 2001); *Pac. Coast Fed'n of Fishermen's Ass'n, Inc. v. United States Bureau of Reclamation*, 426 F.3d 1082 (9th Cir. 2005). Biological opinions are, in theory, required to be completed within 90 days of the initiation of consultation. In practice, most take much longer to complete. For instance, NFMS took 10 months to prepare the biological opinion for the proposed revisions to Ecology’s water quality standards. AR 2355, 2357, 2189. Accordingly, such opinions might be expected to be more detailed and comprehensive than a petition denial, which must be completed within 60 days.

²⁴ Appellants cite to footnote 7 on page 1057. However, the quoted language actually is contained in footnote 7 on page 1052.

proceedings based on allegations that every conceivable scientific analysis was not sufficiently explained in the rulemaking record:

It is simply not the case, however, that all of the essential postulates for an agency rule must be contained in the record. Every judgment of any consequence is constructed upon an infinitude of other judgments, of greater or lesser certitude, in a progression of logical dependency terminating in a first principle the equivalent of $1 + 1 = 2$. They cannot all possibly be included in the statement of basis and purpose for a rulemaking.

.....

We will hear on appeal assertions that needful elaborations fairly requested were not provided; but we must be implacably skeptical of belated recognition at the appellate stage that elements of scientific analysis unchallenged during a contested proceeding are incomprehensible without further explanation. To credit such post-appeal pleas of inadequate information is to threaten the integrity of all rulemaking in fields beyond our own limited scientific ken.

Nw. Coal. for Alternatives to Pesticides, 544 F.3d at 1057 n.7 (Ikuta, J. concurring in part, dissenting in part) (quoting *Center for Auto Safety v. Peck*, 751 F.2d 1336, 1361 (D.C. Cir. 1985)). Given the more abbreviated procedure prescribed by RCW 34.05.330(1) for reviewing a petition for rulemaking, Appellants' argument that the petition denial should contain the detail of a rulemaking proceeding is untenable.

As stated above, RCW 34.05.330(1) imposes prescribed requirements on an agency reviewing a petition for rulemaking, which are

not commensurate with the statutory requirements governing rulemaking. Despite Appellants' assertions to the contrary, RCW 34.05.330(1) does not require a written analysis of every technical report or study read by agency personnel reviewing a petition. Nor does it require an exhaustive explanation of how the agency reached its conclusion to deny the petition. Rather, as Ecology did in this case, the statute requires a written statement addressing the issues raised in the petition. Ecology's petition denial fully satisfied the requirements of RCW 34.05.330(1). The Court should reject Appellants' invitation to impose a rulemaking review standard on an agency responding to a petition for rulemaking.

C. Ecology Did Not Exceed Statutory Authority In Denying Petition

Appellants claim that Ecology's alleged failure to comply with RCW 90.48.580 constituted the agency acting outside of its statutory authority and, thus, serves as another ground for overturning the petition denial. As demonstrated above, if RCW 90.48.580 applies, which Ecology does not concede, the policy required by RCW 90.48.585(3) endorses the use of laboratory studies in the establishment of water quality standards. *See supra* at 35-36. Ecology's use of such studies met the requirements of RCW 90.48.580 to use "credible information and literature" when establishing water quality standards.

Moreover, the statutory authority governing Ecology's review of a petition for rulemaking is RCW 90.03.330(1), not RCW 90.48.580. Ecology is authorized to deny a petition as long as the denial is in writing and responds to the concerns raised in the petition. RCW 34.05.330(1). Ecology fully complied with the provisions of the statute. AR 1754.1-8. While attacking the ultimate decision, Appellants do not claim that Ecology's denial did not comply with the applicable statute because such a claim would be meritless. Ecology did not act in excess of its statutory authority in denying Appellants' petition for rulemaking.

D. Appellants Are Not Entitled To Costs And Attorneys' Fees As They Have Not Prevailed In This Case

Appellants assert that they are entitled to attorneys' fees under the Equal Access to Justice Act, ch. 4.84 RCW. However, as Appellants recognize, in order to be awarded costs and attorneys' fees under that statute they must be a prevailing party. RCW 4.84.350. Since Appellants failed to carry their burden of proving that Ecology acted arbitrarily, capriciously, or outside of its statutory authority in denying the rulemaking petition, they are not a prevailing party in this case. Appellants are not entitled to costs and attorneys' fees.

VII. CONCLUSION

For the reasons stated above, the Court should affirm the superior court's determination that Ecology's denial of the petition for rulemaking was not arbitrary or capricious or contrary to law.

RESPECTFULLY SUBMITTED this 16th day of December 2011.

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"Turbidity" means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

"Upwelling" means the natural process along Washington's Pacific Coast where the summer prevailing northerly winds produce a seaward transport of surface water. Cold, deeper more saline waters rich in nutrients and low in dissolved oxygen, rise to replace the surface water. The cold oxygen deficient water enters Puget Sound and other coastal estuaries at depth where it displaces the existing deep water and eventually rises to replace the surface water. Such surface water replacement results in an overall increase in salinity and nutrients accompanied by a depression in dissolved oxygen. Localized upwelling of the deeper water of Puget Sound can occur year-round under influence of tidal currents, winds, and geomorphic features.

"USEPA" means the United States Environmental Protection Agency.

"Wildlife habitat" means waters of the state used by, or that directly or indirectly provide food support to, fish, other aquatic life, and wildlife for any life history stage or activity.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-020, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-030 General water use and criteria classes. The following criteria shall apply to the various classes of surface waters in the state of Washington:

(1) **Class AA (extraordinary).**

(a) General characteristic. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

- (i) Water supply (domestic, industrial, agricultural).
- (ii) Stock watering.
- (iii) Fish and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing, spawning, and harvesting.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 50 colonies/100 mL and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 14 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.

(ii) Dissolved oxygen:

(A) Freshwater - dissolved oxygen shall exceed 9.5 mg/L.

(B) Marine water - dissolved oxygen shall exceed 7.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 7.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature shall not exceed 16.0°C (freshwater) or 13.0°C (marine water) due to human activities. When natural conditions exceed 16.0°C (freshwater) and 13.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed $t=23/(T+5)$ (freshwater) or $t=8/(T-4)$ (marine water). Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine water) with a human-caused variation within a range of less than 0.2 units.

(vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

(2) **Class A (excellent).**

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

- (i) Water supply (domestic, industrial, agricultural).
- (ii) Stock watering.
- (iii) Fish and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing, spawning, and harvesting.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 100 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL.

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 14 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.

(ii) Dissolved oxygen:

(A) Freshwater - dissolved oxygen shall exceed 8.0 mg/L.

(B) Marine water - dissolved oxygen shall exceed 6.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 6.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature shall not exceed 18.0°C (freshwater) or 16.0°C (marine water) due to human activities. When natural conditions exceed 18.0°C (freshwater) and 16.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed $t=28/(T+7)$ (freshwater) or $t=12/(T-2)$ (marine water). Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine water) with a human-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

(3) Class B (good).

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for most uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (industrial and agricultural).

(ii) Stock watering.

(iii) Fish and shellfish:

Salmonid migration, rearing, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing and spawning.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 200 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 400 colonies/100 mL.

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 100 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL.

(ii) Dissolved oxygen:

(A) Freshwater - dissolved oxygen shall exceed 6.5 mg/L.

(B) Marine water - dissolved oxygen shall exceed 5.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 5.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature shall not exceed 21.0°C (freshwater) or 19.0°C (marine water) due to human activities. When natural conditions exceed 21.0°C (freshwater) and 19.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed $t=34/(T+9)$ (freshwater) or $t=16/(T)$ (marine water). Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) and 7.0 to 8.5 (marine water) with a human-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely

affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be reduced by dissolved, suspended, floating, or submerged matter not attributed to natural causes, so as to affect water use or taint the flesh of edible species.

