

USEPA Analysis - Idaho 1998 §303(d) List

I STATUTORY AND REGULATORY BACKGROUND

A Identification of WQLSs for Inclusion on Section 303(d) List.

Section 303(d)(1) of the Clean Water Act (Act) directs States to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations (40 CFR 130.7(b)(1)) provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by State or local authority, and (3) other pollution control requirements required by State, local, or federal authority.

B Consideration of Existing and Readily Available Water Quality-Related Data and Information.

In developing Section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA (40 CFR 130.7(b)(5)). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions (USEPA, 1991) describes categories of water quality-related data and information that may be existing and readily available. While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water

quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submissions to EPA documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region.

C Priority Ranking.

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. As long as these factors are taken into account, the Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and state or national policies and priorities. (57 FR 33040, 33045 (July 24, 1992); USEPA, 1991).

II ANALYSIS OF IDAHO'S SUBMISSIONS

The following sections summarize Idaho's 1998 listing process and explain EPA's assessment and rationale for recommending approval and disapproval of the Idaho Division of Environmental Quality's (IDEQ) listing actions.

A Background.

The 1998 §303(d) listing process began in Idaho in August 1996 with the finalization by IDEQ of the Water Body Assessment Guidance - A Stream to Standards Process, a.k.a. WBAG (IDEQ, 1996c). The WBAG is the primary tool used by IDEQ to determine the status of beneficial uses for a particular waterbody, and whether there are significant criteria violations. The WBAG process relies heavily upon biological, physical and habitat data collected through the State's Beneficial Use Reconnaissance (BURP) monitoring program. Over the next year IDEQ evaluated data collected through the BURP program up to that point (1993 - 1996).

In an effort to solicit additional data for the 1998 §303(d) list, IDEQ issued a public notice requesting data and information on November 25, 1997 which ran through January 5, 1998 (IDEQ, 1997d). In their request for data and information, IDEQ explained their working rules and assumptions for data to be considered for listing purposes. For example, they explained

what they consider “readily available” and “useful” data, what age limitations apply, what QA/QC requirements apply, etc.

Between January and May 1998, IDEQ analyzed data obtained through its data collection efforts and prepared a draft 1998 list. On May 14, 1998, IDEQ published its draft list, which contained 728 waters (IDEQ, 1998b). The proposal called for removing 335 waters which had previously been listed in 1996, adding 122 waters, and changing the boundaries of 61 waters. IDEQ staff met with each Basin Advisory Group during the public comment period to review listing decisions in each basin. In addition, IDEQ staff and management met with EPA staff on May 28, 1998 to review and explain the draft list.

This was the first time Idaho had used the WBAG process for 303(d) listing, and they received numerous comments that additional time was needed to review the process and decisions based on it. Subsequently the comment period for the 1998 list was extended until July 15, 1998.

IDEQ reviewed comments and data received during the data request and public comment periods and prepared a final 303(d) list and related materials and documentation (List Package), which was submitted to EPA on January 4, 1999 (IDEQ, 1999a). The final list contains 731 waters covering 8,227 stream miles. As explained in greater detail below, it is recommended that EPA approve a majority of the listing decisions, and disapprove certain decisions not to list waters.

B Public Participation.

As explained above, Idaho initially solicited public input regarding data for the 303(d) listing process between November 25, 1997 and January 4, 1998. Subsequently they developed the draft list, held a public comment period between May 14, 1998 and July 15, 1998, and met with each Basin Advisory Group to review the proposed list. These efforts clearly meet the intent of 40 CFR § 25, and the specific requirements to provide at least a 30 day advance notification to permit time for public response.

In preparing the final 1998 303(d) list, in their List Package Idaho documented the comments they received and summarized the major issues identified. For each major issue, IDEQ described their response, and how the comment would or would not effect the listing process. In addition, waterbody specific comments were identified in a matrix organized by IDEQ Regional Office. A response and listing decision was developed for each waterbody specific comment.

Documentation of public comments, responses, and decisions relative to the comments fulfills the requirements for responsiveness summaries under 40 CFR § 25.8. Through a combination of responses to general issues (Section 4.2 - 4.16, List Package) and waterbody specific responses (Section 4.17, List Package), we found that the State reasonably responded to all

issues raised, with two exceptions. We have concluded that IDEQ's decision to delist all or portions of Wickahoney Creek (17050102) and the Pack River (17010214) is not supported by information in the record. See section III.2 for further discussion regarding these waters.

C Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information.

EPA has reviewed the State's submission, and has concluded that the State developed its Section 303(d) list substantially in compliance with Section 303(d) of the Act and 40 CFR 130.7. EPA's review is based on its analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

IDEQ considered all data and information required under Section 130.7(b)(5) (see pp. 17-19 of the List Package). In addition, as described above, IDEQ solicited additional data from the public prior to publishing the draft list on May 14, 1998, and considered data submitted during the public comment period for the draft list.

