Docket Number: 58-0102-1201
Effective Date: 2016 Sine die
Rules Title: Water Quality Standards
Agency Contact and Phone: Barry Burnell, 373-0194

Public Notice
Hearings: [ ]Yes [X] No
Locations and Dates: N/A
Written Comment Deadline: 9/4/15

Descriptive Summary of Rule as Initially proposed: On May 10, 2012, the United States Environmental Protection Agency (EPA) disapproved the July 7, 2006 Idaho DEQ water quality standard rule submittal. The disapproval affects 167 of Idaho's revised human health criteria for 88 toxic pollutants. In addition to incorporating newer toxicity information, DEQ's 2006 rule changed the fish consumption basis for determining the toxic standard from 6.5 g/day to 17.5 g/day, based on EPA's nationally recommended fish consumption rate. EPA disapproved the proposed criteria because EPA believes that the resulting criteria do not protect Idaho's designated uses. As a result, EPA was unable to determine that the 17.5 g/day fish consumption rate was consistent with 40 CFR 131.11(a). EPA identified several sources of information on local and regional fish consumption, which they claim that Idaho did not consider before using the national default fish consumption rate. According to EPA, the information that EPA reviewed suggests that fish consumption among some Idaho population groups is greater than 17.5 g/day.

Over the span from October 2012 to August 2015, DEQ met with interested parties in eighteen negotiated meetings. DEQ planned a statewide Idaho fish consumption survey then executed a yearlong survey and, while the survey was underway, discussed the various policy decisions involved in derivation of criteria protective of human health. At the same time as Idaho's fish consumption survey was being conducted, the Nez Perce Tribe and Shoshone-Bannock Tribes were conducting similar surveys to inform DEQ's knowledge of the potential magnitude of exposure to toxic substances through consumption of fish with the help of EPA and the intent that this information would also inform DEQ's revision of human health criteria. In May 2014 EPA proposed updates to its national 304(a) criteria, recommendations to states and tribes, for protection of human health. These updates were based on a new national fish consumption rate of 22 g/day, as well as new information on body-weight, drinking water intake, chemical toxicity, bioaccumulation of toxins in fish tissue, and the relative magnitude of contribution to exposure to toxins from various sources other than fish and water. EPA's proposal was finalized on June 29, 2015, providing new or updated criteria for 94 chemicals, some not currently present in Idaho's rules.

EPA's national action expanded what DEQ considered in its rulemaking. In addition to recent information on fish consumption in Idaho, these criteria changes also incorporate new information on body-weight, drinking water intake, toxicity, bioaccumulation, and relative source contribution. DEQ is also updating more criteria than just those EPA acted on in 2012.

The current rule proposal is to update Idaho's human health criteria for 104 toxic substances (10 of which are new), plus an additional fish-plus-water criterion for copper based on the drinking water maximum contaminant level (MCL). There are 208 revised or new criteria, consisting of 94 revised and 10 new criteria based on exposure to toxic substances from the consumption of fish and ingestion of water plus an additional fish-plus-water criterion for copper, and 94 revised and 10 new criteria based on exposure to toxic substances from the consumption of fish alone. In addition, although new input values were used, the values for the antimony fish only criterion and the bromoform fish-plus-water criterion did not change; these are counted as revised criteria. With this proposal, Idaho will have updated all of its human health criteria except those for arsenic, methylmercury, and asbestos.

Negotiated Rule Making: [X] Yes [ ] No
The text of the proposed rule has been drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code § 67-5220 and IDAPA 58.01.23.810-815. The Notice of Negotiated Rulemaking was published in the September 2012 Idaho Administrative Bulletin, Vol. 12-9. Eighteen meetings were held between October 2012 and August 2015. A preliminary draft rule was made available for public review in August 2015. Members of the public participated in this negotiated rulemaking process by attending the meetings and by submitting written comments. A record of the negotiated rule drafts, written comments, documents distributed during the negotiated rulemaking process, and the negotiated rulemaking summary is available at www.deq.idaho.gov/58-0102-1201.

Costs to the Agency: None anticipated.

Costs to the Regulated Community: Dischargers of NPDES regulated pollutants may have stricter limits with which to comply.

Relevant Statutes: Sections 39-105, 39-107, and 39-3601 *et seq.*, Idaho Code

Idaho Code § 39-107D Statement: The standards included in this rule are not broader in scope, nor more stringent, than federal regulations and do not regulate an activity not regulated by the federal government.

Fiscal Impact Statement: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: Not applicable.

DEQ recommends that the Board adopt the rule, as presented in the final proposal, as a pending rule with the final effective date coinciding with the adjournment *sine die* of the Second Regular Session of the Sixty-third Idaho Legislature. The rule is subject to review by the Legislature before becoming final and effective.

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Temporary Rule	[ ] Necessary to protect public health, safety or welfare [ ] Compliance with deadlines in amendments to governing law or federal programs [ ] Conferring a benefit

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Response to Comments Attached

Section	Section Title	Summary of Rule Changes Based on Public Comment
010.	**Definitions.**	This section has not been changed.
070.	**Application of Standards.**	This section has not been changed.
210.	**Numeric Criteria for Toxic Substances for Waters Designated for Aquatic Life, Recreation, or Domestic Water Supply Use**	This section has been changed.
284.	**South Fork Coeur d'Alene Subbasin, Subsection 110.09, HUC 17010302, Aquatic Life Criteria for Cadmium, Lead and Zinc.**	This section has not been changed.
400.	**Rules Governing Point Source Discharges.**	This section has not been changed.

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Commenter 1 – Darcy James
Commenter 2 – Columbia River Intertribal Fish Commission
Commenter 3 – National Association of Clean Water Agencies
Commenter 4 – Northwest Pulp & Paper Association
Commenter 5 – Northwest Food Processors Association
Commenter 6 – Association of Idaho Cities
Commenter 7 – Idahoans for Sensible Water Regulation
Commenter 8 – Idaho Farm Bureau Federation
Commenter 9 – Idaho Council on Industry & Environment
Commenter 10 – Nez Perce Tribe
Commenter 11 – J.R. Simplot Company
Commenter 12 – American Forest & Paper Association
Commenter 13 – Spokane Riverkeeper
Commenter 14 – Coeur d'Alene Tribe
Commenter 15 – Shoshone-Bannock Tribes
Commenter 16 – Confederated Tribes of the Umatilla Indian Reservation
Commenter 17 – Federal Water Quality Coalition
Commenter 18 – Pentachlorophenol Task Force
Commenter 19 – Idaho Conservation League
Commenter 20 – EPA Reg 10 Regional Tribal Operations Committee
Commenter 21 – Environmental Protection Agency Region 10
Commenter 22 – Idaho Association of Commerce & Industry
Commenter 23 – Clearwater Paper
Commenter 24 – Upper Snake River Tribes
Commenter 25 – 76 Citizen Letters

Rule Section / Topic(s)	Commenter	Comment	Response
Survey design, target population	1	I am troubled that the survey of fish consumption was taken on "a random sample of Idahoans" without apparent consideration of tribal members for whom Idaho fish are a staple. We must protect their treaty rights to fish at "all the usual and accustomed places" without being poisoned. Water in our streams must be pure enough to be a fit food source for those who depend on the fish, not for the average occasional consumer. This will bring collateral health benefits to the rest of us, who fish, wade, and float on the rivers. Being in business or owning property should not convey a right to pollute water that everyone uses.	Random sampling of a population is a standard statistical method to assure a representative sample. Tribal members were considered, both through inclusion in Idaho's survey and through separate tribal fish consumption survey's. The criteria proposed provide a high level of protection even for those whose fish consumption is well above average.
	21	The EPA contracted with Westat, a well-known statistical consulting firm, to review DEQ's fish consumption survey results as reported in the Fish Consumption Survey report prepared by Northwest Research Group. Westat identified a number of issues that DEQ should review (see attached memoranda from Westat), and EPA is available to discuss this information further. For example, Westat determined that the frequency of fish consumption declined over the seven day recall period. DEQ did not account for this trend, which could result in an underestimation of fish consumption. As previously noted, it is important for DEQ's fish consumption survey results to be peer reviewed by individuals with the necessary expertise. The Westat review provides information that DEQ should consider along with the results of its peer review. In particular, it is important that the National Cancer Institute (NCI) analysis, which involves many assumptions and employs statistical methodology not generally accessible to the lay person, be adequately reviewed. In addition, it is important that DEQ's final peer review findings be readily available and distributed to support the credibility of DEQ's survey results.	We have passed Westat's comments on to our contractor's for their response along with the comments from the ongoing peer review we arranged. We will post the peer review comments and response as soon as they are ready. We understand that the NCI method involves sophisticated statistical analysis and have the utmost confidence that Information Management Services performed the analysis correctly.
	22	Also, unlike Oregon, Washington or Alaska, Idaho conducted a state-wide fish consumption survey. Oregon established a state-wide FCR based on a subpopulation study of four Native American tribes published by the Columbia River Inter-Tribal Fish Commission (CRITFC).15 This study has a number of uncertainties which include the origin and species of consumed fish (locally harvested or commercial) and the type of local harvested (anadromous, non-anadromous) fish. Furthermore, the raw data from the study have never been available for public review. Though EPA has implied that studies such as CRITFIC (1994) provide information that can be used to	We concur that recent fish consumption surveys conducted by Idaho and EPA on behalf of Idaho tribes provide the best information available of which to base a regulatory fish consumption rate to be used in deriving human health criteria.

		establish a FCR for the State of Idaho, such a study does not represent the Idaho population, geography, and fish availability. The survey conducted by the state of Idaho provides a scientifically sound basis for FCR for Idaho residents.	
	24	Target Population – Although we have requested that Indian tribes be considered part of the general population, IDEQ continues to subjugate them to a lesser status.	Idaho has considered three high end consuming groups *within* the general population: Idaho resident anglers, the Nez Perce Tribe and the Shoshone-Bannock Tribes. Our survey of the general population included members of Idaho's Indian tribes. Moreover, our proposed criteria are based on Nez Perce Tribal exposure to contaminants in fish and water. We are disheartened that you view our consideration as subjugation.
level of protection / allowable risk	2	Written comments delivered to DEQ from tribes were unambiguous - if Idaho's water quality standards are not specifically calculated to protect the health of the majority of tribal members, the standards have the potential to limit the amount of fish that may safely be eaten by tribes. Despite knowing this, DEQ has proposed water quality standards for Idaho's waters that were calculated using substantially reduced levels of protection for tribal people as compared to the general population.	The proposed human health criteria are calculated to provide a high level of protection to the majority of tribal members. It is not possible to equalize the level of protection for tribal people as compared to the general population – for any given criterion or contaminant level respective risks will differ by differences in fish consumption.
	4	NWPPA would like to emphasize Clearwater Paper's comments on risk policy and reiterate that we also believe the Department should reassess their risk policy choices on carcinogens and non-carcinogens based on the recommendations of Clearwater.	DEQ has carefully considered comments received regarding risk policy decisions and has modified the risk level applied, but at the same time, has incorporated other more conservatives inputs to ensure the resulting criteria continue to be protective within the range that EPA provides is acceptable. Please see response to comments below regarding this issue.
	5	As a part of this rulemaking, DEQ has made decisions about the level of protection for different segments of the population. DEQ is currently proposing to apply the 1x10-6 risk management goal to the 95th percentile of the general population. The State's currently proposed risk management goal results in the average Idahoan having an excess lifetime cancer risk of about 1x10-7. These risk management decisions can greatly influence criteria values. NWFPA is concerned that the level of protection should assure preserving designated uses and ensure risk thresholds that allow for balance. Therefore, we encourage the DEQ to look at how the allowable risk decisions affect the calculated criteria value: more stringent risk management benchmarks lead to more stringent criteria. Depending upon the calculation methodology and allowable risk decisions, calculated values may result in criteria that are not achievable and would result in significant financial resources to try to achieve such values. It should be noted that these unrealistic risk thresholds will result in significant expenditures to meet criteria that, at best, will provide negligible improvements for human or ecological health. These costs do not just impact the regulated community, but will impact all Idaho businesses and residents. Idaho state law requires divisions of government, including DEQ, to estimate and evaluate economic costs and benefits of proposed rules. NWFPA would encourage DEQ to look at their risk policy decisions in balance with health values and economic costs of the resulting criteria. We would recommend that this sort of analysis should be performed at both the proposed target risk value and with a target risk value of 1x10-5 , to better examine the difference in benefits versus costs.	While there is direct relation between level of protection and criteria values there are other factors that also have such a direct influence on the criteria – i.e. toxicity, bioaccumulation rate, relative source contribution, and fish consumption rate. DEQ has determined to use a 10^{-5} cancer risk level, but has also determined to use the Nez Perce mean fish consumption rate of group 2 fish, which includes all near coastal, estuarine, freshwater and anadromous fish. This increases the fish consumption rate used to calculate criteria from 16.1 to 66.5 g/day. While including salmon and other anadromous fish, DEQ continues to generally use a RSC of .2, thus double counting some marine fish, and is using the 2015 EPA recommended toxicity values, bioaccumulation rates and other input values, such as water intake. In addition, DEQ has shifted from the use of a probabilistic risk assessment method of calculating criteria to a deterministic method. The deterministic method compounds the conservative nature of the input values. DEQ believes that the resulting criteria are protective of both the higher fish consuming population and the general population of Idaho. DEQ's approach to determining the human health criteria, including the choice of a 10^{-5} cancer risk level, is consistent with EPA national guidance. EPA has emphasized that the choice of a cancer risk rate and the percentage of the population to protect are risk management policy decisions for States to make. EPA believes that both 10^{-5} and 10^{-6} risk levels are acceptable for the general population as long as the risk level for higher exposed populations does not exceed 10^{-4}. EPA also provides that States may choose to use either high-end values or average values for an identified population. For EPA's 304(a) recommended criteria, EPA uses the 90th% of the general population fish

			consumption, while using the average fish consumption for more highly exposed populations. DEQ's approach is very consistent. DEQ has used a 10^{-5} risk level for the Nez Perce Tribe, which results in a lower risk range for the general population. Also, similar to EPA's approach nationwide, DEQ has used the mean of the tribal fish consumption. In addition, while EPA excludes salmon as a marine fish in its 304(a) criteria development, *DEQ has included salmon* in its fish consumption rate. Also, while EPA directs States to alter the RSC in the event a State chooses to include salmon or other marine species, DEQ has determined to retain the very conservative default RSC recommended by EPA. Finally, DEQ has used all the latest EPA recommended toxicity values, bioaccumulation rates and other inputs. In sum, DEQ's approach is both consistent with EPA's national guidance, and in some respects, reflects a more conservative approach then EPA has recommended. We are aware of the fact that some criteria may not be immediately or easily achievable, and thus have allowed for implementation tools, including the new tool of intake credits to ease the transition. We also know that few discharges in Idaho currently have permit limits based on achieving human health toxics criteria. Though this can certainly change, we do not expect it to change soon or quickly. The Idaho Administrative Procedures Act, Idaho Code sections 67-5221 and 67-5224, require State agencies include in the notice of proposed rulemaking and in the notice of the adoption of a pending rule a description, if applicable, of any negative fiscal impact on the State general fund greater than $10,000 during the fiscal year when the rule will become effective. It should be noted, however, that the absence or accuracy of this fiscal statement does not affect the validity or enforceability of the rule. DEQ complied with these provisions in its notice of proposed rulemaking, and will do so in its notice of the adoption of a pending rule. DEQ believes there will be no impact on the general fund in excess of $10,000.
	6	The proposed state science updates, risk management, and policy decision as a package are consistent with the EPA methods and guidance for derivation of human health criteria and new updated EPA science and policy. While individual science or policy choices may cause individual stakeholders participating in the rulemaking concern for being over or under protective, the proposed policy choices in aggregate, are clearly well within and consistent with EPA science, guidance, state's policy choices and therefore fully comply with CWA obligations for state development of human health water quality standards.	We agree; thank you for stating so.
	7	The members of ISWR do have a strong concern with DEQ setting a risk standard at one in one million (10^{-6}). The state does have the discretion under the Federal Guidance to set a risk factor in the range of 10^{-4} to 10^{-6}. ISWR recommends a factor of 10^{-5}. There is no significant difference in protection of the public health by utilizing the less conservative standard, while there is significant difference in the cost of compliance by both industry and the tax paying public. The Idaho Legislature has supported the idea that IDEQ should consider a range of risks in other environmental programs. *See* Idaho Code § 39-7210 (Idaho Land Remediation Act).	Please see response to commenter number 5 above.
	8	Our members do not support the policy decision DEQ has made to set the risk standard at 10-6. The state does have the discretion under EPA's Clean Water Act Guidance to set a risk factor in the range of 10-4 to	Please see response immediately above.