(4) Class C (fair).

(a) General characteristic. Water quality of this class shall meet or exceed the requirements of selected and essential uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (industrial).

(ii) Fish (salmonid and other fish migration).

(iii) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(iv) Commerce and navigation.

(c) Water quality criteria - marine water:

(i) Fecal coliform organism levels shall both not exceed a geometric mean value of 200 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 400 colonies/100 mL.

(ii) Dissolved oxygen shall exceed 4.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 4.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Temperature shall not exceed 22.0°C due to human activities. When natural conditions exceed 22.0°C, no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases shall not, at any time, exceed $t=20/(T+2)$.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(iv) pH shall be within the range of 6.5 to 9.0 with a human-caused variation within a range of less than 0.5 units.

(v) Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vi) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(vii) Aesthetic values shall not be interfered with by the presence of obnoxious wastes, slimes, aquatic growths, or materials which will taint the flesh of edible species.

(5) Lake class:

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (domestic, industrial, agricultural).

(ii) Stock watering.

(iii) Fish and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam and mussel rearing, spawning, and harvesting.

Crayfish rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organism levels shall both not exceed a geometric mean value of 50 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.

(ii) Dissolved oxygen - no measurable decrease from natural conditions.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature - no measurable change from natural conditions.

(v) pH - no measurable change from natural conditions.

(vi) Turbidity shall not exceed 5 NTU over background conditions.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-030, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-040 Toxic substances. (1) Toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.

(2) The department shall employ or require chemical testing, acute and chronic toxicity testing, and biological assessments, as appropriate, to evaluate compliance with subsection (1) of this section and to ensure that aquatic communities and the existing and characteristic beneficial uses of waters are being fully protected.

(3) The following criteria shall be applied to all surface waters of the state of Washington for the protection of aquatic life. The department may revise the following criteria on a state-wide or waterbody-specific basis as needed to protect aquatic life occurring in waters of the state and to increase the technical accuracy of the criteria being applied. The department shall formally adopt any appropriate revised criteria as part of this chapter in accordance with the

WAC 173-201A-060 General considerations. The following general guidelines shall apply to the water quality criteria and classifications set forth in WAC 173-201A-030 through 173-201A-140 hereof:

(1) At the boundary between waters of different classifications, the water quality criteria for the higher classification shall prevail.

(2) In brackish waters of estuaries, where the fresh and marine water quality criteria differ within the same classification, the criteria shall be applied on the basis of vertically averaged salinity. The freshwater criteria shall be applied at any point where ninety-five percent of the vertically averaged daily maximum salinity values are less than or equal to one part per thousand. Marine criteria shall apply at all other locations; except that the marine water quality criteria shall apply for dissolved oxygen when the salinity is one part per thousand or greater and for fecal coliform organisms when the salinity is ten parts per thousand or greater.

(3) In determining compliance with the fecal coliform criteria in WAC 173-201A-030, averaging of data collected beyond a thirty-day period, or beyond a specific discharge event under investigation, shall not be permitted when such averaging would skew the data set so as to mask noncompliance periods.

(4)(a) The water quality criteria herein established for total dissolved gas shall not apply when the stream flow exceeds the seven-day, ten-year frequency flood.

(b) The total dissolved gas criteria may be adjusted to aid fish passage over hydroelectric dams when consistent with a department approved gas abatement plan. This gas abatement plan must be accompanied by fisheries management and physical and biological monitoring plans. The elevated total dissolved gas levels are intended to allow increased fish passage without causing more harm to fish populations than caused by turbine fish passage. The specific allowances for total dissolved gas exceedances are listed as special conditions for sections of the Snake and Columbia rivers in WAC 173-201A-130 and as shown in the following exemption:

Special fish passage exemption for sections of the Snake and Columbia rivers: When spilling water at dams is necessary to aid fish passage, total dissolved gas must not exceed an average of one hundred fifteen percent as measured at Camas/Washougal below Bonneville dam or as measured in the forebays of the next downstream dams. Total dissolved gas must also not exceed an average of one hundred twenty percent as measured in the tailraces of each dam. These averages are based on the twelve highest hourly readings in any one day of total dissolved gas. In addition, there is a maximum total dissolved gas one hour average of one hundred twenty-five percent, relative to atmospheric pressure, during spillage for fish passage. These special conditions for total dissolved gas in the Snake and Columbia rivers are viewed as temporary and are to be reviewed by the year 2003.

(c) Nothing in these special conditions allows an impact to existing and characteristic uses.

(5) Waste discharge permits, whether issued pursuant to the National Pollutant Discharge Elimination System or otherwise, shall be conditioned so the discharges authorized will meet the water quality standards.

(a) However, persons discharging wastes in compliance with the terms and conditions of permits shall not be subject to civil and criminal penalties on the basis that the discharge violates water quality standards.

(b) Permits shall be subject to modification by the department whenever it appears to the department the discharge violates water quality standards. Modification of permits, as provided herein, shall be subject to review in the same manner as originally issued permits.

(6) No waste discharge permit shall be issued which results in a violation of established water quality criteria, except as provided for under WAC 173-201A-100 or 173-201A-110.

(7) Due consideration will be given to the precision and accuracy of the sampling and analytical methods used as well as existing conditions at the time, in the application of the criteria.

(8) The analytical testing methods for these criteria shall be in accordance with the *"Guidelines Establishing Test Procedures for the Analysis of Pollutants"* (40 C.F.R. Part 136) and other or superseding methods published and/or approved by the department following consultation with adjacent states and concurrence of the USEPA.

(9) Nothing in this chapter shall be interpreted to prohibit the establishment of effluent limitations for the control of the thermal component of any discharge in accordance with Section 316 of the federal Clean Water Act (33 U.S.C. 1251 et seq.).

(10) The primary means for protecting water quality in wetlands is through implementing the antidegradation procedures section (WAC 173-201A-070).

(a) In addition to designated uses, wetlands may have existing beneficial uses that are to be protected that include ground water exchange, shoreline stabilization, and storm water attenuation.

(b) Water quality in wetlands is maintained and protected by maintaining the hydrologic conditions, hydrophytic vegetation, and substrate characteristics necessary to support existing and designated uses.

(c) Wetlands shall be delineated using the Washington State Wetlands Identification and Delineation Manual, in accordance with WAC 173-22-035.

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131.97-23-064 (Order 94-19), § 173-201A-060, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-060, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-070 Antidegradation. The antidegradation policy of the state of Washington, as generally guided by chapter 90.48 RCW, Water Pollution Control Act, and chapter 90.54 RCW, Water Resources Act of 1971, is stated as follows:

(1) Existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses shall be allowed.

(2) Whenever the natural conditions of said waters are of a lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria.

mate beneficial uses, or to livestock, wild animals, birds, fish, or other aquatic life.

"Primary contact recreation" means activities where a person would have direct contact with water to the point of complete submergence including, but not limited to, skin diving, swimming, and water skiing.

"Secondary contact recreation" means activities where a person's water contact would be limited (e.g., wading or fishing) to the extent that bacterial infections of eyes, ears, respiratory or digestive systems, or urogenital areas would normally be avoided.

"Shoreline stabilization" means the anchoring of soil at the water's edge, or in shallow water, by fibrous plant root complexes; this may include long-term accretion of sediment or peat, along with shoreline progradation in such areas.

"Storm water" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

"Storm water attenuation" means the process by which peak flows from precipitation are reduced and runoff velocities are slowed as a result of passing through a surface water body.

"Surface waters of the state" includes lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands and all other surface waters and water courses within the jurisdiction of the state of Washington.

"Temperature" means water temperature expressed in degrees Celsius (°C).