EPA has reviewed IDEQ's description of the data and information it considered, its methodology for identifying waters, and some of the actual data IDEQ considered. EPA concludes that, with the exception of data regarding temperature criteria violations, the State properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5).

In addition, the State provided its rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters. A substantial number of comments were received without data supporting the comments, or with anecdotal information. IDEQ considered these comments, but did not revise their listing decisions unless data was provided to support their comment, and the data met the age limitations and QA/QC requirements of IDEQ's listing criteria.

As described below, IDEQ failed to adequately assemble and evaluate data regarding temperature criteria violations. As explained in Chapter 4 of the List Package, IDEQ believes that the Idaho temperature criteria are currently inappropriate, and therefore did not list waters for which data indicate violations of applicable temperature criteria. These decisions are inconsistent with 40 CFR 130.7(b)(1), and it is recommended that they be disapproved.

D Listing of Waters Beyond the Requirements of EPA Regulations

EPA recognizes that Idaho included some WQLSs beyond the minimum required by EPA regulations to be included on the Section 303(d) list, e.g., waters impaired solely by low flow levels. While EPA is not disapproving the State's list due to the inclusion of such waters,

neither the State nor EPA has an obligation under current regulations to develop TMDLs for such waters because the waters are not impaired by a pollutant. States have the discretion under Section 303(d), which charges States with the primary responsibility to identify WQLSs for TMDL development, and Section 510, which authorizes States to adopt more stringent pollution controls, to include waters on their Section 303(d) lists that may not be required to be included by current EPA regulations, and EPA’s regulations do not compel the Agency to disapprove the State’s list because of the inclusion of such waters. EPA guidance also recognizes that States may take a conservative, environmentally protective approach in identifying waters on their Section 303(d) lists (USEPA, 1997d).

E Waters impaired by nonpoint sources.

The State properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all WQLSs still needing TMDLs, regardless of whether the source of the impairment is a point and/or nonpoint source. EPA’s long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. This interpretation has been described in EPA guidance, most recently in a 1997 memorandum clarifying certain requirements for 1998 Section 303(d) lists (USEPA, 1997d). In addition, this interpretation of Section 303(d) is described in detail in memoranda to members of the FACA Workgroup on Section 303(d) Listing Criteria (USEPA, 1997b), and Regional Administrators and Regional Water Division Directors (USEPA, 1997c).

F Priority Ranking and Targeting

Initially Idaho did not assign priorities for TMDL development for waters on the final 1998 303(d) list. On October 28, 1999 IDEQ clarified the priorities for the 1998 listed waters (IDEQ, 1999i). A majority of the waters on this list were included in the TMDL schedule developed pursuant to court order (IDEQ, 1997b), which assigns years in which TMDLs are to be completed. As explained in IDEQ’s recent letter, this schedule is referenced in the priority setting:

| <u>Year TMDL Scheduled</u> | <u>TMDL Development Priority</u> |
|----------------------------|----------------------------------|
| 1999 - 2000 | High |
| 2001 | Medium |
| 2002 and beyond | Low |

IDEQ considered twelve factors, including the severity of pollution and uses to be made of these waters (See Idaho TMDL Development Schedule EPA Review and Evaluation; USEPA, 1997a), during development of the eight year Idaho schedule. These factors included such things as the number and types of pollutants listed, presence of ESA species, coordination with other agencies, available IDEQ resources, etc. EPA reviewed the schedule in 1997 and concluded that it adequately considered all relevant factors, and was a reasonable schedule

for addressing all waters on the 1994 303(d) list (USEPA, 1997a). Idaho, EPA and plaintiffs in the Idaho Sportsmen's Coalition v. Browner case jointly submitted the schedule to the U.S. District Court (Western District), where it was accepted. For waters added to the list in 1998 which were not part of the court ordered schedule developed in 1996, Idaho explained in the 1998 list package that TMDLs for these waters would be developed in 2006 or later.

We believe the high priority waters IDEQ has targeted for TMDL development in the short term are appropriate, since they were previously reviewed and approved for TMDL completion during this time frame as part of the Idaho TMDL schedule.