		10-6. While the risk factor choice DEQ has made is within the allowable range, our members do not believe the miniscule additional protection from risk associated with the 10-6 risk factor provide additional benefits anywhere close to the significant additional costs that will be borne by industry, municipalities and ultimately the taxpayers and citizens of Idaho. It is our understanding that a reduction in the risk factor from 10-6 to 10-5 would be similar to the risk associated with every Idaho citizen driving an additional 11 miles per year. This tiny, incremental amount of associated risk however, stands to save our state economy an estimated $14 billion or more, which will have far more devastating consequences directly on our citizens and economy through a loss of jobs, higher prices for goods, and higher costs of water treatment. As an example, we have been told that the average water bill in Boise City would need to increase by at least $79 per month to pay for the required new treatment works to reach the nearly impossibly high new standards as proposed by DEQ. That is more than double the current rates and would be a significant burden on all families; but especially on fixed-income seniors who would accrue virtually no benefit from the greater expense. Our members do not believe the significant financial burdens are worth the tiny incremental reduction in risk. Furthermore, this higher standard does not meet the state's long-held view that costs and benefits must be carefully weighed when proposing new rules.	
	10	The Nez Perce Tribe has consistently emphasized throughout IDEQ's negotiated rulemaking process that any water quality standards that are developed - and ultimately approved by EPA - must be protective of fish consumption levels and needs of our tribal members given the United States' treaty and trust obligations to the Nez Perce Tribe. The Nez Perce Tribe is disappointed to find that Idaho's proposed water quality standards are orders of magnitude less protective than those of all other states in the Columbia River basin region, and are not protective of the fish consumption levels and needs of our members thereby resulting in unacceptable health risks to our members who rely heavily on fish.	We believe our combination of risk management choices is protective of even those that consume high quantities of fish. In addition, DEQ has determined to include the tribal consumption of salmon, near coastal, estuarine and freshwater fish See also response below to commenter 2 under topic of "Tribal treaty right and designated uses"
	11	One of the key factors in calculating HHWQC is a policy decision for the Department in setting a human health risk target. Inherent in discussing risk is the recognition that risk varies across all Idahoans and that this has implications for what target risk goals can be achieved. EPA recognizes this variation in potential risk and provides guidance on how to address it: "With AWQC derived for carcinogens based on a linear low-dose extrapolation, the Agency will publish recommended criteria values at a 10^{-6} risk level. States and authorized Tribes can always choose a more stringent risk level, such as 10^{-7}. USEPA also believes that criteria based on a 10^{-5} risk level are acceptable for the general population as long as States and authorized Tribes ensure that the risk to more highly exposed subgroups (sport fishers or subsistence fishers) does not exceed the 10^{-4} level." The Department should utilize the flexibility provided in EPA guidance to allow for a range of risks. This is especially important in that certain chemicals, which are highly bioaccumulative and may have a low toxicity threshold, could have a very low calculated HHWQC depending on the risk target selected by the Department. Such criteria may not be achievable. Thus, the Department needs to carefully consider the target risk factor so that human health protection is provided without excessive conservatism (i.e., unrealistic risk scenarios) that would result in criteria that are not achievable without considerable expenditures of resources. Therefore, we urge the Department to consider a one in 10^{-5} risk target for both Idaho and tribal populations.	The policy decision on acceptable risk is definitely a key factor, but by no means the only factor that can greatly affect calculated criteria. DEQ has determined to use the flexibility allowed by EPA and use a 10^{-5} risk level, while also using other more conservative input factors. Please see response to commenter 5 above in this section on "level of protection / allowable risk."

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	12	AF&PA also supports IDEQ's risk management decision to use a mean fish consumption rate to represent the higher-consuming populations. We are concerned, however, about two critical aspects of the IDEQ methodology. First, IDEQ is developing its state-wide standards on the basis of the fish consumption rate for one higher-consuming population -- the Nez Perce Tribe. We believe that using this higher fish consumption rate for a particular population to derive state-wide criteria is not appropriate as it leads to even greater "compounded conservatism" and results in criteria that are unnecessarily stringent to protect human health. We also do not support IDEQ's choice to apply an incremental cancer risk level of 1x10-6 in deriving its criteria, especially when coupled with the other conservative assumptions used to derive the criteria. While we recognize that under Federal guidance, the State has the discretion to make that choice, we note that under that guidance, IDEQ could also use a risk level of 1x10-5. Setting human health water quality criteria in Idaho based on a theoretical excess lifetime cancer risk level of 1x10-6 is a poor public policy choice. This policy would reduce potential cancer incidence by a fraction of a cancer case per year compared to criteria set at 1x10-5 (see below). But, such a policy also imposes costs on cities, counties, rate payers and industry of potentially several billion dollars, harming the economy of the state. In addition, as noted above, these risk calculations contain needlessly conservative assumptions such as that people drink 2.4 liters (about 2.5 quarts) of untreated surface water. This policy choice actually harms public health because it diverts resources from reducing other risks that are much more significant. Comments submitted by the Idaho Association of Commerce and Industry (IACI) on August 21, 2015, citing material previously submitted by ARCADIS, demonstrate that there is no measurable difference in the number of excess cancers expected for Idaho residents under criteria based on 1x10-5 versus 1x10-6. Specifically, deriving criteria based on a 1x10-5 allowable excess lifetime cancer risk management goal for the population size of Idaho in 2012 would be expected to lead to an increase of 0.23 cancers per year among average Idahoans-- from 2570.00 to 2570.23 cancers per year in Idaho in 2012. Using a 1x10-6 excess lifetime cancer risk, the increase in annual cancer incidence would be 0.023 cancers—or going from 2570.00 to 2570.023 cancers per year. The difference in the number of excess cancers resulting from the application of criteria based on the different risk levels is so small it is not measureable, and would be lost in the year-to-year variation in cancer incidence. Yet, as noted, it could cost several billion dollars, harming local governments and industry in the state	In accordance with EPA's 2000 human health criteria methodology, DEQ has chosen a 10^{-5} cancer risk level, but also feels that it is appropriate to look at the tribal consumption of salmon, freshwater and estuarine species. The use of the 10^{-5} risk for the higher consuming tribes will result in a more protective risk level for the general population, but that will be the case no matter what approach DEQ uses—risk will always be uneven across populations that have different consumption patterns.
	13	The proposed standards are calculated to protect only 50% of tribal fish consumers, as opposed to the 95th percentile for the general population. A water quality standard must protect all consumers and cannot disproportionately impact a discrete and vulnerable community (such as tribal communities). That is an issue of environmental justice that will not pass any legal muster.	The criteria proposed will protect the designated recreational use that includes fishing for the population of Idaho, and at very low level of risk – high degree of protection. Different portions of the population and each individual therein will necessarily have different risk, but this is by virtue of differing fish consumption habits, not the criteria. Unequal risk in this situation is due to unequal exposure, not unequal or unfair application of water quality criteria. This reality of differing risk due to differing fish consumption cannot be changed through criteria, would exist absent criteria. It is not injustice. The mean consumption rate for the Nez Perce tribe corresponds is closer to the70th %tile, not the 50th.
	14	DEQ has proposed water quality standards for Idaho's waters that were calculated using substantially reduced levels of protection for tribal people as compared to the general population. Idaho's choice to limit the protection levels for tribal populations in Idaho threatens our tribal waters and the current and future ability of tribal members to safely practice a subsistence lifestyle. DEQ's proposed standards are also weaker than those proposed by all other states and tribal governments in	As explained immediately above and in response to commenter 2 in this section, we are being protective and it is not possible to equalize risks. If you actually compare criteria, not fish consumption rates, you will find that DEQ's proposed standards are not weaker than those adopted or proposed by all other states and tribal governments in the region.

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		the region.	
	15	IDEQ's choice to set a less protective, acceptable cancer risk level and hazard quotient for tribes by subcategorizes tribes from the general population and utilizing the mean consumption rate at cancer risk level of 10^{-6} amounts to an unacceptable health risk to Tribal members.	Idaho's risk management choice recognizes the inherent differences in risk among segments of the general population and goes above EPA's national guidance on the matter that speaks to an allowable incremental cancer risk level of 10^{-4} : *"EPA also believes that criteria based on a 10-5 risk level are acceptable for the general population as long as States and authorized Tribes ensure that the risk to more highly exposed subgroups (sportfishers or subsistence fishers) does not exceed the 10-4 level."* EPA goes on to say in chapter 2 of their 2000 human health methodology: *"EPA believes that both 10-6 and 10-5 may be acceptable for the general population and that highly exposed populations should not exceed a 10-4 risk level. States or Tribes that have adopted standards based on criteria at the 10-5 risk level can continue to do so, if the highly exposed groups would at least be protected at the 10-4 risk level. However, EPA is not automatically assuming that 10-5 will protect "the highest consumers" at the 10-4 risk level. Nor is EPA advocating that States and Tribes automatically set criteria based on assumptions for highly exposed population groups at the 10-4 risk level. The Agency is simply endeavoring to add that a specific determination should be made to ensure that highly exposed groups do not exceed a 10-4 risk level. EPA understands that fish consumption rates vary considerably, especially among subsistence populations, and it is such great variation among these population groups that may make either 10-6 or 10-5 protective of those groups at a 10-4 risk level."* Idaho has looked at Idaho specific data for both the general population and three more highly exposed subgroups of the general population. With our proposal an individual would have to eat more than 665 g/day of fish from Idaho's waters *every day for 70 years* to exceed a cancer risk level of 10^{-4}.
	16	In calculating water quality criteria, Idaho has chosen to set the cancer and non-cancer protection levels for the general population at the 95th percentile, but for tribal populations the levels would only be for the mean. This is discriminatory, would result in disproportionate and disparate risk to tribal members, and would provide unequal protection as a direct product of state action. Idaho's standards must eventually be submitted to and accepted by the U.S. Environmental Protection Agency (EPA), but it is highly questionable (to say the least) whether standards based on this obvious differential treatment will obtain the necessary approval. The CTUIR DNR would encourage EPA to reject such standards.	It is impossible to equalize risks among populations or all people in a population. Please see response immediately above. The inherent difference in risk distribution is illustrated in the graph below comparing the risk distribution for two populations:

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			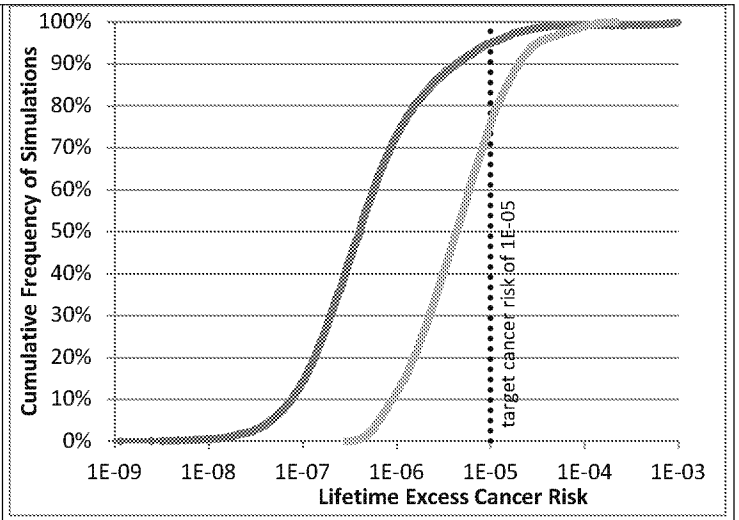 Changing water quality criteria (if it changes fish quality) will shift these curves left or right, but it will do nothing to close the gap between them.
	17	First, IDEQ has taken the fish consumption rate for one higher consuming population – the Nez Perce Tribe – and applied that rate to develop state-wide standards. For fish-only criteria, that Tribe's rate drives all of the derived levels, since it is substantially above both the general population exposure level and the exposure levels for other high-consuming populations. We believe that using this higher fish consumption rate for a particular population to derive state-wide criteria is not appropriate. We are also concerned with IDEQ's choice to apply an incremental cancer risk level of 10-6 in deriving its criteria. While we recognize that under Federal guidance, the State has the discretion to make that choice, we note that under that guidance, IDEQ could also use a risk level of 10-5. We see no basis for applying 10-6 instead of 10-5, when there is no significant difference in risk posed to the public, and the difference in compliance costs to regulated parties – and to the public that must eventually bear those costs - could be very significant. Finally, we encourage IDEQ to use the best available science for determining Relative Source Contribution (RSC) values, rather than simply relying on EPA's recommended values.	Although the Nez Perce Tribe's fish consumption ended up driving our proposed criteria that was not a predetermined outcome, but rather a consequence of considering higher end consumers per EPA guidance. DEQ used the group 2 fish for the Nez Perce tribe. There was no comparable fish group in Idaho's general population survey results. The survey did record all fish. While this includes a broader range of fish than the group 2 fish, it is the most comparable fish grouping. The mean tribal fish consumption rate is comparable to the 95% of the general population consumption of all fish. This is consistent with, while more conservative than, EPA's national guidance in which they used the 90% of the general population's consumption of freshwater + estuarine fish while using the average consumption for higher consuming populations. DEQ has determined to use a 10^{-5} risk level. See response to commenter 5 in the section "level of protection/allowable risk."
	19	Our most significant point of objection here is the final Fish Consumption number that DEQ has chosen to integrate into its standards. The number that is being used is not protective of human health. As a result, this proposed rule incorporates water quality standards for numerous pollutants that are not sufficiently protective. This is especially true with regard to how these rules will affect the health of Tribal Members. It is totally unacceptable to intentionally develop standards that are protective for 95% of Idaho's white population and only protective for the mean of Tribal members. While there might be some means to rationalize this with statistics, it is immoral and wrong for the State of Idaho to develop standards that fail to provide Tribal members with the same level of protection as is provided for Idaho's larger white population.	The protectiveness on the proposal should be determined by the resultant criteria, not any particular component of the criteria calculation. As noted above, it is not possible to equalize risk, provide the same level of protection to all. In addition, DEQ is adopting state wide criteria. Inherent in the development of criteria for all Idaho residents is the unavoidable fact that some individuals or groups of individuals will be affected differently by the criteria. EPA's 304(a) recommended criteria are based upon the 90th percentile

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		We urge you to revisit this decision. … We are concerned that certain high consuming subpopulations will be placed at an unacceptable risk if DEQ provides 10-6 level of protection only to the mean of the overall subpopulation. We advocate that DEQ instead provides this level of protection to the 95th percentile of the high consumer subpopulation. Failure to do so creates environmental justice issues as it exposes Tribal members and all fishing/angling Idahoans to elevated levels of risk. These high consuming members of the public are specifically the people that need to be protected – they are the people eating larger quantities of fish.	consumption rate for the general population, while the default fish consumption rates used for higher consuming populations reflect the average consumption rate. Our proposal is well within EPA's guidance in its level of protection afforded high end consumers. Please see responses above, particularly to commenters 2, 13, & 15.
	20	The proposed standards are fundamentally flawed in two significant ways. First, the proposed water quality standards were calculated using substantially reduced levels of protection for tribal people as compared to the general population. The RTOC believes the utilization of the mean consumption figure for tribal populations fails to protect the health of a great number of Idaho residents and those who fish in Idaho. Moreover, the decision to protect the average person, as opposed to most of the vulnerable population, is a significant environmental justice matter – one that makes this proposal significantly flawed and beyond the possibility of EPA approval. According to EPA, environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies. This proposal is anything by "fair treatment" because a disproportionate burden of the impact of toxic pollution will fall upon tribal communities. … Given these concerns, the RTOC would urge IDEQ to "go back the drawing board" and look to the process utilized in the State of Oregon, which adopted a rate of 175 grams per day of fish consumption. We believe that the Oregon rate is appropriately protective of subsistence use of fish in our Region and should be considered in any effort to review Idaho's consumption rate. In short, we believe that IDEQ should adopt a rate that is protective of human health. If IDEQ is unable to fully consider the impacts of toxics on tribal health, we would urge IDEQ to allow EPA to step in and to promulgate standards that are protective of the health of all fish consumers in the State.	Basing the criteria for carcinogens on a 10^{-5} incremental risk level is a very high level of protection that goes above what EPA guidance suggests is acceptable. More importantly there is no "disproportionate share of the negative environmental consequences resulting from" these criteria. The criteria are applied equally across the landscape regardless of who uses the water. While there are differences in risk, these are due to immutable differences in consumption habits; consumption habit differences that are unrelated to water quality criteria, existed prior to water quality criteria, and would persist at lower (or higher) criteria, or even absent criteria. We firmly believe that the criteria we proposed are protective of all in Idaho, even high end consumers. We urge you to evaluate our proposal on the whole, not just by its fish consumption rate.
	21	The EPA supports DEQ's proposed policy decision to retain its 10-6 cancer risk level to derive human health criteria.	
	22	As a part of setting human health water quality criteria, DEQ also has policy decisions to make, especially in regards to selecting a risk target. The selection of a risk target significantly influences the final calculated human heath water quality criteria. There are a number of aspects of selecting the risk target, such as ensuring the criteria are protective of Idaho residents (including subpopulations that have high fish consumption rates), consideration of conservatism that is inherent in risk calculations, how the resulting calculated criteria compare to background and ubiquitous chemicals (such as PCBs) and the feasibility of achieving the criteria. EPA guidance provides latitude to DEQ in selecting risk targets. IACI recommends that a risk factor of one to 10^{-5} for both the Idaho and tribal populations provides the "balance" among these different aspects for determining human health water quality criteria.	Please see response to commenter 5 above in this section on "level of protection / allowable risk."