"Treatment wetlands" means those wetlands intentionally constructed on nonwetland sites and managed for the primary purpose of wastewater or storm water treatment. Treatment wetlands are considered part of a collection and treatment system, and generally are not subject to the criteria of this chapter:

"Trophic state" means a classification of the productivity of a lake ecosystem. Lake productivity depends on the amount of biologically available nutrients in water and sediments and may be based on total phosphorus (TP). Secchi depth and chlorophyll-a measurements may be used to improve the trophic state classification of a lake. Trophic states used in this rule include, from least to most nutrient rich, ultra-oligotrophic, oligotrophic, lower mesotrophic, upper mesotrophic, and eutrophic.

"Turbidity" means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

"Upwelling" means the natural process along Washington's Pacific Coast where the summer prevailing northerly winds produce a seaward transport of surface water. Cold, deeper more saline waters rich in nutrients and low in dissolved oxygen, rise to replace the surface water. The cold oxygen deficient water enters Puget Sound and other coastal estuaries at depth where it displaces the existing deep water and eventually rises to replace the surface water. Such surface water replacement results in an overall increase in salinity and nutrients accompanied by a depression in dissolved oxygen. Localized upwelling of the deeper water of Puget Sound can occur year-round under influence of tidal currents, winds, and geomorphic features.

(2005 Ed.)

"USEPA" means the United States Environmental Protection Agency.

"Wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands. (Water bodies not included in the definition of wetlands as well as those mentioned in the definition are still waters of the state.)

"Wildlife habitat" means waters of the state used by, or that directly or indirectly provide food support to, fish, other aquatic life, and wildlife for any life history stage or activity.

[Statutory Authority: Chapters 90.48 and 90.54 RCW. 03-14-129 (Order 02-14), § 173-201A-020, filed 7/1/03, effective 8/1/03. Statutory Authority: Chapter 90.48 RCW and 40 CFR 131. 97-23-064 (Order 94-19), § 173-201A-020, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-020, filed 11/25/92, effective 12/26/92.]

PART II - DESIGNATED USES AND CRITERIA

WAC 173-201A-200 Fresh water designated uses and criteria. The following uses are designated for protection in fresh surface waters of the state. Use designations for water bodies are listed in WAC 173-201A-600 and 173-201A-602.

(I) **Aquatic life uses.** Aquatic life uses are designated using the following categories of key species. It is required that all indigenous fish and nonfish aquatic species be protected in waters of the state in addition to the key species described below.

(a) The categories for aquatic life uses are:

(i) **Char.** For the protection of spawning and early tributary rearing (e.g., first year juveniles) of native char (bull trout and Dolly Varden), and other associated aquatic life.

(ii) **Salmon and trout spawning, core rearing, and migration.** For the protection of spawning, core rearing, and migration of salmon and trout, and other associated aquatic life.

(iii) **Salmon and trout spawning, noncore rearing, and migration.** For the protection of spawning, noncore rearing, and migration of salmon and trout, and other associated aquatic life.

(iv) **Salmon and trout rearing and migration only.** For the protection of rearing and migration of salmon and trout, and other associated aquatic life.

(v) **Non-anadromous interior redband trout.** For the protection of waters where the only trout species is a non-anadromous form of self-reproducing interior redband trout (*O. mykiss*), and other associated aquatic life.

(vi) **Indigenous warm water species.** For the protection of waters where the dominant species under natural con-

[Title 173 WAC—p. 433]

ditions would be temperature tolerant indigenous nonsalmonid species. Examples include dace, redbelly shiner, chiselmouth, sucker, and northern pikeminnow.

(b) **General criteria.** General criteria that apply to all aquatic life fresh water uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(c) **Aquatic life temperature criteria.** Except where noted, water temperature is measured by the 7-day average of the daily maximum temperatures (7-DADMax). Table 200 (1)(c) lists the temperature criteria for each of the aquatic life use categories.

Table 200 (1)(c)
Aquatic Life Temperature Criteria in Fresh Water

Category	Highest 7-DADMax
Char	12°C (53.6°F)
Salmon and Trout Spawning, Core Rearing, and Migration	16°C (60.8°F)
Salmon and Trout Spawning, Noncore Rearing, and Migration	17.5°C (63.5°F)
Salmon and Trout Rearing and Migration Only	17.5°C (63.5°F)
Non-anadromous Interior Red-band Trout	18°C (64.4°F)
Indigenous Warm Water Species	20°C (68°F)

(i) When a water body's temperature is warmer than the criteria in Table 200 (1)(c) (or within 0.3°C (0.54°F) of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the 7-DADMax temperature of that water body to increase more than 0.3°C (0.54°F).

(ii) When the natural condition of the water is cooler than the criteria in Table 200 (1)(c), the allowable rate of warming up to, but not exceeding, the numeric criteria from human actions is restricted as follows:

(A) Incremental temperature increases resulting from individual point source activities must not, at any time, exceed $28/(T+5)$ as measured at the edge of a mixing zone boundary (where "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge); and

(B) Incremental temperature increases resulting from the combined effect of all nonpoint source activities in the water body must not, at any time, exceed 2.8°C (5.04°F).

(iii) Temperatures are not to exceed the criteria at a probability frequency of more than once every ten years on average.

(iv) Spawning and incubation protection. Where the department determines the temperature criteria established for a water body would likely not result in protective spawning and incubation temperatures, the following criteria apply:

- Maximum 7-DADMax temperatures of 9°C (48.2°F) at the initiation of spawning and at fry emergence for char; and
- Maximum 7-DADMax temperatures of 13°C (55.4°F) at the initiation of spawning for salmon and at fry emergence for salmon and trout.

The two criteria above are protective of incubation as long as human actions do not significantly disrupt the normal patterns of fall cooling and spring warming that provide significantly colder temperatures over the majority of the incubation period. The department will maintain a list of waters where the single-summer maximum criterion is not sufficient to protect spawning and incubation.

(v) For lakes, human actions considered cumulatively may not increase the 7-DADMax temperature more than 0.3°C (0.54°F) above natural conditions.

(vi) Temperature measurements should be taken to represent the dominant aquatic habitat of the monitoring site. This typically means samples should:

(A) Be taken from well mixed portions of rivers and streams; and

(B) Not be taken from shallow stagnant backwater areas, within isolated thermal refuges; at the surface, or at the water's edge.

(vii) The department will incorporate the following guidelines on preventing acute lethality and barriers to migration of salmonids into determinations of compliance with the narrative requirements for use protection established in this chapter (e.g., WAC 173-201A-310(1), 173-201A-400(4), and 173-201A-410 (1)(c)). The following site-level considerations do not, however, override the temperature criteria established for waters in subsection (1)(c) of this section or WAC 173-201A-602:

(A) Moderately acclimated (16-20°C, or 60.8-68°F) adult and juvenile salmonids will generally be protected from acute lethality by discrete human actions maintaining the 7-DADMax temperature at or below 22°C (71.6°F) and the 1-day maximum (1-DMax) temperature at or below 23°C (73.4°F).

(B) Lethality to developing fish embryos can be expected to occur at a 1-DMax temperature greater than 17.5°C (63.5°F).

(C) To protect aquatic organisms, discharge plume temperatures must be maintained such that fish could not be entrained (based on plume time of travel) for more than two seconds at temperatures above 33°C (91.4°F) to avoid creating areas that will cause near instantaneous lethality.

(D) Barriers to adult salmonid migration are assumed to exist any time the 1-DMax temperature is greater than 22°C (71.6°F) and the adjacent downstream water temperatures are 3°C (5.4°F) or more cooler.

(viii) Nothing in this chapter shall be interpreted to prohibit the establishment of effluent limitations for the control of the thermal component of any discharge in accordance with 33 U.S.C. 1326 (commonly known as section 316 of the Clean Water Act).

(d) **Aquatic life dissolved oxygen (D.O.) criteria.** The D.O. criteria are measured in milligrams per liter (mg/L). Table 200 (1)(d) lists the 1-day minimum D.O. for each of the aquatic life use categories.