Individual waterbodies and HUC's scheduled for TMDL development in 1999 and 2000:

1999

2000

4th Field HUC or Waterbody

4th Field HUC or Waterbody

Lower Payette
Cottonwood Cr.
Jim Ford Cr.
Blackfoot
Lochsa
East Little Owyhee
Middle Owyhee
Lake Walcott
Pend Oreille
Coeur d'Alene
Lower Henry's
Teton
Little Lost
Upper Snake/Rock

N.F./M.F. Boise
S.F. Boise
S.F. Salmon
Priest Lake
Upper Spokane
Palisades
Middle Salmon/Panther
Middle Salmon/Chamberlain
Lower Selway
Upper N.F. Clearwater
Central Bear
Bear Lake
Bruneau

In addition, given the established TMDL schedule in Idaho, and the clarification from IDEQ of how the schedule relates to their TMDL development priorities, EPA concludes that the State properly took into account the severity of pollution and the uses to be made of such waters, as well as other relevant factors. Therefore it is recommended that this prioritization scheme be approved.

G Use of Waterbody Assessment Guidance.

As mentioned above, in 1996 Idaho developed the WBAG decision process for interpreting BURP and other data for purposes of determining the support status of beneficial uses, and compliance with water quality criteria. In general EPA believes that the use of biological, chemical and physical data in this manner is appropriate for making listing decisions, and Idaho is one of the leaders in the country in using biological data for this purpose.

We have carefully reviewed the BURP and WBAG process (USEPA, 1999a) and believe it is appropriate for making 303(d) listing decisions for the 1998 list cycle. Nonetheless, EPA has concerns with Idaho's consideration of the existing and readily available data and information, including interpretation of data, and to a lesser degree, with how the data are collected. Specific concerns include the following (see Attachment A and USEPA, 1999a for more detail):

- 1 the method of establishing major vs. minor criteria violations;
- 2 the method of interpreting macroinvertebrate, habitat, algae, and fish data, and how these indices are combined;
- 3 the method and data used to evaluate salmonid spawning use support status;
- 4 interpretation of data collected from intermittent streams, springs, and

- lake outlets.
- 5 representativeness of the biological and habitat data;
- 6 procedures used to collect certain types of data.

Considering that this is the first time Idaho has used biological data for 303(d) listing purposes, and there is little national experience in using biological data for this purpose, it is not unexpected that some elements of the process can be improved upon.

For most decisions we do not have enough information to know if shortcomings in the process led to errors in waterbody specific decisions. In these cases we believe it is reasonable to accept decisions based upon the current process, and work to improve the process and revisit these decisions over time, as further explained below. However, in some circumstances the state's decision process and policies have led to decisions not to include certain waters which are required by the Clean Water Act and EPA's implementing regulations to be listed.

First, Idaho has consciously chosen to not list waters for which existing data indicate violations of temperature criteria. While we support Idaho's desire to revise their temperature criteria, it is clear that waters which are known to violate current temperature criteria must be listed (See National Clarifying Guidance... USEPA, 1997d). Second, BURP data and other rationale used by IDEQ do not support two listing decisions (Wickahoney Creek, Pack River), based on criteria in the WBAG. Our review of these decisions is discussed in more detail in Section H.2.

Concerns with the WBAG process must be addressed in future list cycles. IDEQ has identified the need to address many of these concerns and is now in the process of revising the WBAG. It is expected that this process will involve a significant investment in contractor and IDEQ technical staff support to develop information from which to revise the current protocols. Three interagency technical teams (lakes/reservoirs, rivers, wadeable streams) have been assembled to draft revisions based on the new data. Proposed revisions will then be circulated for external peer review, and draft revisions will then be published for public review and comment. Public comments will be considered before finalizing new protocols and using them for 303(d) listing purposes. Given the significant time and resource commitment which this will involve, revising the process to affect the 1998 list is not possible.

EPA discussed concerns with the WBAG process with IDEQ in early 1999. At that time it appeared that there would be a significant time and resource overlap with efforts to produce a 2000 303(d) list. Since revisions to the WBAG were expected to involve a significant level of effort, it appeared reasonable to incorporate changes over the 2000 and 2002 list cycles, and approve decisions in the 1998 list based on the existing process, with the exceptions noted above.

Based on conversations with IDEQ management as documented in a May 6, 1999 letter to IDEQ (USEPA, 1999b), our understanding was that the following steps and those outlined in

Attachment A would be completed by the 2000 and 2002 list cycles:

- The WBAG process would be revised in collaboration with EPA to address concerns identified above and a mutually acceptable §303(d) decision process will be agreed upon for the 2000 listing cycle; and
- For the 2000 list, all 1997 and 1998 BURP data would be utilized for those waters not evaluated in 1998, plus any other data acquired by IDEQ as part of the 2000 list process; and
- In sub-basin assessments for TMDLs due in 2000 and later, all BURP data collected since 1993 and the revised WBAG process would be used to identify impaired waters, and TMDLs will be written for waters on the 303(d) list, and where practicable, those identified as impaired but not currently on the 303(d) list; and
- In the next listing cycle after 2000, all listing decisions would be revisited using all BURP data collected since 1993 and the new WBAG process, unless the water was previously considered for the 2000 list; or
- All waters sampled between 1993 - 1996 would be re-monitored (unless they have been sampled more recently), and all BURP data collected or otherwise available since 1997 will be used in the next listing cycle after 2000.