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		… EPA chose to use the one-in-one million (10^{-6}) risk level as the default value when calculating HHWQC because it believes this risk level "reflects an appropriate risk for the general population." However, EPA also notes that risk levels of 10^{-5} for the general population and 10^{-4} for highly exposed populations are acceptable. A target risk level of 10^{-4} is sometimes interpreted as meaning that highly exposed populations are not as well protected. However, as discussed in a paper by Kocher, "if only a small population would be at greatest risk, the expected number of excess cancers corresponding to individual risks at the de minimis level of 10^{-4} would still be (essentially) zero." Given that the 10^{-4} risk level has been identified as an acceptable/de minimis risk level for highly exposed populations, it may be useful to consider exactly what that risk level represents in terms of fish consumption rates. If the default fish consumption rate is 17.5 g/day represents a 10^{-6} target risk level, then a highly exposed population that eats as much as 1,750 g/day will still be protected at a 10^{-4} risk level.	
	23	We urge IDEQ to reassess its proposed risk policy choices on carcinogens and non-carcinogens. Based on material previously submitted by ARCADIS, a nationally recognized environmental consulting firm, there is no measurable difference in the number of excess cancers expected for Idaho residents under criteria based on a 10^{-5} versus 10^{-6} excess lifetime cancer risk (ELCR). Specifically, deriving criteria based on a 10^{-5} (instead of 10^{-6}) allowable ELCR management goal for the population size of Idaho would be expected to lead to an increase of 0.23 cancers in total per year—from 2570.00 to 2570.23 (based on the 2012 Idaho population). If a $1x10^{-6}$ ELCR were used, the increase would be 0.023—from 2570.00 to 2570.023 (based on the 2012 Idaho population). The difference in the number of excess cancers resulting from the application of criteria based on the different risk levels is so small that it is basically immeasurable and statistically without meaning because of the year-to-year variation in cancer incidence. Moreover, as noted in the IACI comments, these calculations do not reflect that IDEQ is currently proposing to apply the 1x10-6 risk management goal to the 95th percentile of the general population, an <u>even more</u> stringent benchmark than used in the above example and much more stringent than the EPA's national risk policy guidance. Clearwater Paper urges IDEQ to modify the ELCR used in selecting carcinogenic HHWQC's to the more stringent of 1 in a 100,000 at the 95th risk percentile of either the general population or the tribal risk distributions <u>assuming</u> the very important statistical correction discussed below (and in Attachment A) is adopted by IDEQ. With this adjustment, spurious 303(d) listings will be avoided and only those water bodies posing elevated and unacceptable risk would be listed thereby avoiding unneeded TMDL's and unwarranted NPDES allocations that provide no measureable improvement in public health. To provide some perspective, the added risk from the proposed risk policy change is the equivalent of the average Idahoan *driving an additional 11 miles a year.* Noted below is a discussion of the cost implication of the proposed standard—**<u>$16 billion</u>** over the next 25 years for municipal and industrial dischargers in Idaho, with no guarantee of even achieving the de minimis benefit represented by the proposed HHWQC based on an ELCR of 10^{-6} (when compared to 10^{-5}). … Because the appropriate level of risk is a matter of policy, IDEQ and the Idaho Legislature represent the appropriate bodies to establish the state's policy on risk.	Because acceptable risk is a matter of public policy, we concur that such decisions are appropriately made locally, and note that EPA has said so as well: *"EPA believes that ambient water quality criteria inherently require several risk management decisions that are, in many cases, better made at the State, Tribal, or regional level."* EPA, 2000 Please see response to commenter 5 above in this section on "level of protection / allowable risk."
	24	The lack of acknowledgement for the future health of tribal members exhibited by IDEQ in proposing to only protect them at the mean consumption rate at a cancer risk level of 10^{-6} is without merit. The policy position that Idaho has taken to set a less protective, acceptable cancer risk level and hazard quotient for tribal	We are sorry that you so misunderstand the range of risk that we cannot alter through water quality criteria, and our effort to reasonably protect all.

		people is troubling and counter to federal laws and mandates that were developed with the sole purpose of preventing exactly this type of disparate impact. That a state agency would be so influenced by outside forces that care little to nothing about human health and water quality that it would propose standards that specifically protects one sector of the general population less than another is really disgraceful! … Our position has not changed. USRT and its member tribes believe that criteria should be derived by that portion of the general population (our definition of the general population includes tribal members, as should IDEQ's) who eats the most fish (including anadromous/market fish) and thus is exposed to the most risk.	Please see our response to commenters 2, 13, 15 and 20. Please also see our response to you above under topic heading 'Survey design, target population.' As we have noted in our response to the above comments, DEQ's policy choices are entirely consistent with federal law and guidance.
	25	IDEQ has proposed an incremental cancer risk at a level that will protect 95% of the "general" population but only 50% of high fish-consuming Idaho residents. The draft rule perpetuates an ongoing environmental injustice by subjecting tribal people to disproportionately higher risks simply from exercising our rights to harvest First Foods and practice our religion and culture.	As discussed throughout the rulemaking process and above, there is no way to equalize risk- higher fish consumption rates will always carry a greater exposure to fish-borne contaminants. Furthermore, criteria cannot change these inherent differences in risk. Please see our response to commenters
Included fish	2	Idaho's proposed water quality standards were derived following a state policy decision that excludes market fish and anadromous fish except for steelhead from its analysis of general and tribal fish consumption. Excluding anadromous fish from the state's fish consumption rate has had the effect of significantly decreasing the protectiveness of the state's water quality standards. This exclusion ignores the fact that treaties with the federal government have guaranteed the right of tribal members "to take fish" and does not limit in any way the particular mix or species of fish. Tribal people are free to determine what species they wish to harvest and consume and the state must not undermine this treaty-protected right.	DEQ has chosen to use a fish consumption rate that includes salmon to develop the human health criteria. This decision is not based upon tribal treaty fishing rights. Please see response to commenter 5 below.
	5	The exclusion of salmon, other marine fish and market fish is justified for a number of reasons. Several research studies have shown that anadromous fish acquire the majority of the contaminant burden in marine waters, providing good science to support the exclusion of salmon from the fish consumption rate. Arguments have been made for consistency with other Northwest states. However, Idaho water quality rules can't regulate estuarine and marine waters, and where most market fish come from; thus Idaho regulations can't influence concentrations of chemicals present in such waters. As an inland or non-coastal state, Idaho is significantly different from the other Northwest states. The exclusion of salmon clearly recognizes the best science on sources of contaminants for salmon and the inland nature of our state and waters. In Idaho, the inclusion of salmon will not improve public health by decreasing risks associated with chemicals in anadromous fish. In addition, Idahoans could be faced with substantially increased compliance costs that would not result in improved public health benefits.	DEQ has chosen to use a fish consumption rate that includes salmon and all freshwater and estuarine fish no matter the source to develop the criteria. DEQ made this choice in order to be consistent with EPA guidance and for the other reasons set out below. EPA expects standards to be set to enable residents to safely consume from local waters the amount of fish they would normally consume from all fresh and estuarine waters. Therefore, DEQ felt it was important to include more than just local freshwater fish as it had originally proposed. In addition, in its national guidance, EPA allows States the choice to include salmon and other marine fish. While EPA excluded almost all salmon from the fish consumption rate used to develop its 304(a) recommended criteria, EPA has emphasized the need to use local rather than national information, if local data is available. EPA has raised questions concerning whether salmon that are consumed in Idaho pick up some pollutant load from regional waters within the jurisdiction of the CWA, and even in Idaho waters. EPA has provided DEQ very little information regarding the recent research and modeling that it asserts shows the source of pollutants in Idaho salmon.[1] Nevertheless, DEQ believes it is appropriate to include salmon, like DEQ did with respect to steelhead, because of the uncertainties regarding the source of pollutants. In addition, using a broader more inclusive range of fish and thus a

			higher consumption rate, along with other conservative factors, while using a higher risk level, helps to ensure that DEQ's criteria remain protective. In other words, DEQ believes it has chosen an appropriate balance of more conservative and less conservative factors that it believes results in human health criteria that are protective of human health and while reasonably achievable. [1]While DEQ is using the group 2 fish, DEQ is concerned about the accuracy of the modeling performed by Gobas because Gobas used incorrect criteria in the modeling exercise
	7,8	1. **Market Fish:** ISWR fully supports IDEQ's determination that the only market fish to have any rational connection to Idaho water quality would be the Rainbow Trout. The members of ISWR strongly feel that the inclusions of any market fish not found in Idaho's waters would yield a standard that would be difficult for municipalities and industries to meet and would have no impact on the toxics found in those fish. 2. **Anadromous Fish:** ISWR supports IDEQ's decision to exclude anadromous fish in setting the HHWQC standards. Anadromous fish present in Idaho's waters can potentially collect only a negligible amount of contaminants (if any) from their time in Idaho waters, so to include their consumption in a risk assessment associated with setting criteria for Idaho waters would be inaccurate, overly conservative and not consistent with the state's goal of using best available science in rule makings.	Please see response directly above.
	9	There was a great deal of discussion about anadromous fish and Idaho's fresh water species. We support DEQ's decision to base the update of the rules on consumption of Idaho's fresh water species since our rules would have no impact on fish which spend most of their life cycle in the waters of other states and the ocean. The same logic applies to Idaho fish versus market fish.	While we agree that the effect of Idaho's water quality criteria on fish that grow up outside Idaho waters is limited, Idaho does contribute pollutants to downstream waters and thus has some effect. By including these other fish we recognize a shared responsibility among all states in the nation. In addition, please see response to comment above.
	11	A foundational assumption in this rulemaking is that Idaho water quality standards influence the contaminant levels in fish and water. When considering the different sources of fish consumed by Idaho residents, such questions arise such as to where do these different sources of fish acquire contaminants and can Idaho water quality rules change the levels of contaminants in these fish? The Department, for the purpose of the FCR study, decided that the fish included in the survey need to be fish, in which the contaminant levels can be influenced by Idaho quality criteria. This definition of "Idaho fish" excludes marine fish, most market fish (except rainbow trout), and salmon.' Though salmon spend a part of their life history in Idaho water's, studies have definitely shown that greater than 95% of the contaminants accumulated by salmon occur in marine water. Since the purpose of the establishing a fish consumption rate for Idaho residents is to help determine appropriate water quality criteria for Idaho waters, such regulations will have no effect on the levels of contaminants acquired by such fish as salmon. Simplot believes that the Department has appropriately selected the fish species to be included to determine fish consumption rates for Idaho residents.	Please see also responses to other commenters in this section.
	13	Second, the rate excludes anadromous fish, including salmon, because the State does not believe it can impact waters outside of Idaho. This ignores the fact that Idaho water and its pollution contributes to water quality in the Snake and Columbia Rivers outside of the state. It also ignores Idaho's legal obligation to avoid causing and contributing to water quality issues downstream. 40 C.F.R. § 122.4. Turning a blind eye to anadromous fish ignores these facts and leaves one of Idaho's most treasured natural resources – salmon – without protection that they deserve.	DEQ has chosen to use a fish consumption rate that includes salmon in calculating the human health criteria. DEQ is not, however, including salmon in order to protect salmon as the commenter asserts. The criteria at issue are human health criteria; they are not developed to protect aquatic life. DEQ has separate aquatic life criteria for toxic pollutants. The proposed criteria are about protecting human health; there are separate aquatic life criteria set to protect fish, including salmon.

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	16	The CTUIR DNR disagrees with your decision to exclude market fish and anadromous fish (except for steelhead) from your analysis of general and tribal fish consumption. This fails to accurately reflect the reality of fish consumption patterns and will substantially decrease the degree of protection afforded by the state's water quality standards.	DEQ has chosen to use a fish consumption rate that includes salmon and all freshwater and estuarine fish in the consumption rate used to calculate the criteria. The reasons for this decision are set forth in response to commenter 5 above.
	19	Market Fish We disagree with DEQ's decision to exclude the consumption of market fish when calculating Idaho's fish consumption rate and urge the Department to reconsider this matter and include market fish. The consumption of Idaho fish must be considered within the context of the actual (surveyed) eating patterns of Idahoans. If Idahoans are consuming market fish, and thus being exposed to contaminants in these fish, Idaho water quality standards must be set such that the consumption of Idaho fish does not add to a consumer's pollutant burden in a way that results in physical harm to the consumer. Idaho consumers should not have to choose between eating market fish and eating Idaho fish; Idaho's standards should be set in such that a consumer can consume fish from both sources and do so at the levels that they are accustom to. In order to do so safely, Idaho standards should be set in a manner that accounts for the consumption of both local and market fish. Anadromous Fish We disagree with DEQ's decision to exclude the consumption of anadromous fish when calculating Idaho's fish consumption rate and urge the Department to reconsider this matter and include anadromous fish. Our decision to support the inclusion of anadromous fish in the calculation of Idaho's fish consumption rate is based in part on the fact that various species of anadromous fish spend varying lengths of time in Idaho waters and/or in waters that could be affected by Idaho water quality standards. The duration of such residency of anadromous fish varies from one to three years and there is scant scientific evidence to determine what proportion of a fish's pollutant burden comes from its time in Idaho or in downstream waters affected by Idaho water quality standards. As such, it does not seem to be defensible to lump all anadromous fish together and exclude them from inclusion.	DEQ has chosen to use a fish consumption rate that includes all freshwater and estuarine fish consumption. Please see response to commenter 5 in the above section.
	20	Second, the proposal is fundamentally flawed because it excludes market fish and anadromous fish, except for steelhead, from its analysis of general and tribal fish consumption. Excluding anadromous fish, such as salmon, from the consumption rate significantly decreases the protection afforded to human health by the standard. This also ignores the subsistence use of salmon and other anadromous fish that is a legally-protected right of many Tribes both in Idaho and outside of the State, who have treaty rights to fish within state boundaries.	Pease see response to commenter 5 above.
	21	**Market Fish (Other than Rainbow Trout)** Idaho's approach is to exclude from the FCR the fraction of the consumption of freshwater and estuarine fish and shellfish that is currently associated with fish originating from waters outside of Idaho. Idaho justifies its approach on the grounds that Idaho lacks regulatory authority over fish caught outside of its borders. Based on the information and rationale EPA has received from Idaho to date, we note the following reasons why Idaho's justification for this approach is not scientifically sound: • The purpose of including consumption from waters outside of Idaho's borders in the FCR is not to support any purported regulation of such waters by Idaho. Rather, the purpose of including this fish consumption in	DEQ has chosen to use a fish consumption rate that included freshwater and estuarine fish, consistent with EPA national guidance. See response to commenter 5 in the above section.

