



DIRK KEMPTHORNE
GOVERNOR

November 26, 2002

Mr. John Iani
Administrator
EPA Region 10
1200 6th Avenue
Seattle, WA 98101

**RE: State of Idaho Comments on Second Public Review Draft of Proposed EPA Region 10
Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards**

Dear Mr. Iani:

Attached are the comments by the State of Idaho on EPA's second draft of proposed new guidance on the development of temperature standards for water quality.

We believe the draft guidance contains a number of improvements from the previous draft, including the use of common metric for all criteria and the inclusion of natural background provisions. We appreciate EPA's efforts to address some of Idaho's concerns with the original draft.

However, we believe the second draft remains flawed in three major areas. First, we must make it very clear that optimal temperatures are applied only to core areas of a species range. Second, due to the substantial inter-annual variation in temperature, it is unrealistic to expect optimal temperatures to be met nine years out of ten. Third, the Idaho Department of Environmental Quality does not have authority to provide the protections you are requesting for waters colder than the criteria or to protect sub-surface flow.

Finally, it is vital that Idaho be able to apply the new criteria on the ground in the majority of cases, not resort to exemptions. We need to address the adverse changes we have caused in water temperature, but we need to be careful that our efforts are not misguided, unworkable, or detrimental. We commit to working with EPA to ensure that temperature standards are sensible and attainable and are supportive of the guidance if the problems addressed above are corrected.

Sincerely,

A handwritten signature in black ink, appearing to read "Dirk Kempthorne", written over a horizontal line.

Governor

Enclosures

cc: Idaho Congressional Delegation
Idaho Natural Resource Agencies

State of Idaho comments on 2nd public review draft of proposed “EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards”

The proposed guidance contains several good points, but still suffers from a lack of bio-geographic reality. This unreality stems chiefly from the choice of species thermal preferences – the high end of optimum – as a standard for the natural environment, and applying it to the full extent of the use, even areas of potential use. It is as if all of Idaho’s waters are expected to be above average. We believe it is important to recognize that water temperatures vary widely in time and space, and that their natural condition is not always optimum. Indeed, examination of data from Idaho’s wilderness waters shows optimum water temperatures are the exception and not the rule. On the other hand, fish inhabit waters to the limit of their ability, not restricting themselves to optimum temperatures, e.g. bull trout in the Weiser and Little Lost River drainages.

As an example of the problem of applying temperatures fish would like to the real world, it is worth taking note of the Fish and Wildlife Service’s (FWS) recently announced proposal for bull trout critical habitat. In defining critical habitat, they use nine “primary constituent elements,” one of which is water temperature in the range of 2 to 15°C. During the regional criteria development effort, FWS representatives argued vociferously for a bull trout criterion of 10°C as a limit on maximum weekly maximum temperatures; the final guidance proposes a MWMT limit of 12°C. For streams this cold, annual maximum temperatures are typically about 0.5°C higher than the MWMT, so an equivalent annual maximum criterion would be about 12.5°C. Taking the critical habitat temperature to be an annual maximum minimizes the disparity, yet we have the FWS on one hand saying bull trout need habitat that is as warm as 15°C, and on the other hand EPA saying that when we recognize their use of the water it should get no warmer than about 12.5°C.

Clearly EPA recognizes the problem, for section VI of the guidance provides three methods to deal with situations where (or when) EPA’s recommended criteria are inappropriate or unachievable. Though not new, these are important provisions to truing up standards with reality, whether it is economic, social, or natural. What EPA fails to recognize is the extent the proposed criteria will be inappropriate in many geographic locations. In addition, EPA appears not to appreciate that it would be preferable to apply the proper criteria in the first place, rather than to correct expectations later. Because criteria are set in the range of optimum, we expect we will need to use “natural background” provisions frequently.

While the array of uses and criteria EPA proposes may bring some measure of bio-geographic reality, Idaho’s large low-elevation rivers will not meet the 20°C criterion for migration. This sets up the need for expensive and likely contentious

determination of natural temperatures to recognize the simple fact that fish use sub-optimal waters. We might avoid such senseless conundrums through additional use designations, if, in large rivers for example, the guidance allowed for brief seasons of non-use in the heat of summer. If EPA and the Services cannot accept periods of non-use, another alternative would be seasons of marginal migration, with corresponding higher criteria. This would be similar to what EPA proposed with core and marginal rearing, but would apply across time rather than space.

