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Idaho Conservation League

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May 22, 2015

Paula Wilson
DEQ State Office
Attorney General's Office
1410 N. Hilton
Boise, ID 83706

Submitted via email: paula.wilson@deq.idaho.gov

Re: Docket No. 58-0102-1201- Fish Consumption Rate and Human Health Water Quality Criteria – Response to DEQ Recommendations on Criteria Calculations

Dear Ms. Wilson;

Since 1973, the Idaho Conservation League (ICL) has been Idaho's voice for clean water, clean air and wilderness—values that are the foundation for Idaho's extraordinary quality of life. The Idaho Conservation League works to protect these values through public education, outreach, advocacy and policy development. As Idaho's largest state-based conservation organization, we represent over 25,000 supporters, many of whom have a deep personal interest in protecting Idaho's water quality, fisheries and the health of Idaho residents.

Our attached comments are presented in the order in which these topics are covered in DEQ's April 21st recommendations.

Please contact me if you have any questions at 208-345-6933 x 24 or jhayes@idahoconservation.org

Sincerely,

Justin Hayes
Program Director

Consumers/non-Consumers

We support the DEQ's decision to only include data from fish consumers in the calculation of fish consumption values. To do otherwise would result in the development of water quality criteria that would not be protective of those who actually eat fish and are thus at risk. This is so because inclusion of data from non-consumers – i.e. 0 g/day – will result in calculating community fish consumption values that underreport the consumption rates of actual fish consumers.

Everyone or Only High Consumers

DEQ's presentation states DEQ's recommendation is: "Evaluate range of exposure/risk in both the general population and higher consuming subpopulations." It is not clear to us exactly what DEQ's recommendation means.

As the DEQ proceeds, we believe that it is critical that those people (whether recognized as formal subgroups or not) who consume high levels of fish must be protected.

Deterministic or Probabilistic

DEQ's recommendation to utilize a probabilistic risk assessment in addition to deterministic calculation to inform criteria seems like an acceptable effort to capture the benefits of both approaches. However, at this time the DEQ has not outlined how it will integrate these two approaches. We urge the DEQ to further develop this concept and share it with the rulemaking participants before finalizing this decision.

Include or Exclude 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 accustomed 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.

Include or Exclude 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.

We urge DEQ to ensure that the consumption of anadromous fish should be included at full value in the development of an Idaho fish consumption rate.

Our decision to support the full 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. The duration of Idaho 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 develop a one size fits all approach other than full inclusion.

Another factor in our conclusion is our belief that Idaho should develop policies that complement Oregon and Washington. Idaho fish – both anadromous and resident fish – spend time in Oregon and Washington waters and Idaho waters affect Oregon and Washington fish. Thus we feel that, to the degree possible, all three States should attempt to harmonize their water quality standards and the policies that they follow in setting their respective fish consumption rates.

Another part of our decision on this issue has to do with the fact Idaho has made no attempt to differentiate between various species of resident fish with regard to the potential contaminate load that they may carry and the human health implications of eating one species verses another. This is to say that Idaho is not proposing to treat the consumption of large walleye different than the consumption of a 12 inch, planted rainbow trout.

An Idahoan who locally harvests and consumes 4 meals per week of walleye is exposed to a very different health risk than an angler that eats 4 meals per week of small rainbow trout; yet DEQ is not going to make any attempt to pro-rate or discount the consumption of these fish. All resident fish are going to be treated identically when DEQ calculates Idaho's fish consumption rate. So why shouldn't a steelhead caught in Idaho be treated the same way? Some portion of this fish's body burden of pollutants is from its time in Idaho – though we don't really know what portion. Does this fish have a high body burden of pollutants or a low burden? Does it matter? If it does matter, then why isn't DEQ investigating the pollutant levels in all fish caught in Idaho and using this information to discount or multiply their rate of consumption?