		the FCR is so that a determination that a particular Idaho water body is "fishable" will result in adequate health protection for Idahoans should they consume, from local waters, the amount of fish they would normally consume from all inland and near shore waters. • The approach of excluding "market fish" appears to assume that there is no exposure to pollutants from fish that were sourced outside of Idaho. This is because the full allowance for acceptable pollutant levels is given exclusively to local state waters. Consider if every state took this approach. For a non-carcinogenic pollutant with a specified Reference Dose, the criteria development equation would allocate this full dose to fish originating from the individual state. If a person then consumes overall 25 grams/day (glday) of fish, comprised of 5 glday each from 5 different states (and each state set a state-specific consumption rate of 5 glday), then the consumer could potentially receive five times the acceptable pollutant dose.	
	21	**Anadromous Fish** The EPA recognizes that Idaho has included steelhead, an anadromous species, in the calculation of its FCR. However, the EPA continues to have concerns with DEQ's proposed policy decision to exclude all other anadromous fish from the FCR, and recommends that DEQ either include all other anadromous fish in the FCR or provide additional demonstration of how criteria derived using a lower FCR that excludes anadromous fish will protect downstream shared waters in the Columbia River basin and protect the tribal populations exercising their treaty-reserved rights (see comments below regarding consideration of tribal reserved fishing rights). While the EPA's 304(a) recommended criteria account for exposures to non-carcinogens and nonlinear carcinogens in anadromous fish using the relative source contribution (RSC), the EPA supports and recommends that states include anadromous fish in the FCR when there is credible and compelling evidence of significant consumption of anadromous fish. For example, Oregon and Washington chose to include salmon in the FCR used to derive human health criteria due to, amongst other reasons, the large amounts of salmon consumed by tribes, the variation in individual market basket preferences (i.e., the types of fish that people purchase and consume), and uncertainties in the sources of salmon contaminant body burdens from inland and near shore waters (e.g., salmon residing in Puget Sound). The EPA approved Oregon's human health criteria in 2011. Similarly, the EPA supports Washington's decision to develop human health criteria using a FCR that includes anadromous fish consumption. The EPA also has reviewed recent work related to salmon contaminant acquisition from near coastal waters of the Pacific Northwest and recommends that DEQ also consider this available information. For example, the research conducted by Sandra O'Neill, James West, David Herman, and Gina Yitalo provides evidence that certain Pacific Northwest salmon species, most notably chinook and coho, acquire organic pollutants from near coastal marine waters. O'Neill et al. assayed salmon and herring for several classes of persistent organic pollutants (POPs). The POPs of interest included polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs), hexachlorobenzene (HCB), and the insecticide DDT. An analysis of these POPs in herring populations identified unique regionally-specific patterns of these chemicals or "fingerprints," thus showing herring are acquiring contaminants from waters under CW A jurisdiction. Chinook salmon harvested from specific locations were found to have the same contaminant "fingerprints" as those exhibited by co-located herring samples, suggesting that they are feeding on herring in near coastal waters. This work provides evidence that certain Chinook salmon species are acquiring contaminants from near coastal waters of Washington and Oregon, as well as California and British Columbia. Similar but more limited data by O'Neill et al. indicate that coho salmon, which reside in coastal waters and have feeding preferences similar to chinook salmon, are also acquiring contaminants from waters under CW A jurisdiction. In addition, EPA has communicated with Laurie Weitkamp and Peter Lawson from NOAA, who have stated	DEQ is using the mean of the Nez Perce consumption of their Group 2 fish. This includes near coastal, estuarine, freshwater and anadromous fish. Please see DEQ response to commenter 5 in the above section regarding market fish for the reasons for DEQ's decision. As set out above, while Nez Perce Group 2 fish includes salmon DEQ does not believe the tribal treaty fishing rights mandate this result. Instead, DEQ's decision is based on the uncertainties raised by EPA regarding the source of salmon pollutant loads, and the balance of the various input factors DEQ is using to develop the criteria. It should also be noted that DEQ has included a downstream waters provision recommended by EPA. EPA itself has concluded that downstream protection does not mean that all state standards must be identical.

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		that chinook (and likely coho) salmon from Idaho reside in near coastal waters off the Oregon coast. Myers at al. 1998, analyzing coated wire tag recovery, has concluded that Snake River Chinook salmon have a coastal residence pattern. O'Neill et al.'s work shows that resident chinook salmon from these waters have regional contaminant fingerprints specific to this area. Given the contaminant fingerprint correlation between herring and coastal resident salmon at all locations where both species were analyzed, it is very likely that coastal salmon originating in Idaho waters are acquiring contaminants from coastal waters under CW A jurisdiction. EP A recognizes that salmon acquire most of their body weight and, therefore, most of their body burden of highly bioaccumulative contaminants during open-ocean feeding. However, it is possible that salmon may acquire less bioaccumulative contaminants directly from water during their return spawning migration as adults. EPA consulted with Frank Gobas, a well-known expert in bioaccumulation and bioconcentration in aquatic food webs, to evaluate this issue and prepare an analysis. The analysis first involved the development of contaminant concentrations in salmon tissue that were associated with either a cancer risk of 1 in 1,000,000 or a non-cancer hazard quotient of 1. These risk-based concentrations assumed a fish consumption rate of 175 grams per day by an 80 kilogram person. Next, bio-concentration modeling was performed to determine the water concentration that results in a salmon tissue concentration associated with the aforementioned risk-levels. The model includes quantitative structure activity relationship biotransformation of chemicals and the impacts of changing lipid content associated with migration energy expenditure. The model also accounts for the time dependent nature of chemical uptake. This modeling utilized a range of migration times for spawning Idaho chinook and sockeye salmon associated with several harvest locations within Idaho. The longer the migration time, the greater the opportunity for contaminants to bioconcentrate. Finally, ratios of Idaho's proposed water quality criteria to modeled water concentrations were computed. The results showed, for example, toxicity ratios of 10 or greater for 13 chemicals with non-carcinogenic toxicity. In other words, for 13 non-carcinogenic chemicals, Idaho's proposed criteria could result in hazard quotients of 10 or more for populations consuming Idaho returning salmon at a rate of 175 grams per day or more. This far exceeds EPA's recommendation of limiting risks to non-carcinogens to a hazard quotient of 1 or less. Therefore, DEQ should consider these results. EP A has enclosed the analysis for your review and consideration (see attached spreadsheets). Idaho cites work by Hope 2012, suggesting that salmon do not acquire contaminants from waters under CW A jurisdiction, to justify excluding anadromous species from the FCR used to develop DEQ's proposed criteria. The Hope study's conclusions are limited by its focus on PCBs and not on other toxics, and the study does not consider salmon acquisition of contaminants from near coastal waters as demonstrated by O'N eill et al. Central to the modeling is the assumption that contaminant uptake occurs largely through diet. While this is true for PCBs, depending on a chemical's lipophilicity, direct uptake from water may be a significant contributor to an organism's contaminant body burden. The Gobas work on contaminant bioconcentration in migrating adult Idaho salmon, described above, provides evidence that adult Idaho salmon may acquire contaminants directly from the water column through their gills, in addition to dietary uptake. Finally, the Hope study also does not discuss different patterns of contaminant uptake associated with the complex life histories of other salmonids, such as steelhead. In conclusion, DEQ should consider the above-referenced scientific information when making its final decision on whether to include anadromous salmonids, other than steelhead, in calculating the FCR. The EPA remains concerned that Idaho's decision to exclude most anadromous salmonids results in human health criteria that are not adequate to protect Idaho's primary and secondary contact recreation uses.	
	22	The ultimate result of the fish consumption rate rulemaking is the refinement of Idaho's human health water quality criteria (HHWQC) to ensure such criteria are protective of public health. Thus, understanding	Please see response to commenters above.

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		the potential exposure of the public to contaminants from eating fish from Idaho's waters and drinking Idaho water is key to setting water quality criteria and subsequent discharge levels for the regulated community. Underpinning this regulatory framework is the assumption that regulation of dischargers in Idaho directly affects the contaminants in Idaho fish and water being consumed. Thus, the substantive question related to fish consumption by Idaho residents is, what fish should be included in determining fish consumption rates for Idaho residents? A number of fish found in the marketplace come from marine sources, international sources or fish that are anadromous. Once again, back to the foundational assumption that Idaho water quality standards influence the contaminant levels in fish and water, where do these different sources of fish acquire contaminants and can Idaho water quality rules change these levels of contaminants in these fish? <u>Anadromous Species</u> Unlike true freshwater species, anadromous fish spend a substantial portion of their life in marine or estuarine environments that are outside the jurisdiction of Idaho. If a substantial fraction of the chemical-specific body burden (mass per fish) found in returning adult salmon is acquired during time spent in the ocean, there is effectively nothing Idaho water quality criteria can do to reduce risks to humans resulting from exposure to chemicals in the salmon they eat. Thus, the ultimate question is, what fraction of the final chemical burden in Idaho's returning adult salmon is acquired in Idaho vs. in the ocean? … IACI supports DEQ's definition of "Idaho Fish" and the decision to exclude market fish (other than rainbow trout), anadromous salmon, marine fish and other non-Idaho resident fish for determining fish consumption rates for the purpose of setting Idaho water quality standards. As discussed earlier, Idaho water quality regulations cannot control the level of contaminants in these excluded fish. For example, the predominant fraction of the ultimate PBT burden found in harvested adult salmon, even salmon passing through highly contaminated fresh and estuarine waters during out migration, is accumulated while in the ocean phase of their life cycle (i.e., Cullon et al. 2009; O'Neill and West 2009). This conclusion is supported by modeling as well (Hope 2012).18 Indeed, HHWQC could be set to zero and human health risks associated with consumption of these fish, assuming such risks are present, would remain unchanged. In short, Idahoans could be faced with substantially increased compliance costs and garner no benefit from such increased costs.	
	23	**Market Fish** Clearwater Paper supports IDEQ's scientifically justified choice of limiting the level of market fish by including only those fish reared naturally or purposefully in Idaho to set HHWQC. To include species not grown in Idaho or Pacific Northwest states in a fish consumption rate would be overly stringent and quite frankly result in risk assessments not rooted in reality. Because it is scientifically based and defensible and would result in an accurate risk assessment outcome, we strongly urge IDEQ to maintain the treatment of market fish as proposed. **Anadromous Fish** As with the issue of market fish, including anadromous fish that spend a negligible amount of time in Idaho waters would result in an overly stringent risk calculation and would have a negligible difference on the actual risk to those eating large amounts of anadromous fish. Forcing Idaho to adopt overly and unnecessarily stringent controls would not affect contaminants in anadromous fish: so to include such fish in the determination of HHWQC is not following a science-based decision process. Because it is scientifically	Please see response to commenters above.

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		based and defensible and would result in an accurate risk assessment outcome, we strongly urge IDEQ to maintain the treatment of anadromous fish as proposed.	
	24	Fish Included – Fish group 2 should be used for determining Idaho's fish consumption rate (FCR) and not a cherry-picked group of fish that does not adequately reflect consumption patterns in Idaho, nor leads to protective WQC. Anadromous and market fish must be included in the FCR calculation and we adamantly oppose and reject the back-of-the envelope calculation used by IDEQ to inappropriately manipulate tribal FCR data. USRT and its member tribes reject the manner in which IDEQ derived both the angler/non-angler FCR and the tribal FCR, which was erroneously revised by stripping out anadromous and market fish. As such, we find that the FCR used by IDEQ to be illegitimate and in no way do we support its use.	DEQ has chosen to use group 2 fish.
	25	Salmon is a tribal First Food and the importance of it to the tribes cannot be overstated. The fishery resource is not only a major food source for tribal members, but also an integral part of our cultural, economic, and spiritual well-being. As ceremonial and subsistence fishers, we rely on the State to set reasonable and legitimate water quality standards that will protect our water and the fish that we consume from harmful exposure to toxic pollutants.	DEQ has chosen to use a fish consumption rate that included salmon in its criteria development. DEQ believes it has set criteria that are protective for all Idaho citizens.
Downstream Waters	5	DEQ has proposed rule language on how to apply the standards to the protection of downstream waters. This is a very significant issue which requires very careful examination and discussion. This provision also introduces new concepts that are undefined, therefore restricting our ability to determine potential impacts to this rulemaking to future DEQ rulemakings and any potential water quality decisions made by EPA. We raised this issue in previous comments and would again recommend that DEQ not include this provision in the rulemaking and address this matter in a future, separate rulemaking	Protection of downstream waters is a requirement of the CWA and its implementing regulations. We believe the added language clarifies current practice in Idaho; is not a new concept. While not a new concept, EPA has made addition of language to state and tribal water quality standards a national priority. Failure to address downstream protection directly in rule could give EPA sufficient reason to find fault with Idaho's proposal.
	6	Protection of downstream waters as required at 40 CFR 131.10(b) is an important consideration in designation of uses and associated water quality criteria. In 2015, EPA adopted revisions of the Water Quality Standards Rule that include clarification of six water quality standards items, including protection of downstream waters. EPA guidance on the six water quality rule elements included discussion of acceptable downstream water quality protection options to states, including narrative of numeric approaches. The proposed Idaho water quality criteria include a narrative for protection of downstream waters at 58.01.02.070.08, which appears to be an acceptable approach under the new water quality standards rule. AIC supports the dual approached proposed by EPA for states to comply with the downstream waters protection element of the rule and Idaho's proposed narrative approach, which is consistent with EPA guidance to states for satisfaction of this water quality standards element.	We agree, and see that it is important to address downstream protection clearly and now, in this current rulemaking effort. We believe the narrative language that we have chosen, based on EPA's template language, meets the requirements of the federal regulations while providing flexibility in implementation consistent with current practice in achieving downstream protection.
	15	The Tribes continue to request that IDEQ implement protective downstream water quality standards for each of the watersheds that may have an impact on reservation waters; particularly the mainstem Snake River, Blackfoot River, Portneuf River and Bannock Creek watersheds.	
	16	Unfortunately, IDEQ has chosen to embrace revised standards based on significantly reduced levels of protection for tribal people as compared to those for the general population. Adopting such standards would result in greater amounts of toxic discharges to Idaho waters than those allowed by other regional states and tribes, and those Idaho waters would eventually become the waters of those adjacent or downstream states and tribes. It is unacceptable that such neighboring jurisdictions should have to bear	It is impossible to equalize risks among all people in a population. (see above) As most of our criteria have decreased in value the proposed criteria, to the extent they affect water quality, offer more protection going forward. Our criteria are also lower than many of the criteria currently in place for Oregon and lower than those currently in place in Washington.

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		the burden of Idaho's unenthusiastic approach to safeguarding water quality.	When water quality criteria are implemented – e.g. used in a TMDL or NPDES permit – we look at both Idaho water quality standards as well as those of downstream jurisdictions to make sure both will be met.
	19	While we support the inclusion of this clause directing that water quality in downstream waters shall be protected, we believe that the proposed language needs refinement. We advocate that language be added that states that existing and designated uses shall be protected. Doing so more accurately reflects the true extent of what is required to comply with the legal antidegradation requirements of protecting downstream water quality. See proposed additional language inserted into DEQ's proposed rule language below. All waters shall maintain a level of water quality at their pour point into downstream waters that provides for the attainment and maintenance of the water quality standards and protection of existing and designated uses of those downstream waters, including waters of another state of tribe.	The suggested language is not needed as water quality standards include uses, criteria and antidegradation.
	21	The EPA is encouraged by DEQ's inclusion of a downstream protection narrative criterion in the proposed rule, following the language in EPA's "Templates for Narrative Downstream Protection Criteria in State Water Quality Standards" (EPA publication No. 820-F-14-002). However, the EPA's Protection of Downstream Waters in Water Quality Standards: Frequently Asked Questions suggests that states consider a more tailored and specific narrative criterion and/or a numeric criterion in certain situations, such as when more stringent numeric criteria are in place downstream and/or environmental justice issues are relevant. As mentioned above, most of Idaho's waters are in the Columbia River basin and are, therefore, upstream of Washington's and Oregon's portion of the Columbia River. The EPA strongly encourages DEQ to adopt numeric human health criteria (either in addition to or instead of a narrative criterion) that ensure the attainment and maintenance of downstream human health water quality criteria, or to provide additional rationale detailing how use of a narrative downstream protection criterion in combination with Idaho's numeric human health criteria will ensure the attainment and maintenance of downstream human health criteria, consistent with the EPA's regulations at 40 CFR 131.10(b).	We note that EPA itself denied a Sierra Club petition on this matter in the Mississippi River Valley in 2004 (Letter to Maxine I. Lipeles, J.D. dated June 25, 2004) claiming that downstream protection required uniform state standards. EPA's response was basically that different uses and criteria among states is not a contradictory construct. This is perhaps best captured in this quote from EPA's denial: *The federal regulations state, "In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters." 40 C.F.R. §131.10(b). The regulations do not compel states to adopt the same criteria and uses, nor do they suggest that this is the only way a state can meet these requirements. The water quality program is structured to provide states with flexibility to determine the best way to meet their obligations under § 131.10(b).* Also, adopting numeric human health criteria that ensure the attainment and maintenance of downstream water quality standards – if that means identically valued criteria – would be difficult. This is because Washington's human health criteria are in a state of flux. With Oregon, their human health criteria are based on a different set of inputs than are Idaho's current proposal and EPA's national recommendations – for bioaccumulation, relative source contribution, toxicity, body weight, drinking water intake in addition to fish consumption rate. A comparison of actual criteria (rather than just one of the input factors) will reveal some of Idaho's proposed criteria are lower in value than Oregon's, others are higher. This mismatch is likely to always be the case, or at least often so, as adjacent sates update their criteria on different schedules and with different information and policy decisions each time. As EPA itself noted in the Mississippi case above, this mismatch does not prevent meeting the requirements of 40 C.F.R. §131.10(b). Therefore a narrative approach is best.