With regard to protecting water colder than criteria, Idaho agrees that preventing degradation is better than remedy of impacts. However, this needs to be balanced with economic uses of water and watersheds. For point source discharges into waters meeting criteria, Idaho presently limits temperature increases to 1.0°C. Additional authority to curtail these discharges will be difficult to obtain. Non-point sources are more problematic and we likely can justify further protection of water that is colder than criteria only where we can link it to meeting downstream criteria in the TMDL process. We also need to be careful that the burden for control of downstream sources is not unfairly placed upstream.

Idaho supports the following points in the guidance:

- ✓ The use of the seven-day average of daily maximums as a common metric for all criteria. This use of a “common currency” will do much to simplify water quality standards for temperature.
- ✓ Refinement of cold water uses provided by an array of five uses progressing from warmer to colder up a watershed. This can bring a good deal of geographic reality to many waters, though not all. It remains to be seen how sensibly we can do this, how limited our biological information may be, and how much our knowledge is questioned. If the process of use refinement envisioned is to go smoothly, it will be important that EPA work to streamline the process for approving changes to current designations.
- ✓ Division of salmonid rearing use into core and marginal categories is a major step forward. EPA should also split the migration use category into core and marginal.
- ✓ Using the average beginning and ending dates for seasonal uses such as salmonid spawning. This “trimming of the tails” alleviates some of the mismatch between selection of optimum criteria and their application.
- ✓ Recognition of the need for mixing zones is vital to practical application of any criteria. Without such a transition for temperature, we would be expecting to meet criteria at the end of the pipe, impossible without active chilling.

- ✓ Natural background provisions. Allowing for natural conditions is especially important for temperature, because unlike manmade pollutants, water temperature is often quite naturally not optimum. Natural heat loads and stream temperatures vary widely. Only added heat is a pollutant, and only increases in temperature a water quality problem, all that we can correct. High temperatures alone are not an indication of added heat. The lower criteria are set, the more often we will judge temperatures too high, irrespective of human additions of heat. Natural conditions will be the only way to straighten this out.

Idaho does not support the following points in the guidance:

- ✓ Applying high optimal criteria to all but unusually warm conditions. There is interplay between the value of criteria and the frequency we can expect streams to meet those criteria. EPA defines unusually warm as 1 year in 10. While this allows for some inter-annual variation in temperatures, it is unreasonable to expect streams not to exceed optimum 9 years in 10. With the above limitation, EPA correctly notes, “therefore, in most years, the maximum 7DADM will need to be lower than the numeric criteria” ... in order for the standard to be met. Examination of long-term USGS temperature records shows that the inter-annual range in the maximum 7DADM in most streams is 3-6°C, thus most years would be much cooler if the prescribed numeric criterion were met. Since high optimum temperatures have been prescribed, we believe an expectation they be met in all but the 1 in 4 warmest years is more reasonable.
- ✓ While acknowledging that the Endangered Species Act (ESA) confers no greater authority upon EPA, the guidance goes on to say EPA must “carry out” programs for conservation of species. This could be construed to imply EPA has some obligation to execute, administer, or enforce the ESA. We are concerned that the role of the Clean Water Act in recovery of endangered salmon is overstated. While change in water temperatures is a factor in species decline, it is but one factor. The best way to approach species recovery is in holistic habitat conservation planning efforts that take in all factors, and weigh trade-offs. Recognition of the role of the 4-H’s (habitat, hatcheries, harvests, and hydropower) in the lower Snake is a good example.
- ✓ The statement on page 18 that, “When the mean temperature is near or above the optimum growth temperature, the ‘mid-point’ temperature between the mean and the maximum is the ‘equivalent’ constant temperature” raises questions. While the technical workgroup did discuss application of constant laboratory temperatures to the fluctuating regime of real streams, we never arrived at such a simple translation. What is the basis for this statement? Certainly such a translation is an area that needs more careful attention, and this is undoubtedly an area where more research is needed.

- ✓ The discussion of UAA's in section VI.3 stretches the application as described in 40 CFR 131.10. Our understanding and experience with UAA's is that they are for assessing attainability of uses, not *criteria*. On occasion we have been instructed so by EPA staff. If EPA now intends UAA's to be used for adjusting un-attainable criteria they need to be more forceful in stating so. They also need to be aware of the large number of approvals they are setting up for themselves. In recent history, Idaho is not aware of EPA region 10 ever making an approval of changes to state water quality standards within its statutory deadlines. Unless EPA is properly prepared for this situation, this seems wholly unworkable.
- ✓ The statement on page 17 that "The duration of exposure to near summer maximum conditions, however, can vary from one to two weeks in some areas to over a month in other areas" does not ring true. In our experience, the duration will more likely be in hours or days. Better definition of near optimum is needed, as well as a distinction between streams with large and small diurnal and seasonal temperature swings. In any event, this statement can and should be supported by data. We have attached an analysis of three streams in Idaho as an example of the supporting data that is available.