On March 3, 2000, IDEQ provided an update on efforts to revise the WBAG, and concerns with applying the current WBAG for TMDL development in the interim (IDEQ, 2000b). In summary, efforts are well underway to revise the WBAG process, but the first round of revisions is not expected to be completed until the winter of 2000/2001. In the meantime, IDEQ will incorporate additional measures into the WBAG process (ie. WBAG+) to evaluate data for TMDLs due in 2000.

EPA responded to this update on March 28, 2000, indicating that we appreciate the progress being made, yet recognize the delay in planned WBAG revisions (USEPA, 2000c). Given the information presented in IDEQs March 3 update, and expected changes in the 2000 list cycle requirements (see below), we clarified in italics how our May 6, 1999 understanding regarding the WBAG revision process has been modified, as follows:

1. Revise the WBAG process in collaboration with EPA to address concerns identified above and reach a mutually acceptable §303(d) decision process for the 2000 listing cycle; and
Modification: The WBAG process will be revised by the winter of 2000/2001 [the 2000 listing cycle has been proposed to be eliminated (Federal Register; February 2, 2000)].
2. For the 2000 list, utilize all 1997 and 1998 BURP data for those waters not evaluated in 1998, plus any other data acquired by IDEQ as part of the 2000 list process; and

Modification: The 2000 listing cycle has been proposed to be eliminated (Federal Register; February 2, 2000), therefore this provision is likely not applicable.

3. In sub-basin assessments for TMDLs due in 2000 and later, use all BURP data collected since 1993 and the revised WBAG process to identify impaired waters, write TMDLs for all impaired waters whether or not they are on the 303(d) list; and

Modification: In sub-basin assessments for TMDLs due in 2000, use all BURP data collected since 1993 and the WBAG+ process as explained in the Division of Environmental Qualities March 3, 1999 letter to identify impaired waters, and to the extent practicable, write TMDLs for all impaired waters whether or not they are on the 303(d) list.

In sub-basin assessments for TMDLs due in 2001 and later, use all BURP data collected since 1993 and the revised WBAG process (ie. as finalized in the winter of 2000/2001) to identify impaired waters, and to the extent practicable, write TMDLs for all impaired waters whether or not they are on the 303(d) list.

4.
 - a. In the next listing cycle after 2000, commit to revisit all listing decisions for waterbodies using the new WBAG process and all BURP data collected since 1993, unless the water was previously considered for the 2000 list; or
 - b. Commit to re-monitor all waters sampled between 1993 - 1996 (unless they have been sampled more recently), and use all BURP data collected or otherwise available since 1997 in the next listing cycle after 2000.

Modification: These provisions remain unchanged.

We believe these revisions are reasonable, and do not change the basis (described above) of our recommendation to approve 1998 303(d) listing decisions.

During this same time frame, EPA proposed to eliminate the regulatory requirement for States and Tribes to submit a 303(d) list in 2000 (Federal Register, 2000a). On March 31, 2000, EPA issued a final rule which eliminates the requirement for States and Tribes to submit a 2000 303(d) list, unless it is otherwise required as a result of a court order, consent decree or settlement agreement (Federal Register, 2000b). This regulatory change does not affect the basis or conditions of our approval of the 1998 list, but provisions 1. and 2. of the agreement regarding the WBAG revision process are no longer applicable as previously written.

Based on discussions with IDEQ, it is now understood that under provision 1, EPA's concerns as outlined in our May 6, 1999 letter will be addressed by IDEQ and we will reach a mutually acceptable 303(d) decision process by the next list cycle, and provision 2 is no longer applicable.

H Listing Actions Approved by EPA

In general, it is recommended that EPA approve each of the waterbody/pollutant listings in Idaho's final 1998 303(d) list, based on the rationale provided in previous sections. Our

review of and recommendations regarding certain aspects of the State's decision process, and decisions regarding certain waters, warrants further explanation as follows.

1 Intermittent and ephemeral streams.

The WBAG process was developed based on data from perennial streams, and IDEQ believes it is appropriate to use the WBAG to evaluate perennial streams only. A process for evaluating intermittent and ephemeral streams has not been established.