	22	IACI requests that proposed Section 070.08 be withdrawn for the reason articulated in our letter of August 21, 2015 as well as Clearwater Paper's letter of August 20, 2015. In sum the downstream waters provision does not appear necessary and if it is in the future, it should be subject to a different negotiated rule-making. The provision also introduces a variety of new and undefined concepts that IACI cannot discern their potential impact to this rulemaking or future activities by DEQ and EPA. Illustrative of this uncertainty, does the proposed human health criteria rule comply with this new provision? As noted above, Oregon has adopted human health criteria that are likely an order of magnitude more stringent than DEQ's proposed rule. Many Idaho waters directly or indirectly flow into Oregon waters. In fact, the Snake River forms the border between the two states for hundreds of miles. Does this new provision mean that Idaho waters must meet Oregon's human health criteria? If so, then it appears that DEQ's efforts in relying upon a science-based approach to setting human health criteria has been a wasted effort. We are hopeful that such is not intent of the downstream water provision and that this provision is not abdicating the state of Idaho's sovereignty to establish designated uses and water quality criteria to downstream states or Tribes. However in light of the vague terms used in this provision, we are concerned that third parties may use this provision to suggest such a result. Accordingly we believe DEQ should withdraw this provision and consider addressing this issue in another negotiated rulemaking.	Our assessment is that addressing downstream protection in this rule is a prudent step. We follow EPA's national template language for a narrative criterion, the most flexible way to address the federal requirement for downstream protection. Please see our response to EPA's comment on downstream protection directly above. Downstream protection does mean that the quality of water leaving Idaho must meet downstream state water quality standards; this does not mean that all water within Idaho must meet those downstream state standards. In developing discharge permits we can look at downstream dilution as well as fate and transport to assure we meet downstream standards even though different standards apply locally, at the point of discharge.
	23	We urge IDEQ to withdraw this provision (IDAPA 58.01.02.070.08) for the reasons specified in our letter of August 20, 2015. In short, we believe this provision raises too many questions as to how it will be implemented and may complicate approval of this rule by the EPA in light of conflicting state and tribal criteria in this area.	To the contrary, we feel quite certain failure to address downstream protection would complicate approval of this rule by EPA. Please see our response above to commenter 22, as well as our response to EPA (commenter 21) on this matter.
	24	The protection of downstream water quality provision is but words on a piece of paper. The inadequate WQC proposed by IDEQ in no way will protect downstream waters under the jurisdiction of tribes, Oregon, and Washington. Should the WQC be approved, they will certainly lead to downstream water quality violations and open Idaho up to enforcement actions.	We are disheartened that you are prejudging us. Please see response to commenter 21 above.
Tribal treaty right and designated uses	2	The CWA sets a single threshold for setting water quality standards – protection of the designated uses. If a state's human health criteria do not protect both the right to safe harvest and the tribes that consume it, then EPA has indicated that they have the authority, and the duty to disapprove standards that do not protect tribal rights. Idaho must make appropriate policy choices that will result in a level of water quality that is adequate to allow the tribes to safely consume fish taken pursuant to their treaty-reserved rights.	Human health criteria in Idaho attach to the designated uses of recreation (fish exposure only) and domestic water supply (fish + water exposure). Idaho's secondary recreation use speaks to fishing but not any particular level of harvest such as subsistence or sustenance. None-the-less, and recognizing that every individual has a different risk, the data from recent Idaho and tribal fish consumption surveys coupled with Idaho's risk management decisions provide a high level of protection to even high end / higher risk consumers of fish, including tribal members taking fish pursuant to treaty-reserved rights. Please see also response to commenter 15 under "level of protection / allowable risk."

	15	Our expectation is that IDEQ will propose a FCR that recognizes the importance of our reserved Treaty rights and subsistence lifestyle by reducing the exposure risk to our high end fish consumers to the level of the General Population. … This final draft rule as it stands today will not meet our intensions or expectations for the membership to continue exercising treaty reserved rights or to utilize one of our first foods regularly without the risk of acute or chronic exposure to toxins.	It is not possible equalize exposure between populations with different fish consumption levels. Please see also response to commenters 2, 13, and 14 under level of protection / allowable risk above. We believe the criteria we have proposed are protective of high end consumers as required by the CWA. This includes tribal members taking fish pursuant to treaty reserved rights.
	16	Fishing is an appropriate and commonly-accepted designated use for Clean Water Act (CWA) regulatory purposes. In the Pacific Northwest, fishing by tribal members, based on various treaties with the federal government, and in a manner and to a degree contemplated by those treaties, is a "designated use" long recognized and acknowledged by numerous court decisions, above and beyond the CWA-specific definition. State water quality standards must be developed that protect the tribal fishing use. The Final Draft Rule does not.	Please see response to commenter 2 above. DEQ does not agree that the treaty reserved fishing rights require DEQ to adjust the fish consumption rate or increase the protectiveness of criteria beyond that required by the CWA. Please see response commenter 21 below.
	21	Per EPA's regulations at § 131.11(a), water quality criteria must contain sufficient parameters or constituents to protect the designated use, and for waters with multiple use designations, the criteria must support the most sensitive use. In determining whether WQS comply with the CW A and EPA's regulations, when setting criteria to support the most sensitive fishing designated use in Idaho, it is necessary to consider other applicable laws, including federal treaties. In Idaho, certain tribes hold reserved rights to take fish for subsistence purposes, including treaty-reserved rights to fish at all usual and accustomed fishing grounds and stations and in unoccupied lands of the United States, which in combination appear to cover the majority of waters under state jurisdiction. Many areas where reserved rights are exercised cannot be directly protected or regulated by the tribal governments and, therefore, the responsibility falls to the state and federal governments to ensure their protection. In order to effectuate and harmonize these reserved rights with the CW A, such rights appropriately must be considered when determining which criteria are necessary to adequately protect Idaho's waters used for consumption of fish (designated as Primary or Secondary Contact Recreation, IDAPA 58.01.02.100.02(a)&(b). Protecting Idaho's fishing designated uses necessitates protecting the population exercising those uses. Where a population exercising such uses has a legally protected right to do so under federal law such as a treaty, the criteria protecting such uses must be consistent with such right. Thus, in order to protect the applicable fishing designated uses in areas where such rights apply, as informed by the treaty-reserved right to continue legally protected culturally important subsistence fishing practices, the state must consider the tribal population exercising their reserved fishing rights in Idaho as the target general population for the purposes of deriving criteria that will protect the subsistence fishing use and allow the tribes to harvest and consume fish consistent with their reserved rights. The data used to determine the FCR are critical to deriving criteria that will protect the subsistence fishing use. The data used to determine a FCR must reasonably represent tribal subsistence consumers' practices that reflect consumption unsuppressed by fish availability or concerns about the safety of available fish. Deriving criteria using an unsuppressed FCR furthers the restoration goals of the CWA, and ensures protection of human health as pollutant levels decrease, fish habitats are restored, and fish availability increases. If sufficient data regarding unsuppressed fish consumption levels are unavailable, consultation with tribes is important in deciding which fish consumption data should be used.	EPA asserts that tribal reserved fishing rights must be taken into consideration by DEQ in adopting human health criteria. The relevant treaty language reserves the "right of taking fish at all usual and accustomed places in common with citizens of the territory…" and the right to "hunt on the unoccupied lands of the United States…" which has been interpreted to include fishing on unoccupied lands. The CWA requires States adopt criteria sufficient to protect designated uses. DEQ includes fishing as part of its secondary contact recreation use. (IDAPA 58.01.02.100.02.b.) Therefore, Idaho's human health criteria must ensure a level of water quality that allows the safe consumption of fish taken by recreational fishermen. DEQ agrees that, in order to ensure criteria are sufficient to protect the secondary contact recreation use, DEQ must take into consideration the amount of fish consumed by both the general population in Idaho and any more highly exposed subpopulations, including the consumption of fish by members of Idaho tribes pursuant to tribal fishing rights. DEQ has done exactly that. It has used the data from both the tribal surveys and the survey of the Idaho general population in order to set criteria that protect the general population and members of Idaho tribes taking fish pursuant to treaty fishing rights. EPA also, however, asserts that DEQ is required by the treaties in Idaho to use a fish consumption rate that reflects tribal subsistence consumption unsuppressed by fish availability or concerns about the safety of available fish. DEQ disagrees with this assertion for a number of reasons. First, it is worth noting that EPA has provided absolutely no legal analysis in their comments regarding the tribal treaties to support their position that the treaties in Idaho require DEQ to use an unsuppressed subsistence fish consumption rate. Second, the treaties do not expressly preserve to the tribes a right to a level of water quality, and no court has found that such a right is an implied part of the tribal fishing rights.[2] Third, EPA's argument is based on the proposition that the right to take fish under

		With these principles in mind, the EPA has concerns with whether DEQ's decision to calculate the FCR based only on current consumption of Idaho fish, and to use a mean FCR for high consuming populations, will adequately protect the treaty-reserved subsistence fishing use. First, in calculating the FCR, DEQ has not considered suppression, specifically suppressed consumption amongst tribal populations in Idaho with reserved rights to fish for their subsistence. Current average FCRs for the Nez Perce and Shoshone Bannock tribes are below heritage rates documented for both of these tribes, as well as heritage rates for the Kootenai and Coeur d' Alene tribes, suggesting that current tribal consumption rates could be suppressed. Second, given that tribal consumption rates are likely suppressed, DEQ has not provided adequate justification for how a rate based on the mean FCR for the tribal target general population will adequately protect tribal fish consumers exercising their treaty-reserved rights, including those whose consumption is not suppressed. Finally, as discussed in greater detail above, the omission of anadromous species from the FCR may result in criteria that are not adequately protective of Idaho's designated uses as informed by the reserved fishing rights of tribal consumers.21 Based on local conditions in Idaho, it is particularly appropriate to include anadromous species in the FCR, because it is well documented that a large proportion of fish consumption for the tribal target population to be protected consists of anadromous species, such as salmon. Accordingly, EPA recommends that DEQ select a FCR that reflects the tribal subsistence consumers' unsuppressed fish consumption, including consumption of anadromous fish. If such data are unavailable at this time, the EPA recommends using an upper percentile of consumer only data to account for uncertainty in the unsuppressed consumption rates of tribal consumers within the state and to help ensure that the resulting criteria protect the tribal target general population exercising their treaty-reserved rights. Additionally, government-to-government communications with affected tribes could inform, among other things, which fish consumption data should be used by DEQ.	the treaties includes a right to take the amount of fish that reflects an unsuppressed subsistence level of consumption. The relevant cases do not support this proposition, and in fact, say just the opposite. The U.S. Supreme Court in Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658, 99 S.Ct. 3055 (1979), interpreted the off-reservation right to take fish in common to mean that the tribes have a right to "take a fair share of the available fish." The court explained that a fair share is a maximum of 50% of available fish, that can be reduced depending upon changing circumstances. Importantly, the court specifically refused to adopt the tribe's argument that the treaty guarantees a right to take as much fish as necessary to support their subsistence and commercial needs. In addition, the right was to "available fish" and the right was one that was subject to changing circumstances, rather than a right to take fish in the amounts the tribe once had harvested to support a subsistence lifestyle. Other courts have consistently held that the off-reservation right to take fish in common with others does not include a right to take an amount of fish at a level that existed when the treaty was signed. The Idaho district court in Nez Perce v. Idaho Power Company, 847 F. Supp. 791 (1994) held that the Nez Perce treaty does not provide the Nez Perce Tribe with an absolute right to preservation of the fish runs in the condition existing in 1855, free from environmental damage caused by a changing and developing society. Similarly, the Idaho State District Court in the Snake River Basin Adjudication was called upon to determine whether the off reservation right to take fish included a right to an amount of water necessary to support the right. The court found that the Nez Perce treaty language at issue did not guarantee a predetermined amount of fish, establish a minimum amount of fish, or otherwise require maintenance of the status quo. The right is subject to changing circumstances incurred by settlement and development. In Re SRBA (Nez Perce Instream Flow Claims) Order on Motions for Summary Judgement (November 10, 1999). The 9th Circuit Court of Appeals has also confirmed that the treaty right to take fish at the usual and accustomed places does not entitle the tribes to a particular minimum allocation of fish. U.S. v. Washington, 759 P.2d 1353, 1358-59 (9th Cir. 1985) ("Contrary to certain statements in the district court's opinion, the Supreme Court in Fishing Vessel did not hold that the Tribes were entitled to any particular minimum allocation of fish."); See also, U.S. v. Adair, 723 F.2d 1394 (9th Cir. 1983) (court found that the exclusive right to hunt and fish on the Klamath Tribe reservation included the implied reservation of water rights, but that this was only a right to the water to support hunting and fishing rights as currently exercised and "not as these rights once were exercised by the Tribe in 1864.")[3] In short, the underlying premise of EPA's argument that the treaties preserve a right to take and consume fish at a subsistence rate unsuppressed by fish availability or concerns about the safety of available fish is not supported by the treaty language itself or by relevant case law. Therefore, while DEQ recognizes its obligation under the Clean Water Act to develop criteria that are protective of all

			Idaho citizens, including tribal fish consumers, there is simply no support for EPA's position that DEQ is required by tribal treaty fishing rights to use a subsistence fish consumption rate unsuppressed by availability of fish or concerns regarding the safety of the fish. EPA also asserts that because there are tribal reserved fishing rights DEQ must treat the tribes as the general population of Idaho. Again, EPA provides absolutely no legal support for this position, and there is none. DEQ is promulgating state-wide criteria to protect all citizens of the state, including tribal members. The tribes are in fact subpopulations of the state, and the treaty right to share in available fish with the rest of the population does not somehow convert the tribe into the general population. The situation may be different if DEQ was only adopting criteria for waters within tribal jurisdiction. But, DEQ's criteria apply state-wide, except for those areas of the state within tribal jurisdiction. As a result, DEQ is setting criteria taking into account the tribes' consumption of fish taken from waters within the jurisdiction of Idaho where the tribes share fish with the rest of the state population. Under these circumstances, the tribes are clearly a subpopulation of the entire state, and EPA's position to the contrary has no legal, factual or logical basis. [2] In U.S. v. Gila Valley, 920 F. Supp 1444 (D AZ 1996) a tribe's demand for protection of water quality was at issue. But, this case involved the protection of water under prior appropriation law, and did not involve treaty fishing rights at all. Therefore, it does not provide authority for implying water quality protection based on treaty fishing rights. [3] U.S. v. Washington, 20 F.Supp.3d 1000 (W.D.WA 2013), that is currently on appeal to the 9th circuit, involves whether the treaties require Washington to repair or replace culverts that are preventing the passage of fish. The court in this case, however, did not determine whether the treaties preserve a right to any certain quantity of fish.
	24	To claim that treaty rights are an unresolved issue is preposterous. Treaty rights in Idaho exist and hold the force of law. IDEQ's proposed FCR and WQC are a clear violation of treaty rights. A century's worth of federal court decisions has established beyond dispute that treaty fishing rights are permanent in nature and that they secure for the tribes the right to take all species of fish found throughout their reserved fishing areas for subsistence, ceremonial, and commercial purposes. Tribal treaties are the supreme law of the land, and federal agencies including EPA, must interpret the state's designated uses to include subsistence fishing.	Please see response immediately above.
Idaho-specific / Tribal Bioaccumulation Factors (BAFs)	2	While CRITFC supports DEQ's use of BAFs consistent with EPA's 2015 human health criteria recommendations, Idaho has again chosen to use less protective parameters for tribal populations as compared to the general population in developing their Idaho-specific BAFs.	The BAFs (or BCFs) used in our criteria calculations are those provided by EPA in their 2015 Human Health Criteria update. For BAFs EPA's 2015 update provided 3 different values for each chemical depending on trophic level 2, 3 or 4. Since the NCI method fish consumption rates are not parsed by trophic level in either Idaho or tribal fish consumption results, it was necessary reduce the three BAFs per chemical to a single weighted average BAF per chemical. This weighted averaging was done using the trophic level break down reported in EPA's 2014 national fish consumption survey.
	16	The CTUIR DNR does not agree with Idaho's choice to use less protective parameters for tribal populations as compared to the general population in developing its Idaho-specific Bioaccumulation Factors (BAFs).	We have reverted to using EPA's national default FCR trophic level breakdown to derive a trophic level weighted average BAF from EPA's three trophic level specific

IDEQ used a value of fish intake for the general population that represents the 95th percentile of the general population to determine an Idaho general population BAF, while using a value of fish intake for tribal populations reflecting the mean consumption of tribal members—again, 95th percentile vs. mean; patently unfair on its face. In addition, market and anadromous fish (except for steelhead) were excluded from the evaluation of fish intake.