Table 200 (1)(d)
Aquatic Life Dissolved Oxygen Criteria in Fresh Water

Category	Lowest 1-Day Minimum
Char	9.5 mg/L
Salmon and Trout Spawning, Core Rearing, and Migration	9.5 mg/L
Salmon and Trout Spawning, Noncore Rearing, and Migration	8.0 mg/L
Salmon and Trout Rearing and Migration Only	6.5 mg/L
Non-anadromous Interior Redband Trout	8.0 mg/L
Indigenous Warm Water Species	6.5 mg/L

(i) When a water body's D.O. is lower than the criteria in Table 200 (1)(d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the D.O. of that water body to decrease more than 0.2 mg/L.

(ii) For lakes, human actions considered cumulatively may not decrease the dissolved oxygen concentration more than 0.2 mg/L below natural conditions.

(iii) Concentrations of D.O. are not to fall below the criteria in the table at a probability frequency of more than once every ten years on average.

(iv) D.O. measurements should be taken to represent the dominant aquatic habitat of the monitoring site. This typically means samples should:

(A) Be taken from well mixed portions of rivers and streams; and

(B) Not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(e) **Aquatic life turbidity criteria.** Turbidity is measured in "nephelometric turbidity units" or "NTUs." Table 200 (1)(e) lists the maximum turbidity criteria for each of the aquatic life use categories.

Table 200 (1)(e)
Aquatic Life Turbidity Criteria in Fresh Water

Category	NTUs
Char	Turbidity shall not exceed: • 5 NTU over background when the background is 50 NTU or less; or • A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
Salmon and Trout Spawning, Core Rearing, and Migration	Same as above.
Salmon and Trout Spawning, Noncore Rearing, and Migration	Same as above.
Salmon and Trout Rearing and Migration Only	Turbidity shall not exceed: • 10 NTU over background when the background is 50 NTU or less; or

Category	NTUs
	• A 20 percent increase in turbidity when the background turbidity is more than 50 NTU.
Non-anadromous Interior Redband Trout	Turbidity shall not exceed: • 5 NTU over background when the background is 50 NTU or less; or • A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
Indigenous Warm Water Species	Turbidity shall not exceed: • 10 NTU over background when the background is 50 NTU or less; or • A 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(i) The turbidity criteria established under WAC 173-201A-200 (1)(e) shall be modified, without specific written authorization from the department, to allow a temporary area of mixing during and immediately after necessary in-water construction activities that result in the disturbance of in-place sediments. This temporary area of mixing is subject to the constraints of WAC 173-201A-400 (4) and (6) and can occur only after the activity has received all other necessary local and state permits and approvals, and after the implementation of appropriate best management practices to avoid or minimize disturbance of in-place sediments and exceedances of the turbidity criteria. A temporary area of mixing shall be as follows:

(A) For waters up to 10 cfs flow at the time of construction, the point of compliance shall be one hundred feet downstream from the activity causing the turbidity exceedance.

(B) For waters above 10 cfs up to 100 cfs flow at the time of construction, the point of compliance shall be two hundred feet downstream of the activity causing the turbidity exceedance.

(C) For waters above 100 cfs flow at the time of construction, the point of compliance shall be three hundred feet downstream of the activity causing the turbidity exceedance.

(D) For projects working within or along lakes, ponds, wetlands, estuaries, marine waters or other nonflowing waters, the point of compliance shall be at a radius of one hundred fifty feet from the activity causing the turbidity exceedance.

(f) **Aquatic life total dissolved gas (TDG) criteria.** TDG is measured in percent saturation. Table 200 (1)(f) lists the maximum TDG criteria for each of the aquatic life use categories.

Table 200 (1)(f)
Aquatic Life Total Dissolved Gas Criteria in Fresh Water

Category	Percent Saturation
Char	Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.
Salmon and Trout Spawning, Core Rearing, and Migration	Same as above.
Salmon and Trout Spawning, Noncore Rearing, and Migration	Same as above.
Salmon and Trout Rearing and Migration Only	Same as above.
Non-anadromous Interior Redband Trout	Same as above.
Indigenous Warm Water Species	Same as above.

(i) The water quality criteria established in this chapter for TDG shall not apply when the stream flow exceeds the seven-day, ten-year frequency flood.

(ii) The TDG criteria may be adjusted to aid fish passage over hydroelectric dams when consistent with a department approved gas abatement plan. This plan must be accompanied by fisheries management and physical and biological monitoring plans. The elevated TDG levels are intended to allow increased fish passage without causing more harm to fish populations than caused by turbine fish passage. The following special fish passage exemptions for the Snake and Columbia rivers apply when spilling water at dams is necessary to aid fish passage:

- TDG must not exceed an average of one hundred fifteen percent as measured in the forebays of the next downstream dams and must not exceed an average of one hundred twenty percent as measured in the tailraces of each dam (these averages are measured as an average of the twelve highest consecutive hourly readings in any one day, relative to atmospheric pressure); and

- A maximum TDG one hour average of one hundred twenty-five percent must not be exceeded during spillage for fish passage.

(g) **Aquatic life pH criteria.** Measurement of pH is expressed as the negative logarithm of the hydrogen ion concentration. Table 200 (1)(g) lists the pH levels for each of the aquatic life use categories.

Table 200 (1) (g)
Aquatic Life pH Criteria in Fresh Water

Use Category	pH Units
Char	pH shall be within the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.2 units.
Salmon and Trout Spawning, Core Rearing, and Migration	Same as above.

Use Category	pH Units
Salmon and Trout Spawning, Noncore Rearing, and Migration	pH shall be within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units.
Salmon and Trout Rearing and Migration Only	Same as above.
Non-anadromous Interior Redband Trout	Same as above.
Indigenous Warm Water Species	Same as above.

(2) **Recreational uses.** The recreational uses are extraordinary primary contact recreation, primary contact recreation, and secondary contact recreation.

(a) **General criteria.** General criteria that apply to fresh water recreational uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(b) **Water contact recreation bacteria criteria.** Table 200 (2)(b) lists the bacteria criteria to protect water contact recreation in fresh waters.

Table 200 (2)(b)
Water Contact Recreation Bacteria Criteria in Fresh Water

Category	Bacteria Indicator
Extraordinary Primary Contact Recreation	Fecal coliform organism levels must not exceed a geometric mean value of 50 colonies/100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.
Primary Contact Recreation	Fecal coliform organism levels must not exceed a geometric mean value of 100 colonies /100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 200 colonies /100 mL.
Secondary Contact Recreation	Fecal coliform organism levels must not exceed a geometric mean value of 200 colonies/100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 400 colonies /100 mL.

(i) When averaging bacteria sample data for comparison to the geometric mean criteria, it is preferable to average by season and include five or more data collection events within each period. Averaging of data collected beyond a thirty-day period, or beyond a specific discharge event under investigation, is not permitted when such averaging would skew the data set so as to mask noncompliance periods. The period of averaging should not exceed twelve months, and should have

sample collection dates well distributed throughout the reporting period.

(ii) When determining compliance with the bacteria criteria in or around small sensitive areas, such as swimming beaches, it is recommended that multiple samples are taken throughout the area during each visit. Such multiple samples should be arithmetically averaged together (to reduce concerns with low bias when the data is later used in calculating a geometric mean) to reduce sample variability and to create a single representative data point.

(iii) As determined necessary by the department, more stringent bacteria criteria may be established for rivers and streams that cause, or significantly contribute to, the decertification or conditional certification of commercial or recreational shellfish harvest areas, even when the preassigned bacteria criteria for the river or stream are being met.

(iv) Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis by the department.

(3) **Water supply uses.** The water supply uses are domestic, agricultural, industrial, and stock watering.

General criteria. General criteria that apply to the water supply uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (a) Toxic, radioactive, and deleterious materials; and
- (b) Aesthetic values.