And finally, if Idahoans are consuming anadromous 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 consumers pollutant burden in a way that results in physical harm to the consumer. Idaho anglers should not have to choose between eating anadromous fish (or market fish) and eating resident fish; Idaho's standards should be set such that a consumer can consume fish from all sources and do so at the levels that they are accustomed to. In order to do so safely, Idaho standards should be set in a manner that accounts for the consumption of resident fish, anadromous fish and market fish.

Risk and Human Health Protection

We support DEQ's recommendation to set criteria for carcinogens to achieve a 10^{-6} incremental increase in cancer risk at the mean consumption rate for high consuming subpopulations. However, we are concerned that certain high consuming subpopulations will be placed at an unacceptable risk if DEQ provides this level of protection to the 95th percentile of the overall population. We advocate that DEQ instead provides this level of protection to the 95th percentile of the mean of the high consumer subpopulation.

RSC

We believe that the DEQ should use EPA's default RSC value of 2.0.

BAF/BCF

We support DEQ's recommendation to utilize bio-accumulation factors instead of bio-concentration factors.

Body Weight and Drinking Water Intake

We are concerned that the DEQ'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.

Further, to the degree that DEQ's survey results are relying on the responses from a single adult in a household to develop notions of the eating habits of all of the members of the household, it is important that DEQ factor in that there are on average just over 2 children in Idaho households that have children. And, that there is an average of just over 1 child in *all* Idaho households. Thus, it is important to consider the health implications of fish consumption on children.

Protectiveness of Criteria

We support DEQ's recommendation that Idaho criteria not be allowed to become less protective going forward.

Issue not resolved -- Suppression

While DEQ has presented a number of recommendations on a variety of the issues that were discussed in the rulemaking, the DEQ has not yet revealed its recommendation on the topic of 'suppression.'

Establishing the appropriate fish consumption rate is important because Idaho will use this information to establish certain water quality standards. If Idaho under estimates the fish consumption rate then the DEQ will establish water quality standards that are not protective of human health.

At issue is whether or not the DEQ should identify a fish consumption rate that reflects the current, reported amount of fish consumed, or, if the DEQ should consider the possibility that fish consumption is currently being 'suppressed' and that the ultimately

agreed up on 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.

Under this framework, if a consumer chose to eat less fish because the local pizza parlor had a sale, this would be an example of individual choice – not suppression. But if an entire population of consumers wanted to eat large quantities of fish but could not because all of the local fish were unsafe to eat, this would be an example of suppression. Their desire to consume locally caught fish is being depressed because of an external force affecting the entire population or a significant portion of the population.

Suppression as a result of contamination

The State of Idaho – via a collaboration of the Idaho Department of Health and Welfare, the Idaho Department of Fish and Game and the Idaho Department of Environmental Quality – implements a program to monitor the healthfulness of Idaho fisheries and to protect the health of Idaho fish consumers. This program is described by the State in the following way:

The Idaho Fish Consumption Advisory Program (IFCAP) informs Idahoans about possible contamination of lakes and streams that may affect fish and the humans who eat the fish. When contaminant levels are unsafe, IFCAP may recommend that people limit or avoid eating certain species of fish caught in certain places. IFCAP does this by issuing a Fish Advisory.¹

Numerous resident fisheries have been determined to 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

¹Website: Idaho Department of Health and Welfare. Idaho Fish Consumption Advisory Program at: <http://healthandwelfare.idaho.gov/Health/EnvironmentalHealth/FishAdvisories/tabid/180/default.aspx>

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.

The State counsels Idahoans that:

A fish advisory means that you should be aware of the **amount** of certain types of fish you should eat. A fish advisory doesn't mean that you should stop fishing in a favorite lake or stream. Idaho fish are an excellent source of good nutrition. We encourage you to keep fishing and continue enjoying healthy meals.³

Thus, the State of Idaho, through its Fish Consumption Advisories is advising all Idahoans to "be aware of the amount of certain types of fish you should eat."⁴

The State also provides information critical to all Idahoans to protect their health and the health of their families. Namely, the State has issued guidelines that advise Idahoans to limit their consumption of certain locally caught fish.