BAFs. This is described in our TSD as well as each of EPA's chemical specific documents and used where they have relied on BAFs, for example: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OW-2014-0135-0163) , see sections 4.3, 7.1 and 7.2.

22 Uncertainty in the BAF estimate can be of substantial consequence to the final HHWQC. An overestimation of the BAF predicts higher concentrations in fish tissue at a given water concentration resulting in a HHWQC lower than necessary to protect human health at the target risk level specified by the HHWQC. BAFs are species dependent and those species feeding at a higher trophic level (TL) are generally expected to have more bioaccumulation and thus higher chemical concentrations than those feeding at a lower TL. Therefore BAFs are estimated by TL to reduce uncertainty. Based on intake rates of fish species grouped by TL (i.e. TL2, TL3, and TL4), EPA developed an equation to calculate a BAF that is weighted by expected fish intake within each TL. DEQ (2015), using Idaho fish consumption rates by species data available from the fish consumption survey, devised a similar equation for the general population using Idaho specific weights. (The TL for each species of Idaho fish are provided in Appendix A of IDEQ, 2015). DEQ (2015) also developed separate TL weights for the Nez Perce population using information from the Nez Perce tribal survey (Ridolfi, et al. 2015). However, because the dietary recall data were not available to DEQ at the time the TL weights were developed for the Nez Perce tribe, DEQ used data from the food frequency questionnaire (FFQ). The dietary recall data are generally judged to be more accurate for use in the estimation of usual intake and should be used rather than the FFQ data to derive TL weights for the Nez Perce population. Using, the dietary recall data from the tribal survey, Aracdis was able to calculate the percentage of fish consumption within each trophic level and calculated more accurate weights for use in the BAF weighting equation. A summary of the TL weights used by EPA and DEQ as well as the alternate weights calculated for the Nez Perce by Arcadis are presented in the table below.

Table 1

Intake Based Weights for Weighted Average BAF Calculation				
	Weights Presented in DEQ, 2015			Alternate Nez Perce Based on Dietary Recall Survey Data by Arcadis
Trophic Level	EPA Default	DEQ General Population	DEQ Nez Perce	
TL2	36%	9%	19%	5%
TL3	41%	73%	27%	70%
TL4	23%	17%	55%	25%

Higher trophic levels have higher estimated BAFs for most compounds, therefore higher weights within a higher trophic level result in a larger BAF than when weights are higher for lower trophic levels. As shown above the weights used by DEQ for the Nez Perce presume higher consumption of fish in TL4. The weights calculated by Arcadis for the Nez Perce based on the dietary recall data indicate that consumption in TL4 is lower and that the highest consumption is within TL3. Therefore, the weighted BAFs, using the alternate weights for the Nez Perce are generally lower than those reported by DEQ for the Nez Perce. A summary

We agree that a trophic level (TL) breakdown of fish consumption based on dietary recall is preferable to one based on food frequency questions. We are intrigued by your analysis and its finding that the Nez Perce Tribe's TL breakdown is quite similar to the one DEQ derived for the Idaho general population. Had we the time to recalculate criteria we would consider using one TL breakdown to weight the BAF for both populations.

Because we chose to use Nez Perce Group 2 fish and did not have time to determine a trophic level for Nez Perce Group 2 fish, we have used the trophic level breakdown in EPA's national default FCR to weight BAFs.

		of the BAFs presented by IDEQ (Windward, 2015) along with the BAFs calculated using the alternate weights for the Nez Perce based on dietary recall data are presented in Appendix A. As shown in the table, the alternate BAFs for the Nez Perce (based on dietary recall data) are generally lower than those presented by DEQ, (based on FFQ data). Finally, IACI recommends that where data are available, Idaho specific bioaccumulation factors be developed and used to calculate HHWQC.	
Bioaccumulation	11	Prior to this rulemaking, the Department used bioconcentration factors (BCF) in the calculation of HHWQC. The Department is now proposing to use bioaccumulation factors (BAF). Simplot supports the use of BAF instead of BCF. Simplot recommends that the Department, when data is available, calculate BAF based on Idaho specific data. For example, Simplot has done extensive work looking at selenium in the water column, fish tissue and other trophic levels. Simplot plans to submit such data to the Department for consideration in developing an Idaho specific BAF for selenium.	Thank you for supporting use of BAFs. The Department has relied on national data on bioaccumulation provided in EPA's 2015 human health criteria updates, or earlier BCF work where BAFS are not available. We are open to future consideration of Idaho specific information on bioaccumulation rates representative of Idaho waters.
	21	As stated in DEQ's Technical Support Document (TSD) for the human health criteria, DEQ created an Idaho-specific BAF weighting equation using Idaho fish consumption survey data and stated that the approach they used was similar to the framework that EPA used to derive the BAF weighting in the EPA's 2015 final human health criteria recommendations. According to the TSD, DEQ used food frequency data collected for the Idaho general population and dietary recall data for the tribal population. From these data, DEQ developed a trophic level weighted BAF using the following equation: (FCRm x BAFTl2 + FCRm x BAFTl.3 + FCRTL4 x BAFTL4) / (FCRT12 + FCRTL3 + FCRTL4). This approach is appropriate and addresses the EPA's previous concern that Idaho tribal populations consume larger amounts of high trophic level fish relative to the U.S. general population. However, the EPA recommends that DEQ provide more information on the derivation of the trophic level specific FCRs used to compute weighted BAFs.	We don't know what more information we could provide. Please see comment above prepared by ARCADIS and provided by commenter 22.
	22	DEQ is moving towards the use of bioaccumulation factors (BAFs) instead of bioconcentration factors (BCFs). A bioaccumulation factor (BAF) is an estimate of the ratio of the concentration of a chemical in the tissue of an aquatic organism to its concentration in water. IACI supports the use BAFs instead of BCFs, however as noted below, there are a number of technical considerations in using and determining BAFs.	Thank you. Please see our response to your more detailed comments on trophic level weighting of BAF above.
Relative source contribution	12	For example, other commenters have urged IDEQ not to use the EPA default Relative Source Contribution (RSC) factor of 0.2, and they provide information and data specific to Idaho to support those recommendations. … We urge IDEQ to adopt the RSC recommendations and to maintain its methodology for calculating the FCR.	Although DEQ believes there are logical ways to adjust RSC short of describing "central tendencies and high-ends for relevant exposure source pathways" as directed in EPA's Exposure Decision Tree, it was made clear to us that simple adjustments were not likely to be acceptable to EPA. We regret that we did not have sufficient time to develop, seek comment on and incorporate chemical specific RSC's developed according to EPA's decision tree approach beyond those provided by EPA itself.
	17	Finally, we encourage IDEQ to use the best available science for determining Relative Source Contribution (RSC) values, rather than simply relying on EPA's recommended values.	Please see response above.
	21	In June 2015, the EPA published final updated ambient water quality criteria recommendations for the protection of human health for 94 chemical pollutants. These updated recommendations reflect the latest scientific information and EP A policies, including updated body weight, drinking water consumption rate, FCR, bioaccumulation factors, health toxicity values, and relative source contributions (RSCs). The EPA supports DEQ's proposed approach to use RSC values specified in EPA's 2015 final 304(a) human health	While we appreciate your support, we also believe there are simpler logical adjustments that could and should be made to default RSC based on the role of bioaccumulation in magnifying the exposure due to fish consumption.

		criteria recommendations.	
	22	Along with the use of Idaho specific fish consumption survey results (utilizing Idaho fish), IACI recommends that DEQ use specific chemical data (for relative source contribution) and additional Idaho specific for determining bioaccumulation factors.	Please see response to commenter 12 above. Other than for methylmercury, arsenic and selenium, we are unaware of statewide Idaho specific data on bioaccumulation. The methylmercury and arsenic criteria are not being updated, nor does the current arsenic criterion incorporate bioaccumulation. The selenium criterion uses a bioconcentration factor. We believe adjustment of criteria on a site-specific basis is a future possibility, given site-specific data on bioaccumulation.
	22	DEQ used 2015 EPA recommended relative source contribution (RSC) factors; the default factor of 0.2 (20%) was used for most chemicals. IACI recommends that DEQ use a RSC other than 0.2 based on chemical specific information and the rate of fish consumption. The first, and most recognized instance for using a RSC of greater than 20% is when data indicate that the sources of daily exposure to a chemical, other than the sources regulated by a water quality criteria (HHWQC) (i.e., consumption of fish from a local water or consumption of fish from a local water body to which the HHWQC applies) comprise less than 80% of the allowable daily intake.2 When available data indicate exposures from sources other than local waters are a small fraction of the allowable daily exposure, the RSC can be set at a percentage of the allowable daily intake (i.e., reference dose (RfD)) greater than the USEPA default of 20%. For some chemicals, that percentage can be substantially greater than the default of 20%, sometimes exceeding the USEPA maximum default of 80%. The Florida Department of Environmental Protection (FDEP) recently reviewed the literature and developed RSCs for 21 non-carcinogenic compounds that ranged from 0.2 to 1.0.3 Consistent with these recent developments, the California Office of Environmental Health Hazard Assessment (OEHHA) had previously concluded that the default use of an RSC of 20% is unreasonably conservative for most chemicals.4 In fact, for 22 of 57 chemicals, a RSC of greater than 20% was used in the calculation of California Public Health Goals for those chemicals in drinking water. It also bears pointing out that the development of chemical-specific RSCs is not necessarily time or resource intensive and DEQ should undertake developing RSCs for chemicals with available data. Alternatively, given the availability of recently developed chemical-specific RSCs by FDEP, DEQ can also consider using those when developing HHWQC. ARCADIS has derived chemical-specific RSCs for eleven chemicals: acenaphthalene, anthracene, fluoranthene, fluorene, pyrene, 2-chlorophenol, selenium, diethyl phthalate, chloroform, butylbenzyl phthalate and toluene (see Table 2 and Appendix B). IACI recommends that these RSCs be used to derive Idaho human health water quality criteria. The other instance when the RSC can be substantially greater than EPA's default of 20% is when the fish consumption rate assumed by a HHWQC is large and, therefore, comprises a majority of an individual's daily protein intake. For such situations, the use of the 20% default RSC will underestimate exposures from consumption of fish caught from waters to which the HHWQC is applied. In such instances, particularly for chemicals that tend to bioaccumulate in the food chain and for which dietary exposure is assumed to be the dominant exposure pathway, an assumed high fish consumption rate can effectively mean that virtually all of an individual's daily protein intake is comprised of fish from local waters (waters regulated by the	In principal we agree that RSC should be adjusted and appreciate the work ARCADIS has done to inform the matter. Three things hold us back; 1) we believe that adjustment of RSC needs to be done 'across the board', that is, for all non-carcinogens and not just for selected non-carcinogens, 2) that any adjustment needs to be done in the context of the fish consumption rate being used and how that affects the contribution of fish included in 'water sources' relative to fish in other sources, 3) we ran out of time to do more with RSC.

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HHWQC). In such cases, other dietary sources of protein which are also the sources of a bioaccumulative compound in the human food chain, become negligible and are replaced by locally caught fish. When that happens, the RSC can be set at value greater than the USEPA default of 20%, perhaps even close to or equal to 100%.

Table 2
Recommended RSC Factors

	IDEQ Draft RSCs	ARCADIS Proposed RSCs	Idaho Draft HHWQC (ug/L)	Idaho Draft HHWQC Adjusted with ARCADIS RSC (ug/L)
Acenaphthene	0.2	0.99	78	386
Anthracene	0.2	1.00	340	1700
Fluoranthene	0.2	1.00	20	100
Fluorene	0.2	0.99	51	252
Pyrene	0.2	1.00	26	130
2-chlorophenol	0.2	0.91	19	86
Selenium	0.2	0.65	20	65
Diethyl phthalate	0.2	0.97	620	3007
Chloroform	0.2	0.64	39	125
Toluene	0.2	0.31	36	56
Butylbenzyl phthalate	0.2	0.95	0.11	0.54

	23	Please refer to *Attachment C*, which presents an assessment of IDEQ's choices to set more reasonable than "default" RSC's in establishing the HHWQC for non-carcinogens. Clearwater Paper urges IDEQ to use the best available science in setting RSC's that reflect actual (not defaulting to worst case) risks to the citizens of Idaho from drinking untreated surface water and eating local fish.	Please see response above.
Probabilistic Risk Assessment – Additive Toxicity, and criteria calculation	2	Idaho calculated the state's water quality criteria using a probabilistic risk assessment (PRA) approach supplied by ARCADIS. PRA is an alternative to a traditional deterministic method where high-end or maximum values are typically used to calculate criteria. The method has been suggested as an alternative by dischargers because they believe that the deterministic approach can lead to overestimates of risk known as "compounded conservatism". The PRA approach can lead to less stringent standards since variables in the criteria calculations are no longer maximum values. If the PRA approach allows a larger fraction of high-fish consuming individuals to exceed acceptable doses of noncarcinogens or exceed risks of 1 x 10 -6 for carcinogens, then it must be fully evaluated for its use in setting human health criteria before it can be the basis for EPA approval of standards. In the National Toxics Rule, the EPA states: *The importance of the estimated actual risk increases as the degree of conservatism in the selected risk level diminishes."* Stated differently, analyzing and understanding actual risk should be emphasized when a state seeks to make standards less protective. Before the PRA approach should be accepted by EPA for calculating human health criteria, additional review of the actual risks from both the additive and synergistic effects	DEQ has determined to use the deterministic method to calculate its human health criteria. The issue of exposure to multiple toxins exists independent of whether PRA or deterministic methods are used to derive individual chemical specific criteria.

		of toxic compounds that have similar modes of action need to be understood and incorporated into the criteria formulation. When multiple chemicals induce the same effect by similar modes of action, EPA guidance is to assume that the chemicals contribute additively to risk. Evaluating cumulative risks from exposures to multiple chemicals "is especially important in cases where the resulting toxic effect from the mixture has been demonstrated to be greater than the sum of the individual effects". EPA notes that "[c]ertain categories of contaminants, in particular, persistent organic pollutants that share a common mode of action and/or target tissue, are of elevated concern when they co-occur in the fish and drinking water." These risks may be increased further still due to waterborne exposures to carcinogenic chemicals not addressed by the draft criteria, including chemicals in pharmaceuticals, flame retardants, and personal care products. Some flame retardant such as PBDE's are considered possible human carcinogens, although there are no state human health water quality criteria for these chemicals. Diet is a source of the PBDE body burden in humans, and fish have the highest PBDE levels among different types of food." DEQ should balance its PRA approach to countering "compounded conservatism" and fully consider the effects the health effects (both carcinogenic and non-carcinogenic) of exposure to multiple toxic chemicals. Since recommendations from a Scientific Advisory Board will not be available, EPA should also consider these issues before approving the use of PRA for setting human health criteria.	
	7,8	ISWR supports and commends IDEQ for choosing to utilize a probabilistic risk assessment approach in developing Idaho's Human Health Water Quality Criteria. By using the probabilistic approach, IDEQ is better able to develop defensible standards that more closely reflect the population and the Idaho state requirement that IDEQ use the "best available standards" in setting policy.	DEQ has determined to use the deterministic method. While DEQ recognizes the benefits of the PRA approach, DEQ is concerned about EPA's lack of support for this method in determining human health criteria. DEQ agrees that the deterministic approach is believed to compound the conservative nature of the calculation but, DEQ does not believe using this method in conjunction with the other inputs DEQ has chosen, will appreciably affect criteria.
	9	In previous comments, ICIE supported the use of the PRA method as technically sound and used in many research functions. It represents the best science in assessing risk, would represent all Idaho fish consumers, facilitates transparency in this rulemaking, and inherently calculates the risk to all Idahoans. We continue to do so.	Please see response above.
	12	AF&PA supports IDEQ's decision to use a Probabilistic Risk Assessment (PRA) approach for deriving its HHWQC. A PRA-based approach uses distributions of values to represent factors determining exposure and allow for the estimation of a distribution of potential risks. This is preferable to the deterministic method by which EPA derives national criteria because it: is the best science; allows an incorporation of all data for the different inputs that go into calculating HHWQC; avoids compounded conservatism; and, is more transparent, in that it allows the public and stakeholders to see how the range of data affects calculated human health values.	Please see response above.
	16	For the reasons discussed in the CRITFC comments, Idaho should not rely solely or exclusively on a Probabilistic Risk Assessment approach, but should consider and address the overlapping and synergistic health effects of exposure to multiple toxic chemicals.	The issue of additive toxicity is independent of the use of probabilistic risk assessment; it exists in deterministic as well as probabilistic calculations. We acknowledge that exposure to multiple toxins is real, as does EPA is section 2.3 of their 2000 Human Health Criteria Methodology. But there is to this day no solution offered by EPA in the context of setting broadly applied criteria; far too many assumptions would need to me made about the nature, magnitude and number of such exposures across a population over a lifetime.
	22	DEQ is using the probabilistic methodology for Idaho and tribal specific fish consumption rates, Idaho	Please see response to comments above re the PRA. Thank you for your support.