BURP data has been collected from several intermittent streams, and the WBAG process was initially applied to these streams for 303(d) listing purposes. IDEQ proposed adding several of these waters to the list based on the WBAG decision process. Comments were received that it was inappropriate for IDEQ to list the following intermittent or ephemeral waters:

| <u>HUC</u> | <u>Waterbody</u> |
|------------|-------------------------|
| 17040211 | Emery Creek |
| 17040213 | Pole Camp Creek |
| 17040104 | South Fork Indian Creek |
| 17040104 | North Fork Indian Creek |
| 17040104 | Russell Creek |
| 17040104 | Tag Alder Creek |
| 17040204 | Dry Creek |
| 17040211 | Little Cottonwood Creek |
| 17040202 | Tygee Creek |
| 17040202 | Garner Canyon |

In responding to these comments, IDEQ stated that it was not appropriate to use the current WBAG process to evaluate intermittent or ephemeral streams, explaining that full development of biological conditions (an assumption of the WBAG biological indices) could not occur in intermittent and ephemeral streams. As a result, IDEQ decided not to add these waters to the 1998 303(d) list.

EPA agrees that it is not appropriate to apply the current process to intermittent and ephemeral streams, because the process was developed using data from perennial waterbodies with fully developed biological conditions. We agree with IDEQs decision to not list these waters at this time. Evaluation of biological conditions in intermittent and ephemeral streams is particularly difficult. Sampling is difficult because water is not always present, particularly during the summer months when most sampling occurs. More importantly, EPA is unaware of any biological indices which have been developed by government agencies or the scientific community for the unique ecology of intermittent and ephemeral streams. Idaho (and other States which use biological data) is currently in a difficult position without an established method to evaluate beneficial uses support, given this gap in basic scientific understanding.

In response to these concerns, as explained in Section 3. of Attachment A, we understand that Idaho has plans to modify the WBAG, or develop a new assessment tool to address intermittent and ephemeral waters by the next listing cycle. We believe this is a reasonable approach and time frame given current lack of appropriate indices in the scientific community.

2 Spring creeks and lake outlets.

Similar to the assessment of intermittent/ephemeral streams, Idaho has concluded that the application of the current WBAG process to spring creeks and lake outlet streams near their sources is not appropriate. The following waterbodies are in this category and were monitored through the BURP process and evaluated for the 1998 list:

| <u>HUC</u> | <u>Waterbody</u> | <u>Type</u> | <u>IDEQ Decision</u> |
|------------|--------------------|--------------|----------------------|
| 17040211 | Summit Creek | spring creek | do not list |
| 17040202 | Meadow Creek | spring creek | do not list |
| 17040215 | Warm Creek | spring creek | de-list |
| 17060201 | Stanley Lake Creek | lake outlet | de-list |

The rationale as to why the current WBAG decision process is inappropriate to apply to spring creeks near their sources is best articulated in IDEQ's response to comments regarding Warm Creek as follows:

"[the proposed delisting] Report did not include assessment remarks that the MBI results for Site 96EIRO999 were excluded from assessment results for Warm Creek due to review of research showing that macroinvertebrate community development in springbrooks near their source is limited by natural ecological processes, rather than anthropogenic effects (G.W. Minshall, ISU, pers. Comm. w/C. Mebane. 1/21/98; Anderson, T.M. and N.H. Anderson 1995. The insect fauna of spring habitats in semiarid rangelands in Central Oregon. Journal of the Kansas Entomological Society 68(2): 65-76; Erman and Erman, 1995. Spring permanence, drought, and Trichoptera richness, Ibid. 50 - 64).

Bioassessment is based on evaluation of the overall biological community, not a pollutant by pollutant approach. Macroinvertebrate diversity and abundance increased with distance downstream from the Warm Springs source, and multiple age classes of rainbow trout and shorthead sculpin were present. These indicate unimpaired conditions."

IDEQ's response to comments regarding Stanley Lake Creek is the following:

"[The proposed delisting] Printout did not include full text of assessment. Site 95EIROA72 excluded from the stream assessment due to its proximity to Stanley Lake outlet. Research indicates that full community potential is unlikely to occur, but will occur with increasing distance from the outlet. Thus the pattern of scores for this stream are considered indicative of natural ecological processes limiting community development rather than impaired conditions (Robinson, C.T. and G.W. Minshall. 1990. Longitudinal development of macroinvertebrate communities below oligotrophic lake outlets. Great Basin Naturalist 50: 303-311).

EPA agrees that it is inappropriate to apply the current WBAG decision process to spring creeks and lake outlets near their source(s), for the reasons stated by Idaho. In addition, we have discussed with Idaho an interim approach to address this, whereby such streams are sampled a sufficient distance below their source such that biological conditions are fully developed, and the perennial stream WBAG may be applied.

We also agree that until a better assessment tool is available to evaluate such waters, it is reasonable to not list and to de-list, such waters where data show biological diversity is low near the spring source due to natural ecological processes rather than anthropogenic sources, and biological conditions and diversity increase downstream. In recognition of the need for an assessment technique for such streams, we understand that IDEQ intends to develop such a tool for the 2002 list cycle (See Section 5 of the attachment to the letter in

Attachment A of this document). We believe this is a reasonable approach and time frame given the magnitude of other WBAG revisions.