Attachment

Attachment to Idaho Comments on “EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards”

Analysis of time near summer maximum temperatures for three Idaho streams.

EPA’s 2nd public review draft of proposed “EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards” speaks to the duration of exposure to near summer maximum conditions as varying from weeks to over a month. Although EPA does not define ‘near’ maximum, this statement is probably not accurate, at least for most streams in Idaho. The duration of exposure to temperatures within 1-2°C of maximum is typically short, owing to temporal variation within a day, among days, and seasonally. Three example streams in Idaho are summarized below.

All three examples cover the time from June 16th through September 15th of 2001, the summertime when stream temperatures peak. The three streams were selected to cover a range of annual maximum temperature from 14 °C to 22°C and diurnal variation (near the summer peak) from about 2°C per day to 6°C per day. Additional examples can be provided.

Obviously how much time is spent near maximum depends on how near is near. Time within 1.0 and 2.0 °C of the annual maximum were examined here. This seemed reasonable since EPA is proposing limiting MWMT to high optimum temperatures. For streams just meeting the criteria, temperatures 1.0 to 2.0 °C cooler should be well within the optimum range. When one considers that EPA is further proposing that only 1 year in ten could be as warm as the proposed criteria, the exposure to temperatures ‘near’ maximum is indeed very limited.

Vanity Creek

Annual max. T = 14.0°C MWMT = 13.3°C for week ending July 6th July/Aug ave. T = 9.7°C

Diurnal range at summer peak ~ 6°C

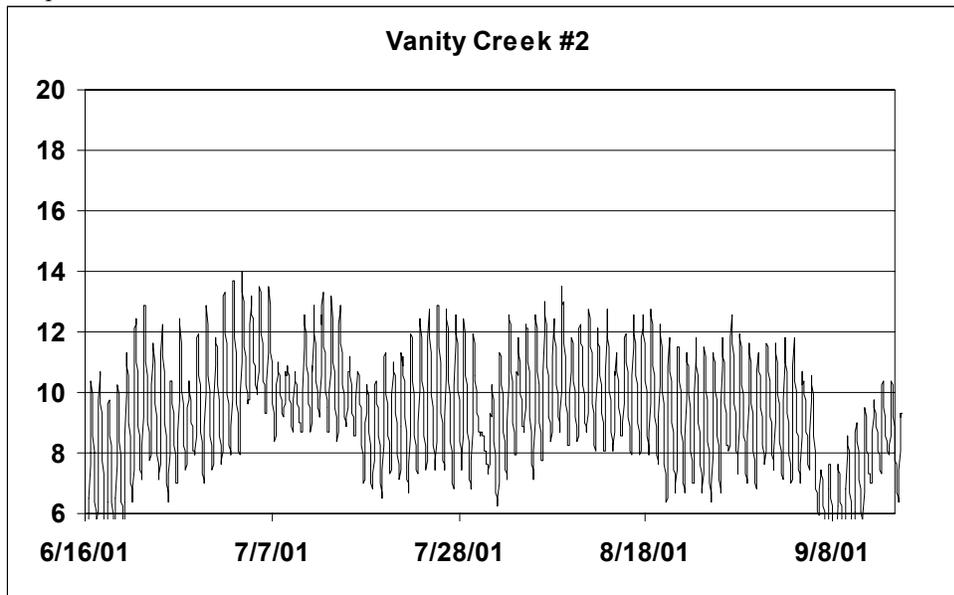
Time > 13°C (within 1°C of max)

	Greatest duration	Week centered on 7-3	Total 6/16 to 9/15
Hours (days)	5 hours	21 hours	27 hours
Date or % of time	7-3-01	12.5% of week	0.7% of summer