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		specific body weight, and a national distribution for drinking water intake. IACI supports the decisions made by DEQ in the use of a probabilistic methodology for these parameters.	
	23	Using a probabilistic risk assessment approach for HHWQC criteria represents the best available science for setting HHWQC. EPA has endorsed PRA as noted in our comment later dated April 18, 2014, and as shown in *Attachment D*. Even the EPA's website advocates for the use of PRA. *See http://www2.epa.gov/osa/probabilistic-riskassessment-white-paper-and-supporting-documents*. Because it is scientifically based and defensible and would result in an accurate risk assessment outcome, we strongly urge IDEQ to maintain the use of PRA as proposed.	Please see response to commenters above.
	24	Criteria Calculation – USRT has not, and continues to not, support the use of PRA. The use of PRA is untested and leads to WQC that is not protective of tribal members. We are particularly dismayed that IDEQ altered course at the 11th hour and abandoned any use of deterministic criteria selection.	Please see responses to commenters above with respect to PRA. We urge you to look at the actual criteria values and compare them to sister states rather than making judgment based on single input values or policy decisions.
Backsliding	2	DEQ dropped its draft "no backsliding" provision which would have maintained current standards if the calculation of criteria by the PRA methodology was less stringent. The National Discharge Elimination System (NPDES) is designed to ratchet down on pollution discharges overtime, with the goal of eliminating pollution and restoring the nations' waters. Under the NPDES program, pollution effluent limits should be reduced as the regulated facility moves through multiple five-year permit cycles. The CWA expressly prohibits the development of NPDES permit effluent limitations that authorize an increase in the discharge of pollutants, stating, "a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit." This prohibition is known as "anti-backsliding." Although the anti-backsliding provisions of the CWA are subject to some exceptions, such as availability of new data, nothing in the law expressly provides for changes in regulation that result simply from a different calculation methodology.	DEQ used the phrase "no backsliding" to distinguish its proposal at one time to not let Idaho's water quality criteria to become less stringent from "antibackslidiing" as applied in NPDES permits. Basically anitbacksliding as applied to NPDES effluent limits is different than a change in water quality criteria where new science, better understanding of exposure and toxicity, can result in criteria going up or down in value. This is in part evident in the fact that EPA's national human health criteria update resulted in 28% of their new recommended criteria becoming less stringent than previous recommended criteria – although achieving the same target level of protection. This aside, where there effluent limits are based on achieving water quality criteria (WQBELs) antibacksliding may indeed prevent the relaxation of those limits even though the water quality standard has changed. However, the rules regarding NPDES permits do allow exceptions to antibacksliding, see section 7.2.1.3 of EPA's NPDES Permit Writer's Manual: (http://water.epa.gov/polwaste/npdes/basics/upload/pwm_chapt_07.pdf)
	3	The CTUIR DNR is disappointed that you reversed your earlier decision, and have chosen to allow "backsliding," or a weakening of standards, when your calculations using the PRA methodology yielded a less stringent result. Weakened standards will do nothing to remedy our many waterways that already have well-documented pollution issues. We urge Idaho to work collaboratively with other states and tribes in the region to help solve the pervasive water quality problems that plague so many of our rivers and streams that are our shared natural heritage. Not weakening existing standards would be a start.	The decision to allow criteria to rise or fall was a matter of applying best science. It has nothing to do with use of probabilistic risk assessment to derive criteria, and is still the case now that we have gone with deterministic calculations for our proposed criteria. Please see also response directly above.
	24	No Backsliding – We have made ourselves clear on this policy decision and strongly disagree with IDEQ's last minute decision to abandon this principle.	The matter of not hanging onto older criteria is because they were based on outdated input values for bioaccumulation, relative source contribution, toxicity, body weight, and drinking water intake in addition to fish consumption rate. It was hard to justify not using better, more recent scientific information.
Process, best science and	3	State standards must, by law and regulation, reflect the best available science. But the standards development process also incorporates numerous state policy and risk decisions. This is where Idaho has	Thank you for acknowledging Idaho's efforts to do its best to integrate the science of human health effects with public policy to derive protective criteria.

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policy decisions		demonstrated a sound and thoughtful process for evaluating what policy and risk decisions will work best for the state and be consistent with the CW A. Idaho has done its homework to consider the current science and EPA guidance and has made the tough policy and risk decisions to develop a rule that it believes protects human health for the citizens of the state and Native American tribes within the state - responsibilities that lie squarely within Idaho's purview.	
	11	Establishing the best data regarding Idaho specific fish consumption rates (FCR) is crucial for having water quality rules based on the most appropriate scientific information. There have been numerous studies determining FCR. Most of these studies are focused on sub populations (Native Americans), involve the consumption of marine and/or anadromous fish or lack information that would be helpful to determining fish consumption rates for Idaho residents. For example, the Columbia River Inter-Tribal Fish Commission 1994 report does not provide Idaho specific consumption information [see attachment for a review of Northwest FCR studies]. The work done by DEQ establishing an Idaho specific fish consumption survey has provided the best information upon which to help base Idaho water quality standards.	Thank you. We believe the combined work done by Idaho, the Nez Perce and the Shoshone-Bannock Tribes has provided us with excellent local information on fish consumption in Idaho, the best available.
	22	DEQ initiated this rulemaking with the approach of collecting Idaho-specific data and applying the best available science in determining new human health criteria. As described in the following comments, we believe the use of the Idaho fish consumption survey data in a probabilistic risk assessment methodology, adjusted RSC factors and Idaho specific BAF will provide the "sound science" to develop the new criteria.	In principal we agree, and appreciate your acknowledgement of our effort. While we would like to have done more with regard to relative source contribution and bioaccumulation, our resources and schedule did not allow this.
	23	IDEQ's use of a state-based fish consumption survey, correction of the data used in the analysis for fish not found in Idaho waters or the waters of nearby states, assumption of minimal anadromous fish and use of a probabilistic risk assessment approach are commendable and scientifically sound. The demand by some to include all market and anadromous fish in Idaho appears to be motivated by factors other than science or human health concerns for Idahoans. Furthermore, it is not based on the data gathered via the Idaho fish consumption survey. We strongly advocate for a science-based outcome on these issues.	Although there is more to criteria setting than just science – also science policy, such as use of toxicity uncertainty factors, and straight up policy, such as acceptable risk – we appreciate the endorsement of science based outcomes.
Public participation / Open process	5	NWFPA appreciates the process that DEQ has provided for extensive participation by interested parties in this rulemaking.	Thank you for saying so.
	6	The Association of Idaho Cities (AIC) has been a participant in all of the Idaho Fish Consumption Rate (FCR) rulemaking meetings and observes that the rulemaking process was robust, science and data based, consistent with EPA guidance, and transparent. AIC commends the IDEQ for conducting the rulemaking in an open, inclusive, transparent, scientifically rigorous, and well documented process.	Thank you for acknowledging our efforts. DEQ has worked hard to make this update of Idaho's human health water quality criteria an open and transparent process and believe as well that we have closely followed EPA's national *guidance*.
	9	We applaud DEQ's efforts to include a wide variety of stakeholders in the effort to review and update Idaho's water quality standards. The use of the best Idaho-based science in completing the review of Idaho's fish consumption and subsequent promulgation of new water quality standards was vital because of the potential impacts on the citizens and the economy of the state.	Thank you.
	22	Determining human health water quality criteria is a complex, technical matter. DEQ has approached this undertaking in a very systematic, technically based manner. The fish consumption survey that DEQ undertook has provided very valuable information for the foundation of this rule and is important for the protection of public health of Idaho's citizens. …	Thank you.

		As stated in earlier comments, IACI commends DEQ for the significant work done in this rulemaking and the opportunity that has been provided to stakeholders to participate in this process.	
210.03, Mixing Zones	1	The proposed rule includes provisions for mixing zones at section 210.03. Mixing zones are an important component for the implementation of the human health water quality criteria. For some pollutants, significant reductions of the pollutant concentration occur due to natural treatment mechanism. Use of a mixing zone for these pollutants provides an important implementation element necessary to appropriately account for pollutant behavior in the environment. AIC supports the inclusion of the mixing zone language at section 210.03 of the proposed rule.	Thank you for your support. We too see mixing zones as an important component of implementing any surface water quality criterion in a discharge permit.
	19	210.03.b. Upon review of this section, it appears that DEQ is proposing language that would allow the exceedance of water quality criteria in streams during periods of low flow. What is the justification for this provision? Periods of extreme low flow are inherently stressful for aquatic life. DEQ's provision to allow WQS to be exceeded during periods of low flow is the exact opposite of what should be happening. Allowing increased concentrations of pollutants during periods of low flow is likely to increase the detrimental impacts of these pollutants.	Low design flows are not new. They correspond with the frequency component of criteria. Specifying a design flow is necessary to develop water quality based effluent limits. By choosing a very low, rare instream flow condition, e.g. 7Q10 For aquatic life criteria, we can assure that while criteria could be exceeded under those rare flow conditions (assuming maximum effluent discharge and quality co-occur), the exceedance will be very infrequent, and very small if it does occur. This thus assures protection of uses.
400.06, Intake credits	7	The proposed rule includes provision for intake credits at section 400.06. Intake credits are an important component of the implementation of the human health water quality criteria. For some pollutants, intake credits will be a very important element of implementation because the source waters contain pollutants at elevated levels (e.g. background pollutant levels not the result of anthropogenic activities). AIC recognizes that Intake Credits will likely be used infrequently; however, in the circumstances where background is elevated, intake credits are an important tool. AIC supports the inclusion intake credit language at section 400.06 of the proposed rule	Thank you for your support. We too see intake credits as an important and reasonable component of implementing any surface water quality criterion in a discharge permit. Intake credits are likely to be especially important in dealing with naturally occurring pollutants like metals, and criteria that in some situations will be below background levels.
Suppression	9	Finally, the concept of "suppression" was thoroughly discussed and we support DEQ's decision not to include "heritage" or "suppression" rates. A review of the available information showed that it had not gone through a rigorous scientific analysis. Use of such information is too speculative and is not required under the Clean Water Act.	We agree that estimation of suppressed rates of fish consumption does not lend itself to the same degree of rigor as estimation of current fish consumption rates. We also agree that the CWA does not require DEQ to use an unsuppressed fish consumption rate. See response to commenter 19 below.
	19	DEQ has decided to not integrate suppression into its determination of a FCR. Establishing the appropriate fish consumption rate is important because Idaho will use this information to establish certain water quality standards. If Idaho underestimates the fish consumption rate then the DEQ will establish water quality standards that are not protective of human health. DEQ should identify a fish consumption rate that reflects the fact that fish consumption is currently being 'suppressed.' DEQ's proposes fish consumption rate should be inflated to account for this suppression. For the purposes of this discussion, we are considering that a suppressing effect occurs when a population, or a subset of the population, experiences a reduction in the amount of fish that they consume; and that this reduction in consumption occurs as a result of some exterior or artificial force beyond the control of the consumer and counter to the wishes of the consumer. There are two primary means of suppressing fish consumption that warrant consideration here. First, suppression based on contamination of the fishery. Second, suppression based on the lack of availability of fish to consume.	The CWA does not require a state to use an unsuppressed fish consumption rate. First, there is no language in the CWA or the federal regulations that addresses the concept of suppression. Second, the express language of the CWA requires states designate uses and adopt criteria to protect those uses. The CWA leaves it up to States to determine appropriate uses, as long as the States designate attainable fishable/swimmable uses. DEQ has adopted a recreational use that requires water quality appropriate for recreation, including fishing, on or about the water. This use has been approved by EPA. DEQ has not designated a traditional subsistence use or some other kind of use that suggests an intent to restore and protect a level of fish harvest that existed historically before dams and other factors restricted the availability of fish. Criteria that ensures water quality sufficient to protect recreational fishing given actual consumption patterns is clearly protective of Idaho's designated use as required by the CWA.

		… Numerous resident fisheries have been determined to be have elevated levels of certain pollutants, especially mercury. Contaminant levels are such that the State has issued a Statewide Fish Consumption Advisory for all bass (largemouth and smallmouth) caught in Idaho and Fish Consumption Advisories for certain other species of fish caught in Priest Lake, Lake Pend Oreille, Lake Coeur d'Alene, Hells Canyon Reservoir, Payette Lake, Brownlee Reservoir, Payette River, Boise River Lake Lowell, Jordan Creek, CJ Strike Reservoir, Grasmere Reservoir, Shoofly Reservoir. Salmon Falls Creek Reservoir, Oakley Reservoir, Weston Reservoir, Bear River, Glendale Reservoir, Chesterfield Reservoir, Portneuf River, American Falls Reservoir, and the South Fork of the Snake River.2 As you can see, these Fish Consumption Advisories are distributed across the entire state and encompass some of Idaho's most popular recreational fishing areas. … Idahoans who abide by the State's fish consumption advisories are suppressing their fish consumption, upon the advice of the State, in order to protect their health. … To avoid this 'downward spiral' the DEQ must take the necessary steps to ensure that the baseline fish consumption rate that is developed takes into consideration the fish consumption suppression that is occurring. Merely relying on the current, reported fish consumption levels recorded via surveys will not accurately capture the fish consumption rate that the DEQ should utilize when setting water quality standards.	Third, the CWA regulations provide that States must use 304(a) guidance, modified 304(a) guidance or other scientifically defensible methods. EPA's 304(a) recommended criteria are based upon fish consumption surveys that reflect actual consumption patterns and do not take into account suppression. The 304(a) recommended human health criteria for toxic pollutants is based upon the 2000 Methodology, and it also includes nothing about suppression. Fourth, EPA has not clearly articulated what is meant by an unsuppressed fish consumption rate, which would force DEQ to guess on what that number would be. Fifth, EPA itself has stated that adopting criteria for a traditional subsistence lifestyle is something more than the CWA requires .When EPA recently approved of the Spokane Tribe of Indians toxic pollutant criteria to protect the Tribes' traditional subsistence lifestyle, EPA considered the adoption of criteria to protect a traditional subsistence lifestyle to be more stringent than required by the CWA, and therefore, reviewed the WQS using a different standard of review. Technical Support Document for Action on the Revised Surface Water Quality Standards of the Spokane Tribes of Indians (December 11, 2013) at page20-22. Sixth, it is inconsistent with the CWA for States to adopt water quality criteria taking into account suppression because suppression due to availability of fish is not caused by inadequate human health criteria, nor can it be corrected by assuming some higher consumption rate and thus lowering human health criteria. Mercury is an interesting example to consider for it is largely a problem of airborne mercury depositing onto the landscape and into water bodies; a source that water quality criteria cannot control. It is worth noting that lower human health criteria would not reduce fish consumption advisories. This is because those advisories in Idaho are arrived at independent of water quality criteria. More importantly, the human health concerns addressed by Idaho fish consumption advisories are, and would continue to be, addressed by those advisories. This is the case regardless of the human heath water quality criteria, but especially where criteria may be exceeded. Finally, the current or proposed water quality criteria are not locked in forever. Within the past decade we are on now our third iteration of fish consumption rates and human health criteria. During this time criteria have mostly gone down and fish consumption has risen or remained steady. We find no evidence of a 'downward spiral' unfolding. It may be odd to consider, but if advisories were based on the human health criteria then lower criteria, at least in the short run, should lead to more fish consumption advisories, more suppression, not less.