(4) **Miscellaneous uses.** The miscellaneous fresh water uses are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

General criteria. General criteria that apply to miscellaneous fresh water uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (a) Toxic, radioactive, and deleterious materials; and
- (b) Aesthetic values.

[Statutory Authority: Chapters 90.48 and 90.54 RCW. 03-14-129 (Order 02-14), § 173-201A-200, filed 7/1/03, effective 8/1/03.]

WAC 173-201A-210 Marine water designated uses and criteria. The following uses are designated for protection in marine surface waters of the state of Washington. Use designations for specific water bodies are listed in WAC 173-201A-612.

(1) **Aquatic life uses.** Aquatic life uses are designated using the following general categories. It is required that all indigenous fish and nonfish aquatic species be protected in waters of the state.

(a) **The categories for aquatic life uses are:**

(i) **Extraordinary quality** salmonid and other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

(ii) **Excellent quality** salmonid and other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

(iii) **Good quality** salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

(iv) **Fair quality** salmonid and other fish migration.

(b) **General criteria.** General criteria that apply to aquatic life marine water uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(c) **Aquatic life temperature criteria.** Except where noted, temperature is measured as a 1-day maximum temperature (1-DMax). Table 210 (1)(c) lists the temperature criteria for each of the aquatic life use categories.

Table 210 (1)(c)
Aquatic Life Temperature Criteria in Marine Water

Category	Highest 1-DMax
<i>Extraordinary quality</i>	13°C (55.4°F)
<i>Excellent quality</i>	16°C (60.8°F)
<i>Good quality</i>	19°C (66.2°F)
<i>Fair quality</i>	22°C (71.6°F)

(i) When a water body's temperature is warmer than the criteria in Table 210 (1)(c) (or within 0.3°C (0.54°F) of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the 7-DADMax temperature of that water body to increase more than 0.3°C (0.54°F).

(ii) When the natural condition of the water is cooler than the criteria in Table 210 (1)(c), the allowable rate of warming up to, but not exceeding, the numeric criteria from human actions is restricted as follows:

(A) Incremental temperature increases resulting from individual point source activities must not, at any time, exceed $12/(T-2)$ as measured at the edge of a mixing zone boundary (where "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge); and

(B) Incremental temperature increases resulting from the combined effect of all nonpoint source activities in the water body must not, at any time, exceed 2.8°C (5.04°F).

(iii) Temperatures are not to exceed the criteria at a probability frequency of more than once every ten years on average.

(iv) Temperature measurements should be taken to represent the dominant aquatic habitat of the monitoring site. This typically means samples should not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(v) The department will incorporate the following guidelines on preventing acute lethality and barriers to migration of salmonids into determinations of compliance with the narrative requirements for use protection established in this chapter (e.g., WAC 173-201A-310(1), 173-201A-400(4), and 173-201A-410 (1)(c)). The following site-level considerations do not, however, override the temperature criteria established for waters in subsection (1)(c) of this subsection or WAC 173-201A-612:

(A) Moderately acclimated (16-20°C, or 60.8-68°F) adult and juvenile salmonids will generally be protected from acute lethality by discrete human actions maintaining the 7-DADMax temperature at or below 22°C (71.6°F) and the 1-DMax temperature at or below 23°C (73.4°F).



Water Quality Program Policy

Chapter 2:

WQP Policy I-11

Established: September 2006

Ensuring Credible Data for Water Quality Management

Purpose: This policy describes the Quality Assurance (QA) measures, guidance, regulations, and existing policies that help ensure the credibility of data and other information used in agency actions based on the quality of state surface waters. Agency actions include (1) determinations of whether a surface water is supporting its designated use, such as the 303(d) and 305(b) assessment processes, (2) establishment of a Total Maximum Daily Load (TMDL) and the associated load allocations and wasteload allocations, and (3) revisions to water quality standards. This policy is required by the *Water Quality Data Act* (WQDA) codified in RCW 90.48.570 through 90.48.590.

Application: This policy applies when evaluating data and information for use in agency decisions when the quality of a surface water of the state is at issue. It is also intended as guidance for all parties interested in submitting data for consideration in decisions related to water quality. The quality of surface water is assessed through comparison of measured parameters to water quality criteria and standards, to sediment quality criteria and standards, and to fish tissue criteria and standards. The quality of surface water is also assessed under the water quality standards through stream biological monitoring and physical habitat evaluation.

The WQDA states that:

- “Ecology shall use credible information and literature for developing and reviewing a surface water quality standard or technical model used to establish a TMDL for any surface water of the state.”
- “Ecology shall use credible data for the following actions:
 - Determining whether any water of the state is to be placed on or removed from any section 303(d) list;
 - Establishing a TMDL for any surface water of the state; or
 - Determining whether any surface water of the state is supporting its designated use or other classification.”

The WQDA does not restrict use of data for other department actions. Data generated to meet the requirements of wastewater effluent permits may not meet the requirements specified in the credible data policy but may still be used in compliance actions. Data submitted by some organizations and individuals will be compiled in Ecology information systems whether the data meets or does not meet the requirements of the credible data policy. The data needs to meet the credible data requirements in order to be used as the basis for the specific water quality actions listed above, according to the WQDA.

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1. Introduction and Background

The Department of Ecology (Ecology) is required to develop policy regarding the generation and use of credible data in certain water quality-related actions. This policy is required by the *Water Quality Data Act* (WQDA) codified in RCW 90.48.570 through 90.48.590.

Data are considered credible data if:

- Appropriate quality assurance and quality control procedures were followed and documented in collecting and analyzing water quality samples;
- The samples or measurements are representative of water quality conditions at the time the data were collected;
- The data consist of an adequate number of samples based on the objectives of the sampling, the nature of the water in question, and the parameters being analyzed; and
- Sampling and laboratory analysis conform to methods and protocols generally acceptable in the scientific community as appropriate for use in assessing the condition of the water.

This policy includes:

- An explanation of how Ecology uses scientific research and literature to develop and review any water quality standard or technical model used to establish a Total Maximum Daily Load (TMDL) for any water of the state,
- A description of the specific criteria that are used to judge whether data are of adequate credibility to use when (1) determining whether any water of the state is to be placed on or removed from any section 303(d) list, (2) establishing TMDLs, and (3) determining whether any surface water of the state is supporting its designated use, and
- Recommendations for appropriate training and experience needed for collection of credible data.

Policies, guidelines, and protocols that address some of these statutory requirements were established prior to adoption of the WQDA due to agency efforts to document and promote quality assurance principles in data collection and use. These include the following:

Agency-wide Policy

- Ecology Executive Policy 1-21
Establishing Quality Assurance established a program for ensuring the consistent application of quality assurance principles to the planning and execution of all activities that acquire and use environmental measurement data.
- Ecology Executive Policy 1-22
Requiring Use of Accredited Environmental Laboratories ensures that laboratories performing environmental analyses are capable of providing accurate and defensible data for Ecology's use in making decisions concerning the environment.

- Ecology Publication 05-03-031.
Quality Management Plan: Agency Plan to Implement, Document, and Assess the Effectiveness of the Quality System Supporting Environmental Data Operations is the Ecology blueprint for applying quality assurance and quality control to environmental programs. It defines the quality system for planning, implementing, and assessing the effectiveness of activities supporting environmental data decisions. It requires the preparation of a status report for Ecology management every two years.