3 Salmonid spawning.

Evaluation of salmonid spawning use support status for the proposed 1998 list was based on decision criteria in the 1996 WBAG, as amended. The guidance indicates that salmonid spawning is considered fully supported if data indicate the waterbody supports an active, self-propagating community of salmonid fishes. More specifically, salmonid spawning is considered to be fully supported if fish surveys demonstrate:

“..a length frequency analysis indicating two size classes not to include stocked fishes.”

EPA raised concern with this decision criteria in our comments on the draft list. Specifically, we were concerned that the decision process did not consider the presence of young of the year, the relative abundance of salmonids, and the index was not quantitative. In response to these and other comments, IDEQ changed the decision criteria used for the final list, as follows (see Chapter 4, p.40; Final List Package):

“... if 3 or more age classes, including juveniles (juveniles <100 mm), of a salmonid species were present in a surveyed stream reach, then we would consider that to be conclusive evidence that salmonid spawning is a supported use, regardless of other factors

if only two age classes were present, then we would consider that to be inconclusive evidence whether salmonid spawning was supported, and assessors would next consider whether the stream's habitat attributes were sufficient to likely support salmonid populations. (ie. even though we didn't catch all age classes the days we fished, the stream conditions are likely adequate to support salmonids). Otherwise, the stream would not be considered to support salmonid spawning.

if less than two age classes were captured, the stream would be not be considered support salmonid spawning.

This approach is a significant improvement over the original decision process. Although it does not fully address all of our original concerns, e.g. it does not evaluate the relative abundance of salmonids, we believe it is a reasonable decision criteria for this list cycle. Regarding relative abundance, IDEQ identified legitimate logistical difficulties in collecting and interpreting such data in its response to comments in Chapter 4 p. 38 - 40 in the List Package, including the migratory/mobile nature of salmonids, and the tendency of electrofishing techniques to select for larger fish. We concur with IDEQ that these factors make it very difficult to reliably establish the relative abundance of salmonids, particularly juveniles.

We understand that IDEQ intends to further refine the decision process for salmonid spawning for the 2002 list cycle. In particular, IDEQ will revise their salmonid spawning decision process such that a quantitative habitat index is used, ecoregion specific habitat

cutoffs are established, and the cutoffs for salmonid spawning uses are at least as protective as those established for cold water biota (See Section 4 of the attachment to the letter in Attachment A of this document).

4. Specific waterbody listing decisions approved by EPA:

a. 17040202 - Tygee Creek.

IDEQ proposed adding Tygee Creek to the 1998 based on BURP monitoring data. The WBAG decision process specifies that MBI scores < 2.5 indicate coldwater biota uses are not fully supported and scores ≥ 3.5 indicate that CWB uses are fully supported. MBI scores for the two sites monitored were: upstream site - 3.74; downstream site - 1.82. IDEQ received two comments which indicated that the lower portion of Tygee Cr., where the low MBI score occurred, has been fully diverted annually from April 1 to Nov. 1, based on a 1917 court adjudication, and the stream is not protected for beneficial uses.

The IDEQ response to these comments is as follows:

Intermittent streams are not automatically excluded from protection for existing or designated beneficial uses, and when they do flow the water quality should be sufficient to protect aquatic life, for example, to allow fish to migrate through. However, proposed listing was based on a biological index which is appropriate for perennial streams. Information provided indicates stream should not be added to the list based on biological index score.

Subsequently, IDEQ submitted additional explanation and maps to EPA supporting their position that the stream is intermittent, and that use of the current WBAG decision process to add this water to the list is inappropriate (See Attachment B). We believe IDEQ has adequately documented the circumstances, and agree with their decision to not add Tygee Creek to the list, consistent with the discussion of intermittent and ephemeral streams in 2. above.

b. 17060108 - Paradise Creek.

Paradise Creek was included in the 1996 list, but was not included in the 1998 list. EPA concurs with not listing Paradise Creek since IDEQ developed a TMDL which addresses all pollutants previously listed for the creek (sediment, temperature, phosphorus, fecal coliforms, and ammonia), which EPA approved on February 12, 1998.

c. 17060201 - Squaw Creek.

IDEQ proposed de-listing Squaw Creek based on monitoring at two sites which found MBI scores of 4.07 and 4.55, both of which exceeded the WBAG criteria of 3.5, indicating full support of coldwater biota. Monitoring of salmonids at these sites also found they met the WBAG criteria for salmonid spawning. IDEQ received comments opposing de-listing of

Squaw Creek based on Forest Service and other reports. IDEQ considered and responded to these comments, and elected to de-list Squaw Creek. Subsequently, IDEQ provided additional information to EPA supporting Idaho's position that beneficial uses in Squaw Creek are fully supported, and applicable criteria are being achieved (IDEQ, 1998d; IDEQ 1999f). We concur with IDEQ's findings that water quality standards in Squaw Creek are being achieved, based on our review of the information Idaho considered.

d. 17060201 - Thompson Creek.