	24	IDEQ's adamant refusal to consider suppression is inconsistent with the ultimate goal of the Clean Water Act, which is the restoration of U.S. waters. It would have also lead to more protective criteria, not less protective criteria. There certainly is irony that IDEQ dismisses the "downward spiral" premise and yet, IDEQ is now proposing that some WQC will be less protective moving forward, which will lead to diminished water quality and less fish consumption.	DEQ disagrees that the CWA requires States to take suppression into account. While some of our proposed criteria are higher in value than the criteria they are to replace, this is largely because of better understanding of toxicity. It cannot be said that such criteria changes provide less protection but rather more precisely provide the intended level of protection.
Ability to achieve criteria / Implementation tools	11	In regards to establishing appropriate Idaho water quality criteria, Simplot recommends that the Department conducts further studies looking at PBT's in Idaho waters including (but not limited to) chemicals such as arsenic, mercury and PCBs. Such chemicals have low toxicity threshold values and thus, depending on the factors used in calculating HHWQC, can have very low criteria. The result is criteria that are below background concentrations and or are not achievable. This issue is of the utmost importance to the regulated community (including Idaho residents) as certain of these chemicals exist naturally in Idaho (arsenic being an example), may primarily be a legacy contaminant (such as PCBs) or due to air deposition (which is primary source today of mercury addition to Idaho waters). This issue is discussed in a paper by Judd (2015).	The Department is keenly aware that some proposed criteria may be unachievable, especially in the near term., and possibly even in the long term when it comes to naturally occurring metals such as mercury and arsenic. We also recognize that effluent limitation is not the most efficient way to reduce legacy contaminants, particularly those such as PCBs which have been banned. Nor are water quality criteria effective in reducing mercury that is largely non-water in origin. To deal with these problem contaminants / criteria we have implementation tools; variance and compliance schedules already in rule, and the addition of provision for intake credits in the current rule. We also note that Idaho has not at this time proposed to update it mercury or arsenic criteria for protection of human health.
Consistency with CWA	13	The proposed changes to water quality standards proposed by IDEQ are alarming in that they are inconsistent with the goals of the Clean Water Act of achieving waters that are fishable and swimmable for the public.	Idaho's proposal is well within the guidance provided by EPA, will provide for waters that are fishable.
Stringency / purpose of proposed criteria	15	The Tribes cannot support a final draft FCR that will allow for WQC to become less protective, which will further suppress fish populations by allowing for additional pollution and contributing to the downward spiral of water quality. … According to Idaho's 2012 Integrated Report to the Environmental Protection Agency, 27.9% of the IDEQ sampled stream miles were classified as in poor condition, not fully supporting cold water aquatic life, with the lowest proportion of stream lengths classified as good found in the Pocatello Region. The purpose of the Clean Water Act is to restore degraded waters, not to allow for the back slide of WQC.	Criteria values depend on more than just the FCR (see response to commenter 5 under topic "level of protection / allowable risk" above). About 60% of Idaho's proposed human health criteria are lower in value than their current (2006) values. These are human health criteria, not aquatic life criteria. Human health criteria are based on protecting human health, while aquatic life criteria are for protecting aquatic life. Almost all the impaired waters in Idaho's 2012 IR are impaired for aquatic life unrelated to human health criteria. Within the impairments to aquatic life, most of those are not due to exceedance of any toxics criterion, rather stressors such as sediment or temperature, or direct biological assessment which takes into account factors such as habitat quality for which there are no water quality criteria. The CWA does not prohibit water quality criteria from increasing in value; in EPA's 2015 national update of human health criteria 28% of the criteria became less stringent.

	23	In the proposed rule, IDEQ has applied certain risk policy decisions in setting the proposed criteria that appear contrary to the spirit if not the specific intent of state law. Idaho Code 39-3602 prohibits IDEQ from adopting water quality standards that "impose requirements" beyond the minimum requirements of the CWA. Additionally, Idaho Code 39-107D requires IDEQ to specifically identify those provisions in proposed rules that are "broader in scope or more stringent than" the requirements under the CWA. We believe that these two provisions explicitly or implicitly create a directive to IDEQ to exercise whatever flexibility is afforded the state under the CWA when promulgating water quality standards to avoid overregulation of Idaho citizens.	DEQ disagrees that the proposed criteria are more stringent than or broader in scope than federal law or regulations. DEQ complied and will continue to comply with 39-107D by clearly identifying that the proposed rule is not more stringent than or broader in scope than federal law or regulations, and does not regulate an activity not regulated by the federal government.
BAF for pentachlorophenol (PCP)	18	Specifically, EPA used a log K_{ow} of 5.12 as the denominator in the equation for the Food Chain Multiplication (FCM) factors in the model used to derive the BAFs for each of the three tropic values. This log K_{ow} is incorrect as the log K_{ow} for PCP is pH dependent. The correct log K_{ow} at environmentally relevant pH is no higher than 3.69 and this value should have been used in the BAF calculation. A log K_{ow} of less than 4.0 would result in a FCM of 1.0 rather than the higher FCM used by U.S. EPA in deriving the BAFs for PCP. We urge the Idaho Department of Environmental Quality to rerun the modeling used to derive the BAFs for PCP with the correct log K_{ow} as Idaho cannot simply adopt U.S. EPA's calculations in its rulemaking without independently assuring the correctness of those calculations. We urge the Idaho DEQ to rerun the modeling used to derive the BAFs for PCP with the correct log K_{ow} as Idaho cannot simply adopt U.S. EPA's calculations in its rulemaking without independently assuring the correctness of those calculations.	This comment appears to take issue with EPA's derivation of their national BAF values and thus should be directed to EPA. DEQ is not in a position to rerun EPA's modeling of BAF.
210.05.b.ii	19	We believe that DEQ should state what fish consumption rate is to be utilized to derive water quality criteria, rather than just reference that a fish consumption rate that is representative will be utilized. This level of vagueness is inappropriate in Rules. We are concerned that this section's proposed use of a mean adult body weight value may place children (who weigh less than the mean adult body weight) at greater risk. DEQ should ensure that its criteria are protective of children because the implications of over exposure to children may be direr and longer lasting than the implications of adult exposure. The average Idaho household has just over two children in the home. To protect Idaho children, DEQ should utilize a mean child weight when calculating water quality criteria.	DEQ will put the formula it uses to calculate criteria in section 210 in the rule. However, some factors are chemical specific, and it would be impossible to include all such information in the rule. Also this section of the rule speaks to development of criteria for chemicals not in the table of toxics criteria. The input parameters for the criteria in the table are fully describes in the Technical Support Document referenced in footnote c.
	21	The EPA is concerned that this provision lacks specificity with regard to a fish consumption rate and the target population to be protected that will be used to derive numeric human health criteria in the future, when numeric criteria are not identified in the toxics table. It would seem reasonable to specify an appropriate fish consumption rate as well as the target population and percentile of the target population that would be used to estimate a fish consumption rate consistent with how Idaho's numeric criteria in the table at Section 210 were derived. For example, the language in b.ii refers to using a fish consumption rate that is representative of the population to be protected. The EPA suggests DEQ include specific language identifying the population to be protected consistent with EPA's previous comments.	DEQ will put the formula it uses to calculate criteria in the rule. But, the degree of specificity requested would be difficult to provide in that we do not know what new information the future may bring. We might be able to specify a percentile, i.e. an upper percentile of the general population so long as the mean of a target high end consuming population is also adequately protected, but to specify a target population seems presumptuous given recent history.
Treatment of the Tail	19	In both the WindWard Report generated for DEQ and DEQ's 'Idaho Human Health Criteria: Technical Support Document,' it is reported that certain statistical methods applied to the upper end distribution tail (95th percentile to 100th percentile) of the Nez Perce Tribe data result in a mean value of 19.2 g/day. DEQ has not explained why it chose to use 16.1 g/day instead of the more protective 19.2.	While we are confident that the distribution used in the probabilistic risk assessment is appropriate for describing risk up to the 95th %tile this is no longer material as DEQ has determined to use the deterministic method to calculate its human health criteria.

Fish Consumption Surveys and Data Use	19	As was discussed in great detail at a rulemaking meeting, we do not support DEQ's utilization of only certain aspects of the Tribal data. The Tribes conducted surveys of their members to develop information to aid in the calculation of fish consumption rates. DEQ appears to be dissatisfied with the high fish consumption rate that the Tribes calculated. This dissatisfaction appears to have lead the State to cherry pick certain data out of the Tribal data and then to use this data to develop a fish consumption rate that is significantly different than the rate that the Tribe calculated. This repurposing of Tribal data is inappropriate and at a minimum violates the understanding of how this data was to be used. We ask DEQ to respect the Tribes' wishes with regard to how the State utilizes Tribal data.	DEQ is using the tribal group 2 fish.
	21	Another concern is development of an appropriate tribal fish consumption distribution for PRA. The National Cancer Institute (NCI) method cannot be used to characterize consumption of a particular grouping of fish (e.g., fish caught in Idaho waters) if the data necessary for the method are not available. Idaho has used tribal Food Frequency Questionnaire (FFQ) and NCI data in an attempt to develop "NCI-like" estimates of average tribal consumption of fish caught in Idaho waters. As previously noted, DEQ should include market fish, including anadromous species, in the FCR used to set Idaho's AWQC. The EPA also has methodological concerns about using FFQ and NCI data to derive ''NCI-like'' FCR statistics based on Westat's review of the PRA approach (see attached Westat memoranda). Thus, the EPA recommends that the NCI group 2 (i.e., anadromous, near coastal and inland fish and shellfish) FCR data for the Nez Perce Tribe be used to develop statistics representing current fish consumption.	Tribal 'Group 2' fish, which includes salmon and estuarine species and our 'Idaho Fish' group are clearly much different. So this appears to us to be a comment about included fish rather than a suggestion for an improved adjustment to make the data we were provided more comparable to that generated by Idaho. Please see response to comments above regarding included fish.

	22	As described earlier, DEQ recently completed a state-wide survey on fish consumption in Idaho (NWRG 2015). National Cancer Institute (NCI)-adjusted usual intake distributions for fish consumption, as reported by Buckman et al. (2015), were used to develop FCR distributions for the general population of Idaho. DEQ chose to base its draft HHWQC on consumption of resident freshwater fish, referred to as Idaho Fish. EPA in collaboration with the Nez Perce and Shoshone-Bannock Tribes, recently completed a survey of tribal fish consumption (Ridolfi and Pacific Market Research 2015). Similar methods were used to survey both tribes, and NCI modelling was conducted using data from both tribes with a tribal identifier used as a covariate in the modelling. Information from this survey was used by IDEQ to develop FCR distributions for the Nez Perce tribal population of Idaho. The Nez Perce fish consumption survey data were reported based on different species groupings than the state-wide Idaho fish consumption survey. Arcadis followed the process outlined by DEQ (2015) to derive an adjustment factor using the Nez Perce dietary recall data to calculate consumption of "Idaho Fish" (known as a Group 2 adjustment factor). The calculations were conducted separately for each of the two dietary recalls because there were some missing responses for the second recall. The NCI methodology for estimating usual intake distributions for fish consumption rely on the dietary recall data, and therefore deriving a Group 2 adjustment factor from these data is more appropriate than relying on the FFQ data. The mean adjustment factor for the two recall events is 7.04%. Arcadis applied the alternate adjustment factor to the mean and each fifth percentile of the empirical distribution of Nez Perce Group 2 fish consumption to derive an alternate estimated distribution of Nez Perce Idaho fish consumption. … In lieu of the discrete distributions used by the draft HHWQC that overestimate the arithmetic mean of the empirical FCR data substantially and which require interpolation between existing percentiles with no basis to determine if the interpolation model is correct, Arcadis recommends that DEQ use continuous theoretical curves to model FCR distributions in @Risk when deriving probabilistic HHWQC. This approach, as described in detail in Appendix C, results in theoretical distributions that fit the individual percentiles of the empirical distributions as well as DEQ's discrete distribution, but provide a much closer fit to the arithmetic mean FCRs. It is crucial that both of these statistics be accurately represented when developing distributions to derive probabilistic HHWQC so that risk managers can knowledgeably and appropriately manage risk for the average member of the population as well as any given percentile.	We appreciate the great amount of work you have put into the finer details of the recent fish consumption survey results, the adjustment to make them comparable, and adjustments to improve their utility for probabilistic risk assessment. At this time we have no ability to incorporate your suggestions.
	23	As noted above *Attachment A* describes a statistically necessary adjustment to the tribal fish consumption data set used by DEQ in setting HHWQC. This data only became available from the EPA last week but should be reflected in the final HHWQC criteria that IDEQ adopts and proposes for approval by the IDEQ board and Idaho Legislature. Some of the HHWQC as proposed are now inconsistent with IDEQ's stated risk policy choices.	Please see response above.
210.03.d.ii Use of annual harmonic mean for human health criteria compliance	21	This provision provides a frequency and duration for human health criteria that are not to be exceeded based on an annual harmonic mean. EPA understands DEQ is attempting to clarify the frequency and duration for the state's human health criteria and is supportive of that effort. EPA's 304(a) recommendations for human health criteria are based on long-term average exposure over a lifetime (70 years). Idaho's proposed duration of one year is protective because it represents long-term or chronic exposure but within a reasonable timescale for the purposes of regularly assessing attainment of the criteria. However, the harmonic mean is an inappropriate measure of central tendency in this context, because it is likely to under-represent the presence of pollutants in ambient water. Harmonic means are an appropriate measure of	We appreciate EPA's recognition of the value of filling in a gap, not leaving this un addressed. We consulted with EPA in early 2014 when we were confronted with the rare occasion of how to compare multiple measurements of a concentration to a human health criterion. We are aware that harmonic means are most appropriate to averaging rates and note that while the criteria in water are purely concentrations they are derived based on bioaccumulation rates that lead to

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		central tendency when evaluating rates with varying denominators, such as flows or speeds. However, for measures of varying mass per volume, such as concentrations of contaminants in ambient water, the arithmetic (for skewed datasets) or the geometric mean is the more appropriate measure of central tendency. EPA recommends that DEQ delete reference to the harmonic mean and, instead, insert arithmetic mean.	concentrations in fish that create the exposure of concern. This leads us to believe harmonic means are appropriate for water column measurements and that EPA's suggestion of an arithmetic, or geometric mean would better for direct fish tissue measurements.
400.06, Intake Credits	9	This provision refers to the Idaho Pollutant Discharge Elimination System Program (IPDES) rules and is not a water quality standard. However, in EPA's October 2, 2015 letter from Michael Lidgard to Paula Wilson, EPA provided comments on IDAPA 58.01.25 regarding the proposed intake credit rule language as proposed in the IPDES rules. The EPA is continuing to coordinate with DEQ's IPDES program and has recommended that, if DEQ intends to adopt an intake credit provision into the IPDES rules, it be consistent with the Great Lakes Initiative (GLI). Another option is for DEQ to consider Oregon's intake credit provision rule language, as that language is most similar to the GLI and was approved by EPA.	We agree this is not a water quality standard. This is simply an authorizing provision to clearly allow use of intake credits in applying water quality criteria in effluent limitations, referring to the IPDES regulations for details on how that is to be done.

References:

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