Planning Guidelines and Examples

- Ecology Publication No. 04-03-030.
Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies presents detailed guidance on the preparation of QA Project Plans. It describes 14 elements to be addressed in the plan and provides supporting information and examples relevant to the content of each element.
- *Ecology Quality Assurance Project Plans* is a link to a list of some recent QA Project Plans prepared by Ecology.
- Environmental Assessment Program (EAP) Procedure 1-04
Preparation, Review, and Approval of Quality Assurance Project Plans establishes the review and approval process for QA Project Plans. Peer review is required of all QA Project Plans developed by staff within EAP.
- Sediment Sampling and Analysis.
www.ecy.wa.gov/biblio/0309043.html
This publication provides technical guidance for developing sampling and analysis plans for sediment investigations conducted under the Washington Sediment Management Standards (WAC Chapter 173-204). www.ecy.wa.gov/programs/tcp/smu/sediment.html

Monitoring Protocols

- Ecology Publication No. 01-03-036. www.ecy.wa.gov/biblio/0103036.html
Stream Sampling Protocols for the Environmental Monitoring and Trends Section describes the sample collection, shipment, and analysis procedures used by EAP's Environmental Monitoring and Trends Section staff to collect water quality information at long-term stream monitoring stations.
- Ecology Publication No. 93e04
Field Sampling and Measurement Protocols for the Watershed Assessments Section describes sampling and measurement protocols used by EAP's Watershed Assessment Section when conducting water quality assessment projects.
- Ecology Publication No. 03-03-052
Continuous Temperature Sampling Protocols for the Environmental Monitoring and Trends Section describes the protocols used by EAP's Environmental Monitoring and Trends Section to collect continuous water temperature data at stream monitoring stations.

- Puget Sound Protocols
www.psat.wa.gov/Publications/protocols/protocol.html
 This publication presents recommended protocols for measuring selected environmental variables in Puget Sound. The objective is to encourage most investigators conducting studies such as monitoring programs, baseline surveys, and intensive investigations to use equivalent methods whenever possible. If this objective is achieved, most data from future sampling programs should be comparable among studies.
- Sediment Sampling and Analysis
www.ecy.wa.gov/biblio/0309043.html
 This publication provides technical guidance for developing sampling and analysis plans for sediment investigations conducted under the Washington Sediment Management Standards (WAC Chapter 173-204).

www.ecy.wa.gov/programs/tcp/smu/sediment.html provides links to sediment related sites.

[www.ecy.wa.gov/programs/eap/mar_sed/NOAA-PSAMP%20QA Project Plan.pdf](http://www.ecy.wa.gov/programs/eap/mar_sed/NOAA-PSAMP%20QA%20Project%20Plan.pdf) is an example of a QA Project Plan for marine sediments.

Assessment Guidelines and Policy

- EAP Policy 4-01
Guidelines for Technical Document Review establishes the respective responsibilities of supervisors, authors, and reviewers in this quality assurance process. Appropriate review is an integral step to ensure high quality technical reports, and this set of guidelines lays out peer review procedures for EAP technical documents.
- Water Quality Program (WQP) Policy 1-11, Chapter 1
Assessment of Water Quality for the Section 303(d) List establishes the system for determining the status of state waters relative to the water quality standards and to help determine priorities for TMDL scheduling and development.
- WQP Policy 1-25
Dispute Resolution establishes the procedures that Ecology will follow in resolving a dispute on a TMDL issue when resolution cannot be reached through the normal TMDL process.
- Ecology Publication No. 91-78
Technical Guidance for Assessing the Quality of Aquatic Environments, A Handbook prepared for the Water Quality Financial Assistance Program (revised 1994) discusses developing water quality assessment programs and technical methods for conducting water quality studies.

The U.S. Environmental Protection Agency (EPA) also maintains policy, guidance and procedures that address some of the requirements. This link provides a directory to EPA QA documents: www.epa.gov/quality/qa_docs.html

2. Water Quality-Based Actions Subject to Water Quality Data Act Policy

The criteria in this policy have been developed to build on the policies that promote the generation and use of credible data in actions undertaken to assess and improve water quality. Typical actions that are intended to improve water quality subject to the provisions of the WQDA and this policy include:

- **Revisions of Water Quality Standards**

The state revises the water quality standards periodically as new information indicates that a change to water quality criteria, uses, and regulations is needed. The standards are in regulations compiled in the Washington Administrative Code (WAC). The surface water quality standards are in Chapter 173-201A WAC, *Water Quality Standards for Surface Waters of the State of Washington*. The WQDA requires Ecology to (1) use credible information and literature to develop and review a surface water quality standard and (2) explain in this policy how it uses scientific research and literature to develop and review any water quality standard.

A specific type of revision of the surface water quality standard is described in federal regulation, the Use Attainability Analysis (UAA). A UAA is a structured scientific assessment of the factors affecting the attainment of uses designated for protection in the water quality standards. It may include an assessment of physical, chemical, biologic, and economic factors as described in the federal regulations at 40 CFR 131.10(g). The WQDA requires Ecology to use credible data in a UAA because it is a determination of whether a surface water of the state is supporting its designated use or other classification.

- **Water Quality Assessment Updates**

The WQDA requires Ecology to use credible data to determine whether any water of the state is to be placed on or removed from any section 303(d) list and whether any surface water of the state is supporting its designated use or other classification.

The federal Clean Water Act established a process to identify and clean up polluted waters. Every two years, all states are required to prepare a list of waterbodies that do not meet water quality standards. This list is called the 303(d) list because the process is described in Section 303(d) of the Clean Water Act. All waterbodies identified on the list must attain water quality standards within a reasonable period, either through a water quality improvement plan (also known as a Total Maximum Daily Load or TMDL) or other pollution control mechanisms.

To develop the list, Ecology compiles its own water quality data and invites others to submit water quality data they have collected. All data submitted need to be collected and assessed using appropriate scientific methods as described in the agency's listing policy. Once the list is put together, the public has a chance to review it and give comments. The results of the assessment are submitted to EPA as an "*integrated report*" to satisfy federal Clean Water Act requirements of sections 303(d) and 305(b). The list helps Ecology to use state resources more efficiently by focusing on waterbodies that need the most work. The list of waterbodies in the assessment reflects local government, community, and citizen recognition of water quality problems in Washington, demonstrating citizen interest and commitment to clean water.

- **Total Maximum Daily Load studies, also known as Water Quality Improvement Reports**

TMDLs identify the maximum amount of pollutant that can be released into a waterbody without impairing specified uses of the water, and allocate that amount among various sources (both point and nonpoint sources). The technical studies prepared for TMDLs provide a complete and consolidated view of the condition of the water, as well as a framework to help develop, focus, and evaluate activities to improve water quality. The interactions between the public and Ecology during the TMDL process provide a forum to discuss issues, pursue solutions, and adjust activities over time to ensure that progress is made to meet water quality standards and improve water quality.

The WQDA requires Ecology to use credible data when establishing a TMDL for any surface water of the state.

3. Coordination with Tribes

This policy supports intergovernmental cooperation between the state and the tribes in Washington State in the various water quality-based actions. The WQDA specifically allows tribes to submit data in accordance with procedures arranged with EPA. Tribes also have the option to submit data in accordance with the procedures described in this state policy.

"Ecology shall consider water quality data that has been collected by Indian tribes under a quality assurance project plan that has been approved by the United States Environmental Protection Agency (EPA) if that data meets the objectives of the plan." [90.48.580(4) RCW]
The Quality Assurance (QA) level assigned to data submitted by Indian tribes will be determined based on the QA documentation accompanying the data and any additional documentation requested by Ecology.

4. Water Quality Standards Revisions

The water quality standards are revised based on a review of available data, information, and technical literature obtained from the public, tribes, government agencies, and other sources (such as academia or library-facilitated literature searches). Quality assurance is maintained through evaluation of study or data collection methods, investigations into the technical

literature, and cross-checking assumptions and unusual findings with the authors and other experts in the field. Revisions of the standards are based on information from studies that are generally not waterbody specific and generated by individuals and organizations outside the state of Washington. The studies are not subject to the provisions of credible data in sections five through seven.