Idaho proposed de-listing Thompson Creek based on BURP monitoring at four sites which found MBI scores of 4.57, 5.32, 3.10, and 4.06. Scores from three of the four sites exceeded the WBAG criteria of 3.5 for full support of cold water biota, and salmonid spawning was found to be fully supported. IDEQ received comments opposing de-listing of Thompson Creek based on Forest Service, NMFS, and other reports. IDEQ considered and responded to these comments, and elected to de-list the upper portion of Thompson Creek, and list the lower portion below Scheelite Mill where impacts from mine drainage were evident. Subsequently, IDEQ provided additional information to EPA supporting Idaho's position regarding the boundary change for Thompson Creek (IDEQ, 1998d; IDEQ 1999f). We concur with IDEQ's findings that water quality standards above Scheelite Mill are being achieved, based on our review of the information Idaho considered.

e. 17060201 - Salmon River, Yankee Fork.

IDEQ proposed de-listing this waterbody in the draft 1998 list, and received comments that salmonid spawning was not fully supported based on internal USFS correspondence. IDEQ considered this comment, as well as other comments on their method for evaluating salmonid spawning (See H.3. above). As a result, IDEQ changed its criteria for evaluating salmonid spawning, and re-evaluated data for the Yankee Fork. They concluded that the segments from Fourth of July Cr. to Jordan Cr., and Jordan Cr. to the mouth did not fully support salmonid spawning, and included these segments on the final list, as being impaired by sediment and habitat alteration. Subsequently, IDEQ submitted additional data to EPA supporting this decision (IDEQ, 1998d; IDEQ 1999f). We concur with IDEQ's decision to partially list, and partially de-list, the Yankee Fork of the Salmon River.

f. 17010214 - Lake Pend Oreille.

Lake Pend Oreille was originally listed by EPA in 1994 for total dissolved gas and unknown pollutants. The listings remained unchanged by Idaho in 1996. Idaho did not propose to add or delete pollutants for this waterbody during the 1998 list cycle, however IDEQ received one comment that the lake should continue to be listed as threatened for nutrients (Brown and Hoyt, 1998), even though it was not listed for nutrients in 1994 or 1996. Although IDEQ did not respond specifically to this comment, they did explain their policy regarding "threatened waters" in Chapter 4, pp. 12-13 of the List Package, as follows:

DEQ listed no new water bodies on the 303(d) list as threatened because, for those water bodies currently supporting uses and meeting Water Quality Standards, DEQ found no existing and readily available data indicating a statistically significant downward trend in water quality that will result in such water bodies failing to meet Water Quality Standards in the next two years.

No new data was received from the public that would indicate a declining trend as specified in DEQ's request for data. DEQ was very conservative in its listing. By being over inclusive DEQ believes, any threatened waters are included on the 1998 list. Segments that were originally listed as threatened by EPA and not removed retain the threatened tag on the final list.

IDEQ's policy of not listing waters as threatened unless data show the water will not meet water quality standards within the next two years is consistent with EPA policy, which is spelled out in the National Clarifying Guidance for 1998 Listing Decisions (USEPA, 1997d) as follows:

"... States should therefore include a waterbody on the 1998 section 303(d) lists if the waterbody presently meets an applicable water quality standard, but is expected to exceed that standard before the next list submission deadline, i.e., April 2000 States should use this category to describe waters for which actual monitoring or evaluative data indicate an apparent declining water quality trend ... "

We concur with Idaho's decision to not list Lake Pend Oreille as threatened for nutrients, primarily because no data or information was presented indicating a declining trend in water quality which would result in exceeding water quality standards by the 2000 list cycle. We understand that IDEQ has just completed an assessment of the Lake Pend Oreille sub-basin, including an evaluation of both the lake and tributaries. Although we have not been able to review this assessment, we believe it will clarify the status of Lake Pend Oreille, and provide useful information which should be considered in the next list cycle.

g. 17060206 - Monumental Creek.

IDEQ changed the boundary of the listed segment of Monumental Cr. from "headwaters to Big Cr." to "headwaters to Fall Cr.". IDEQ staff (IDEQ, 1999d) indicate that the boundary for the original listing of the water by EPA in 1994 was "headwaters to Fall Cr.". In 1996 IDEQ changed the boundary to "headwaters to Big Cr.", but IDEQ believes this was an oversight, as there was no basis for a boundary change in 1996. As a result, the original 1994 boundary was re-established.

h. 17040212 - Dry Creek.