For instance, the State advice to pregnant women, woman who are nursing or planning to become pregnant is "Do Not Eat More Than 2 meals⁵ per month of Bass." The State advice to children under the age of 15 years is "Do Not Eat More Than 2 meals⁶ per month of Bass." For the general public, i.e. people not in the previous two categories, the State advice is that they not eat more than 8 means per month of Bass. The Bass advisory further states that "All people SHOULD NOT eat any other fish during the month if you eat these amounts of Bass caught in Idaho."⁷

Advisories limiting consumption have also been issued for rainbow trout, lake trout, redband trout, lahontan cutthroat trout, brown trout, cutthroat trout, perch, walleye, crappie, suckers, carp, bullhead, bluegill, whitefish and catfish. Each of these advisories is specific to the individual waterbody where the fish was caught. And, as noted above in the discussion of the Bass advisory, the State advises Idahoans to not eat any other fish during the month if you eat the amount of fish described in any one fish consumption advisory.

² Eat Fish, Be Smart, Choose Wisely – A guide to save fish consumption for fish caught in Idaho waters. Idaho Department of Health and Welfare, Bureau of Community and Environmental Health. Available on line at: <http://healthandwelfare.idaho.gov/LinkClick.aspx?fileticket=KdiAtzzdouA%3d&tabid=180&portalid=0&mid=1471>

³Website: Idaho Department of Health and Welfare. Idaho Fish Consumption Advisory Program at: <http://healthandwelfare.idaho.gov/Health/EnvironmentalHealth/FishAdvisories/tabid/180/default.aspx>

⁴ ibid

⁵ An adult size meal is 8 oz. uncooked fish.

⁶ A child size meal is 2.25 oz. uncooked fish.

⁷ Eat Fish, Be Smart, Choose Wisely – A guide to save fish consumption for fish caught in Idaho waters. Idaho Department of Health and Welfare, Bureau of Community and Environmental Health. Page 5.

Pursuant to the State of Idaho's fish consumption advisory, a young woman is admonished to not eat more than 16 oz. of uncooked Idaho caught Bass per month and to eat *no other* fish in that same month. This translates into a State advisory for young women to not consumer more than 15.12 grams of fish per day. Children are advised to not eat more than 4.25 grams of fish per day. According to the State of Idaho, consuming fish at a greater rate than this can result in harm to one's health.

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.

Idaho's Fish Consumption Advisory program has been in existence for a number of years and it's advisories are noted in the annual Idaho Department of Fish and Game regulations, there are flyers posted at numerous points of access at popular fishing areas, news stories in various media outlets periodically report on the advisories and the advisories are available online. The State has done a reasonably good job of informing the public about the existence of these advisories' recommended limits on fish consumption. As a result of these advisories, it is reasonable to assume that Idahoans are limiting their consumption of locally caught fish in order to protect their health – as advised by the State.

Thus, because Idahoans are suppressing their fish consumption, it is likely that any effort to survey current fish consumption rates will observe an artificially low rate of consumption. If this suppressed rate of consumption is utilized for the development of water quality standards, DEQ will set standards that are not protective of the fish consumption rates that will be expected as fishery health rebounds.