Ecology staff examine published, peer-reviewed studies, graduate dissertations, state and federal agency studies, and other information called "*gray literature*." While not published as text books or journal articles, gray literature often contains the most complete information on the methods used to ensure the data and conclusions are sound and represent the environmental conditions described in the research. Academic theses and dissertations have been formally defended prior to completion. Published studies also undergo some level of peer review prior to being accepted for publication, but generally lack the details on methodology found in the gray literature due to constraints on copy size.

Staff critically examine the data, study designs, and findings in an attempt to ensure the measures and results are sound and represent the environmental conditions described in the research. Where study designs or monitoring conditions are in question, any concerns will be formally noted in the review and taken into consideration before choosing to use the results in any way. Questions commonly include:

- Were samples taken at sufficient intervals and representative locations?
- Were other environmental variables at no-effects levels?
- Was there too much variability between the initial test results and the tests for corroboration?

The data and statistical findings contained in the studies are used in the analysis independent of the conclusions and recommendations of the authors. Though in general there is connection between the study recommendations and the study data, this may not be true all of the time. Study recommendations can be reflective of the author's assumptions on policy and risk management, and may fail to acknowledge weak statistical correlations. Where there are questions about a study or data, an attempt will be made to get answers from the original author.

The information is categorized and summarized to create a weight-of-evidence-style analysis (e.g., field studies, laboratory studies, fluctuating exposure, constant exposure, cellular effects, behavioral effects, long-term effects, physiological effects, short-term effects, lethality, sublethal). Where defensible, data may be translated to a standard format to enable the findings of different studies to be compared against each other (e.g., studies that use average concentrations versus studies that use minimum daily concentrations). In some cases the raw data can be used to make these translations directly and in others it is necessary to create a translation equation (e.g., a daily maximum temperature is on average equivalent to a 7-day average daily maximum temperature that is 1.5°C cooler). Where data are of similar quality, Ecology will consider combining the results from multiple studies to increase confidence and reduce the influence of unusual and possibly outlier studies.

Recommendations are developed to ensure that criteria have duration of exposure components (e.g., daily maximums, weekly averages, seasonal averages) supported by the data and technical literature.

As part of the standards development process and as an aid in public review, Ecology provides formal written documentation of the information used to develop a revised water quality standard. Credible studies and data may be submitted by interested parties and incorporated in a revision of the analysis.

5. Components of an Approvable Quality Assurance (QA) Project Plan

All data used in water quality assessment updates and TMDLs are required to meet specific quality assurance requirements. Sampling and analysis must be conducted under a documented QA Project Plan or other plan that Ecology determines to be equivalent.

Guidance for preparing a QA Project Plan is available from several publications.

Ecology

- *Guidelines for Preparing Quality Assurance Plans for Environmental Studies (2004)*. Publication No. 04-03-040.
www.ecy.wa.gov/biblio/0403030.html.
- *Sediment Sampling and Analysis Plan Appendix: Guidance on the Development of Sediment Sampling and Analysis Plans Meeting the Requirements of the Sediment Management Standards (2003)*. Publication No. 03-09-043.
www.ecy.wa.gov/programs/tcp/smu/sediment.html.
- QA Project Plan Template – A draft document has been prepared for use by Ecology grantees and others needing simplified guidelines.

Department of Natural Resources (DNR)

- TFW-AM9-99-005, DNR publication 107.

EPA

- *Requirements for Quality Assurance Project Plans*
www.epa.gov/quality/qs-docs/r5-final.pdf.
- *EPA Guidance for Quality Assurance Project Plans* www.epa.gov/quality/qs-docs/g5-final.pdf.
- *The Volunteer Monitor's Guide to Quality Assurance Project Plans*, EPA 841-B-96-003.
www.epa.gov/OWOW/monitoring/volunteer/qappcovr.htm.

For purposes of identification of impaired and unimpaired waters or development of TMDLs, any entity submitting monitoring data to Ecology must provide Ecology with documentation that the data collection planning, implementation, and assessment was consistent with the concurrent version of *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies*. Documentation should address each of the 14 elements described in the guidelines or provide an explanation for omitted elements. Other pertinent factors that enhance data quality should also be addressed in the project plan document.

Ecology (EAP, WQP, TCP) may accept a QA Project Plan containing less than the required elements if Ecology determines that the reasons stated for omitting an element are valid and that its omission will not impact the quality of the results based upon the type of pollutants to be monitored, the type of surface water, and the purpose of the monitoring.

Ecology may consider that the following data are also credible and relevant to an impaired water identification or TMDL decision, if the sample analysis was performed by a laboratory meeting the criteria of Section 6 or according to applicable field procedures.

- The data were collected before August 31, 1993 with sufficient QA documentation commensurate with commonly accepted practices at the time.
- The data were collected before September 30, 2002 according to a QA Project Plan approvable according to the guidelines existing at the time.
- The data were collected as part of an ongoing monitoring effort by a governmental agency and the data collection yielded results of comparable quality to data collected according to this policy.
- The water quality data were or are collected under the terms of an NPDES permit, permit application, or a compliance order issued by Ecology or EPA, a consent decree signed by Ecology or EPA, or a sampling program approved by Ecology or EPA under MTCA or CERCLA, and the data collection yielded results of comparable quality to data collected according to this policy.
- Data may be excluded from data sets or be assigned a level of credibility different from associated data as determined by Ecology in accordance with the WQDA.

6. Monitoring Procedures

The monitoring entity providing water quality data for water quality assessment updates and TMDLs must collect, preserve, and analyze data using methods of sample collection, preservation, and analysis as prescribed in procedures, where available, published by Ecology, EPA, USGS, APHA, USACOE, ASTM, or in the Code of Federal Regulations. New and revised methods will be added as deemed appropriate according to the exemption policy under accreditation. Accreditation for the new methods will be acquired by the supporting laboratory as soon as practical thereafter.

The monitoring entity must ensure that chemical, microbiological, physical, radiological, and toxicological samples (excluding data generated by field methods) are analyzed in a laboratory accredited by Ecology or obtain a waiver to this requirement in accordance with Ecology Executive Policy 1-22. Use of laboratories not accredited by Ecology must be approved prior to initiating monitoring by seeking and obtaining a waiver to the Executive Policy 1-22 requirement. Laboratories must use approved methods when required by federal programs or Ecology. A list of laboratories and the methods for which they are accredited can be found at www.ecy.wa.gov/programs/eap/labs/labs_main.html. Policy 1-22 does not apply to data obtained in the field or to benthic analyses.

7. Minimum Documentation for Data Submission and Recordkeeping

Documentation must be provided with all water quality data submitted for consideration in water quality assessment updates and TMDLs indicating that the objectives of the QA Project Plan or equivalent quality assurance procedures were met. Documentation must also be provided that indicates whether the data are suitable for water quality-based actions. Data suitable for use in water quality-based actions must include an adequate number of measurements in the total data set for a waterbody. The assessment of the data must consider whether the data, in total, fairly characterize the quality of the waterbody at that location at time of sampling. The QA Project Plan must address the adequacy of the number of samples and explain procedures to assure that the sample set yields data that are representative of the waterbody.

Data collectors submitting information to Ecology for an impaired water identification or TMDL decision must document the planning, implementation, and assessment strategies used to collect the information. The document, or QA Project Plan, is expected to clearly state the original intended use of the information gathered (e.g. chemical/physical data for TMDL analyses) and any limitations on use of the data (e.g. these measurements only represent storm-event conditions). Data sets must be complete, that is, not censored to include only part of the data results from the project.

Data and information submitted by a third party that were initially collected by other entities must document that the required quality assurance objectives were met. If this documentation of data verification and data usability/validation is not provided, the data will not be used in the characterization of the waterbody.

The data submitter should provide Ecology with the following information accompanying data submission.