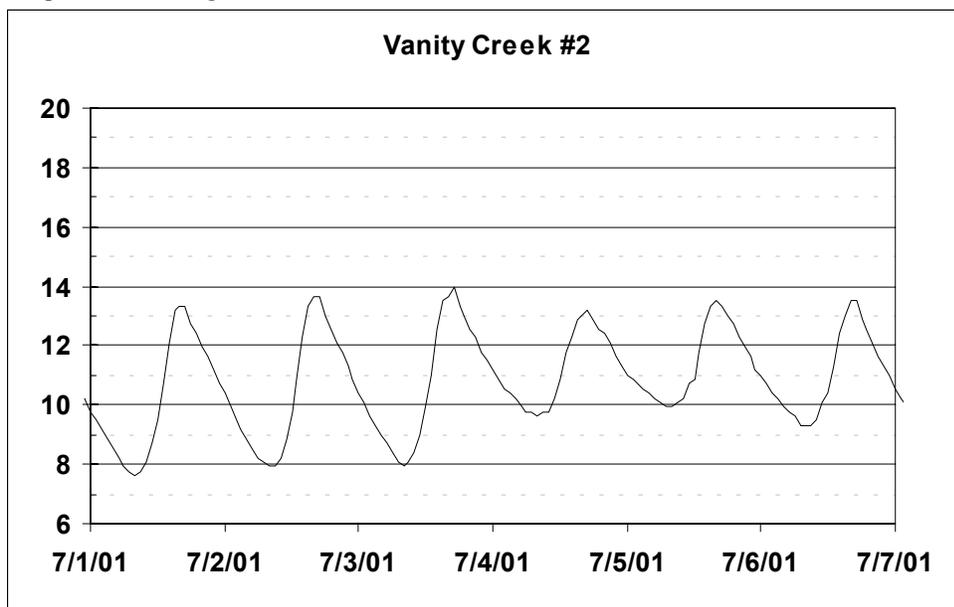
Time > 12°C (within 2°C of max)

	Greatest duration	Week centered on 7-6	Total 6/16 to 9/15
Hours (days)	7 hours	30 hours	155 hours (~ 6 days)
Date or % of time	7-6-01	17.9% of week	3.9% of summer

Temperatures over the entire summer



Temperatures during the warmest week.



Ship Island Creek

Annual max. T = 16.0°C MWMT = 15.5°C for week ending July 7th July/Aug ave. T = 13.2°C

Diurnal range at summer peak ~ 2°C

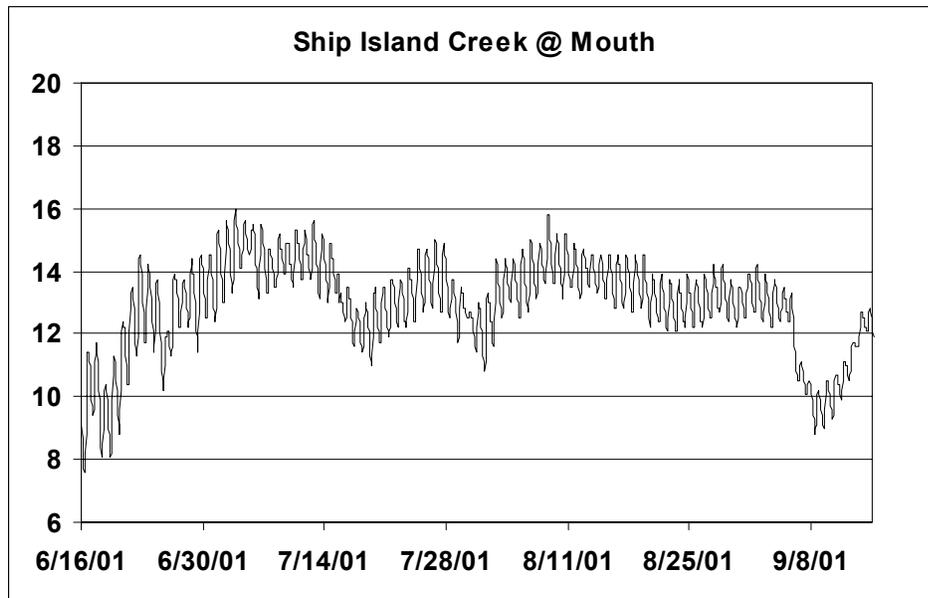
Time > 15°C (within 1°C of max)

	Greatest duration	Week centered on 7-4	Total 6/16 to 9/15
Hours (days)	11 hours	53 hours (~ 2 days)	84 hours (3.5 days)
Date or % of time	7-4-01	31.4% of week	2.1% of summer