A 2002 report⁸ from the National Environmental Justice Advisory Council, a Federal Advisory Committee to the U.S. Environmental Protection Agency, describes standards set on suppressed consumption rates as the beginning of a "downward spiral." See Below:

To the extent that people are prevented from consuming fish as they had or would due to contamination or depletion of the fish and aquatic ecosystems that support the fish, there are important implications for EPA's and other agencies' risk assessment, risk management, and risk communication approaches. As noted above, when environmental agencies set or approve water quality standards that rely on a picture of exposure that takes people to be eating smaller quantities of fish, agencies will permit relatively greater quantities of pollutants to remain in or be discharged to the waters and sediments. That is to say, agencies will set less protective standards. The downward spiral thus begins, as these aquatic environments and the fish they support will be permitted to become increasingly contaminated, and some individuals in turn might be expected to respond by reducing their fish consumption even further. Or some

⁸ FISH CONSUMPTION AND ENVIRONMENTAL JUSTICE, A Report developed from the National Environmental Justice Advisory Council Meeting of December 3-6, 2001. Printed November 2002. Page 49.

individuals in turn might find that there are fewer fish to be caught (and those that remain to be increasingly contaminated) or there are fewer places open for shellfish harvesting. In either case, studies would reflect even lower FCRs, and agencies would then set new standards assuming that little or no human exposure to contaminants occurs via fish consumption, and permit even greater quantities of pollutants in aquatic ecosystems.

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.

Suppression as a result of lack of abundance

An additional circumstance that can result in suppression of fish consumption is the scarcity of fish to consume. If a population wishes to consume fish in greater number than can be obtained, the population’s reported fish consumption rate will be lower than it would be if the desired fish were locally abundant. And, when fish abundance increases, it is appropriate to believe that consumption rates will similarly increase.

Historically, Native American populations in Idaho consumed significant quantities of salmon and steelhead. More recently, however, these fisheries have declined and salmon and steelhead are no longer available for consumption at these historic rates. This decline in consumption is not the result of a choice that individuals have made. This decline in consumption reflects the lack of abundance and reduction of the geographic range that support salmon and steelhead. A survey of current consumption rates would collect data that reflects this current, suppressed consumption.

Significant efforts are underway – both in Idaho and throughout the Pacific Northwest – to restore salmon and steelhead populations. Indeed, hundreds of millions of dollars are being spent in an effort to restore these fish. As these fisheries are restored, Idahoans – Native Americans and Europeans alike – will consume more salmon and steelhead. In time, consumption of salmon and steelhead will no longer be suppressed.

If the DEQ utilizes the current observed fish consumption rates to set water quality standards, Idahoans’ health will be harmed when more salmon and steelhead are available for Idahoans to consume and our fish consumption rates increase.

Conclusion

Fish consumption rates are being significantly suppressed in Idaho. Lack of abundant fisheries – which the state is working hard to rebuild – is one source of this suppression. The other cause of suppression is that the State of Idaho has formally told Idahoans to limit their consumption of many species of locally caught fish.

The State of Idaho provides that, “When contaminant levels are unsafe, IFCAP may recommend that people limit or avoid eating certain species of fish caught in certain places.”⁹ As reported above, IFCAP has issued such a recommendation for all Bass caught in Idaho and for many other species of fish in many of Idaho’s most popular recreational fisheries.

Many Idahoans — myself included — are significantly suppressing fish consumption in our families because we want to follow the health advice of the State on this matter, even though I (and others) aspire to again be able to eat significantly larger quantities of the readily available, locally abundant resident fish.

It seems very significant to us that the State is telling people to limit their fish consumption — and then potentially using these reduced rates of consumption to set water quality standards. As Idahoans return to our desired patterns of fish consumption as the causes of suppression diminish — because contamination issues are resolved and/or the State’s salmon and steelhead restoration efforts are successful — then we will be harmed by the water quality standards that were set to be protective for current suppressed rates of consumption. To avoid this harm to our health, we will need to continue to suppress our fish consumption.

It is imperative that the DEQ take the ongoing suppression of fish consumption in to account when determining the appropriate fish consumption rate to utilize when setting Idaho’s water quality standards.

⁹ Website: Idaho Department of Health and Welfare. Idaho Fish Consumption Advisory Program at: <http://healthandwelfare.idaho.gov/Health/EnvironmentalHealth/FishAdvisories/tabid/180/default.aspx>