- A. An electronic copy of the QA Project Plan (or the equivalent document), revisions to a previously submitted QA Project Plan, and any other information necessary for Ecology to evaluate the data according to the guidance for exceptions
- B. The applicable dates of the QA Project Plan, including any revisions.
- C. Written assurance that the methods and procedures specified in the QA Project Plan were followed.
- D. The name of the laboratory(s) used for sample analyses and its Laboratory ID number, along with a report of results and a data verification report provided by the laboratory. Field data must be accompanied by a data verification report which includes the name of the organization that performed the measurements.
- E. Any field notes, laboratory comments, or laboratory notations concerning a deviation from standard procedures, quality control, or quality assurance that affects data reliability, data interpretation, or data validity.
- F. The quality assurance/quality control documentation, including the analytical methods used by the laboratory, method number, detection limits, quantitation or minimum levels, if available, and the types of quality control samples and standards necessary to properly interpret the data, if different from those specified in the QA Project Plan.

- G. The QA/QC documentation requirement includes a summary of data assessment documentation including report(s) of data verification, data validation if available, and assessment of data for usability in meeting the objectives expressed in the QAPP.
- H. Field instruments, such as multi-parameter devices (Hydrolabs™), must be operated and calibrated according to the manufacturer's recommendations or other acceptable demonstrated method. Calibration information and any other appropriate documentation of accuracy must be submitted if requested by Ecology.
- I. The following information must be retained for at least five years (ten years for records associated with data from grant and loan projects) and provided to Ecology if requested:
 - i. Other information, such as complete field notes, photographs, weather, or other information related to flow, field conditions, or documented sources of pollutants in the watershed for interpreting or validating data.
 - ii. All records associated with the generation and interpretation of sample results including documentation related to adherence to the QA Project Plan, or coordinate with Ecology to ensure that adequate records are maintained.

This documentation requirement does not apply to data previously submitted during 303(d) water quality assessment cycles before 2006.

8. Data Audit

Contingent on available resources, Ecology may take one or more of the following actions to determine whether data collected by internal or external parties meet the requirements of this policy:

- Review of quality documentation submitted for completeness (presence/absence checklist)
- Review of QA Project Plans and monitoring reports for adequacy of quality assurance evaluation
- Detailed audit of quality assurance documentation provided by data submitters
- Independent validation of submitted data for quality/credibility

9. Statistical and Modeling Methods for Total Maximum Daily Load Studies

As required by Ecology policy, a QA Project Plan is written prior to collecting data for Total Maximum Daily Load (TMDL) studies. Lombard and Kirchmer (2004) identified 14 required elements for Ecology QA Project Plans, including the following that are relevant to this section:

- Project Description (including Study Goals and Objectives)
- Sampling Process Design (Experimental Design)
- Quality Objectives
- Quality Control
- Data Quality Assessment

The QA Project Plan will include a description of the data Ecology will collect through field monitoring, expected needs for water quality data from external sources, and a summary of how that data will be used in the TMDL analysis, including any anticipated modeling analysis. The methods for determining credibility of external data will be explained in the plan. The QA Project Plan will include criteria for selection of a framework for modeling and for assessment of the quality of modeling results.

The final TMDL report will include a summary of how information was analyzed for determining allocations, including the use of a model, if applicable. If a model was used, the report will include a description of how the model framework was selected and applied to the TMDL study, including the calibration process. An assessment of the credibility of ancillary data from other sources that were used in modeling will be documented in the final report.

The draft TMDL report will be sent to interested and affected parties for their review and comment; all comments received by Ecology will be considered. The TMDL report will also be peer reviewed according to Ecology's TMDL peer review policy. The final Water Quality Improvement Report will undergo public review prior to being submitted to EPA for approval.

The Ecology webpage *Models-for-TMDLs* (www.ecy.wa.gov/programs/eap/models/index.html) contains descriptions of models and tools supported by Ecology for TMDL development. It also includes links to other models and resources used by Ecology.

10. Appropriate Knowledge, Training, and Experience for Collection of Credible Data

Ecology may inquire on the qualifications of individuals responsible for the collection and submittal of data in accordance with this policy and to assign the appropriate level of quality assurance to project data entered into the Ecology database.

Data collectors are those individuals with oversight responsibilities for the planning, implementation, and assessment strategies used to collect information.

Data collectors should have knowledge and practical experience commensurate with the nature of the information collection activity. Data collectors are responsible for ensuring that field, laboratory, quality assurance, and other project personnel are supervised or properly trained in the use of equipment and procedures required to implement and assess the elements defined in the QA Project Plan.

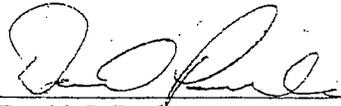
- The recommended qualifications for individuals submitting chemical/physical water quality data (data collectors) include the following:
 - Practical experience or successful completion of college-level training in limnology, aquatic biology, chemistry, environmental sciences, or a related discipline.
 - Knowledge of water quality sampling techniques and practical experience in using water quality sampling equipment.
 - Knowledge of general stream or marine hydrology, morphology, and fluvial processes.

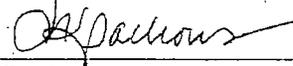
- Knowledge and sufficient practical experience with systematic planning and development of sampling and analysis plans and/or QA Project Plans.
- The recommended qualifications for individuals submitting macroinvertebrate data include the following:
 - Practical experience or successful completion of training involving limnology, aquatic biology, environmental sciences, or a related discipline.
 - College-level course credit in aquatic invertebrate zoology or equivalent practical experience in the identification of aquatic macroinvertebrates.
 - Familiarity with commonly used macroinvertebrate taxonomic references and dichotomous keys based on at least family level taxonomy.
 - Knowledge of general stream or marine hydrology, geomorphology, and fluvial processes.
 - Knowledge of local aquatic macroinvertebrates at the family level.
- The recommended qualifications for individuals submitting physical habitat data include the following:
 - Knowledge of the general principles of stream hydrology, geomorphology, and fluvial process.
 - Successful completion of the DNR habitat evaluation certification.
 - Successful completion of training in assessing Proper Functioning Condition.

11. Abbreviations and Acronyms

CFR –	Code of Federal Regulations
DNR –	Washington State Department of Natural Resources
EAP –	Environmental Assessment Program (of the Department of Ecology)
Ecology –	Washington State Department of Ecology
EPA –	U.S. Environmental Protection Agency
QA/QC –	Quality Assurance/Quality Control
RCW –	Revised Code of Washington
TCP –	Toxics Cleanup Program (of the Department of Ecology)
TMDL –	Total Maximum Daily Load
WAC –	Washington Administrative Code
WQDA –	Water Quality Data Act
WQP –	Water Quality Program (of the Department of Ecology)

12. Approvals

Approved:  9/6/06
Date
David C. Peeler
Water Quality Program Manager
Department of Ecology

Approved:  9/5/2006
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Department of Ecology

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DIVISION II

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STATE OF WASHINGTON
BY [Signature]
DEPUTY

NO. 42364-2

**COURT OF APPEALS, DIVISION II
OF THE STATE OF WASHINGTON**

NORTHWEST SPORTSFISHING
INDUSTRY ASSOCIATION,
ASSOCIATION OF NORTHWEST
STEELHEADERS, PACIFIC COAST
FEDERATION OF FISHERMEN'S
ASSOCIATIONS, INSTITUTE FOR
FISHERIES RESOURCES, AND
IDAHO RIVERS UNITED,

Appellants,

v.

WASHINGTON DEPARTMENT OF
ECOLOGY,

Respondent,

and

NORTHWEST RIVERPARTNERS,

Intervenor-Respondent.

CERTIFICATE OF
SERVICE

Pursuant to RCW 9A.72.085, I certify that on the 16th day of
December 2011, I caused to be served Response Brief of Respondent
Washington Department of Ecology in the above-captioned matter upon
the parties herein as indicated below:

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I certify under penalty of perjury under the laws of the state of
Washington that the foregoing is true and correct.

DATED this 16th day of December 2011, in Olympia,
Washington.



JANET L. DAY, Legal Assistant