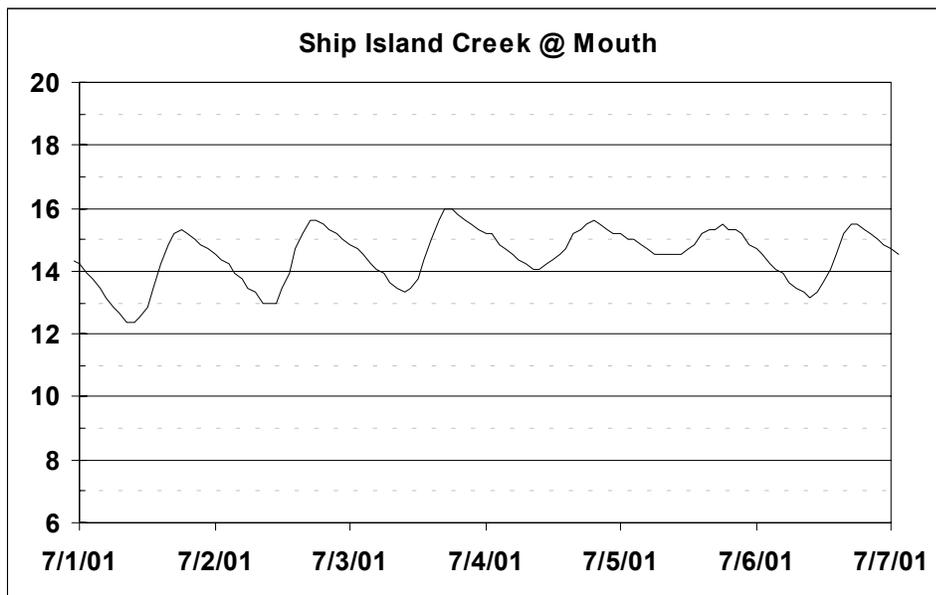
Time > 14°C (within 2°C of max)

	Greatest duration	Week centered on 7-4	Total 6/16 to 9/15
Hours (days)	64 hours (~2.7 days)	121 hours (~5 days)	427 hours (~ 18 days)
Date or % of time	7-3 to 7-5-01	72.1% of week	10.7% of summer

Temperatures over the entire summer



Temperatures during the warmest week.



Selway River above Running Creek

Annual max. T = 22.0°C MWMT = 20.7°C for week ending July 7th July/Aug ave. T = 16.7°C

Diurnal range at summer peak ~ 4°C

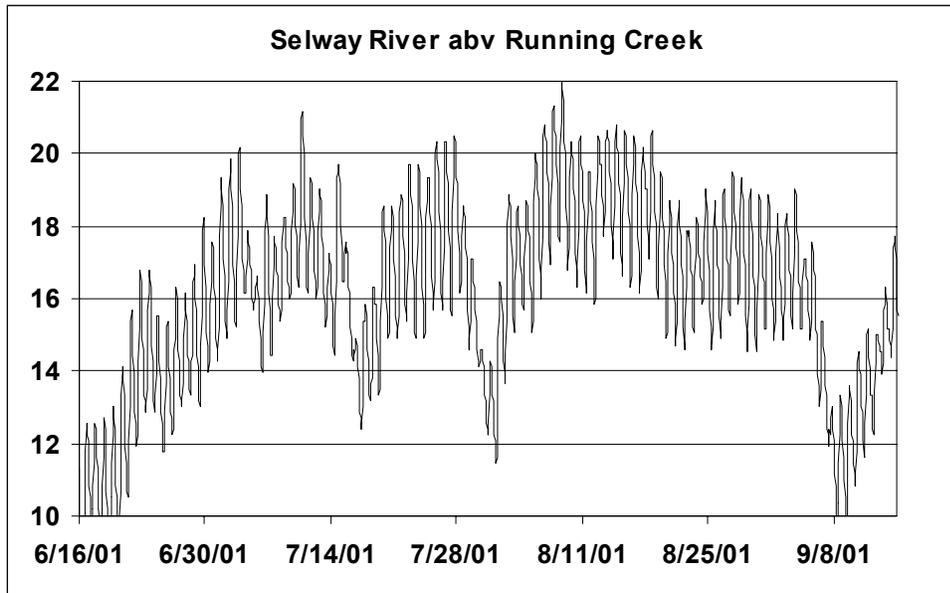
Time > 21°C (within 1°C of max)

	Greatest duration	Week centered on 8-7	Total 6/16 to 9/15
Hours (days)	6 hours	10 hours	10 hours
Date or % of time	8-7-01	5.7% of week	0.2% of summer

Time > 20°C (within 2°C of max)

	Greatest duration	Week centered on 8-8	Total 6/16 to 9/15
Hours (days)	12 hours (36 hours (1.5 days)	75 hours (~ 3 days)
Date or % of time	8-8-01	21.4% of week	1.9% of summer

Temperatures over the entire summer



Temperatures during the warmest week.