The boundaries for Dry Creek in the 1996 list were "Medley Creek to Snake River". In the final 1998 list, IDEQ changed the boundaries to "West Fk. Dry Creek to Murtaugh Lake". In documentation provided by IDEQ subsequent to submittal of the final list (IDEQ, 1999b), only a single BURP site is listed for Dry Creek, with a waterbody status call of "Not Full Support". Subsequently IDEQ provided additional information (IDEQ, 1999d; IDEQ,1999e), explaining that a total of six BURP sites exist above Murtaugh Lake, four of which indicate full support

of coldwater biota, and two of which could not be evaluated because the West Fork of Dry Creek was dry. IDEQ concluded that Dry Creek above Murtaugh Lake meets water quality standards and should be de-listed, based on data from the six sites, and the section between Murtaugh Lake and the Snake River should remain listed. We concur with these findings.

i. 17050103 - South Fork Castle Creek.

South Fork Castle Creek was previously listed for sediment, thermal modification, and flow alteration (IDEQ, 1997a). Idaho proposed de-listing the creek for all parameters based on BURP monitoring results. Several comments were received that the water should remain listed for temperature, sediment, bacteria and habitat alteration. In responding to these comments, IDEQ concurred with listing the creek for bacteria, indicated that "BURP data for S.F. Castle Cr. = FS", and deferred the listing of temperature. EPA obtained documentation of BURP results for S.Fk. Castle Creek (IDEQ, 1998f), which showed that MBI scores for the two sites sampled were both 3.98, which exceeds the WBAG criteria of 3.5 for full support of cold water biota. Salmonid spawning was not assessed. Based on this data, we concur with IDEQ's decision to not list S.Fk. Castle Creek for sediment and include the creek in the list for bacteria. As discussed further in Section I.1. below, since monitoring data indicate exceedances of the temperature criteria, we do not concur with not listing S.Fk. Castle Creek for temperature.

I. Listing Actions EPA Disapproves.

1. Temperature waters.

a. Idaho action.

In Chapter 3 of the final 1998 List Package, Idaho raised concern about including waters on the 303(d) list which exceed current Idaho temperature criteria to protect aquatic life. IDEQ expressed concern that there are significant variations in natural water temperatures throughout the state, the temperature criteria do not adequately reflect this natural variability, and Idaho currently does not have a natural conditions provision in its water quality standards. IDEQ also presents data in Chapter 3 which they believe illustrates that there are many water bodies which exceed the temperature criteria for cold water biota and salmonid spawning a significant percentage of the time, yet the salmonid population appears to be healthy. IDEQ does not want to identify and list streams which exceed temperature criteria when their uses appear to be fully supported.

The second concern raised by IDEQ is that they did not want to list streams which do not meet temperature criteria, then "... be forced to write TMDLs to reduce stream temperatures where such actions are not warranted or even possible...".

To address these concerns, IDEQ indicated they would take the following steps:

A study will be conducted aimed at producing data to support new water temperature criteria;

All streams which would be listed for temperature on the 1998 303(d) list, both carry-overs from the 1996 list and those determined to have major temperature exceedance during the 1998 303(d) process, are placed on a separate list;

Those streams on the temperature list referenced above will be re-evaluated once new water temperature standards are developed and implemented; and

TMDLs for temperature will be postponed for streams on this list for approximately 18 to 24 months, to allow time for the collection of data and development of new water quality standards to take effect.

As a result, the final Idaho 1998 303(d) list does not include numerous waterbodies for which readily available data shows there are temperature criteria violations, although contrary to Idaho's stated position above, waters previously listed for temperature in 1996 were carried over to the 1998 list.

b. EPA Review.

Idaho raises many legitimate concerns regarding natural variability in stream temperature, and the fact that current criteria do not reflect such variability. This is a common water quality standards dilemma with which many Western states are struggling. We agree with IDEQ that it is possible that beneficial uses are fully supported in some waterbodies which periodically exceed established temperature criteria. While we are sympathetic to these problems, it is also clear under 40 CFR 130.7(b) that States are expected to list waters which do not meet water quality standards, including waters which do not meet applicable water quality criteria.

This particular circumstance is specifically addressed in EPA's National Clarifying Guidance for 1998 Territory Section 303(d) Listing Decisions (USEPA, 1997d), as follows:

"... for the 1998 listing cycle, States should include on their section 303(d) lists waters that do not meet an applicable water quality standard at the time of listing, even if the standard is in the process of being revised to be less stringent. If the standard is in fact revised in the future, the water may be removed from the section 303(d) list at that time provided the water no longer meets the listing requirements. States have the discretion, of course, to assign a low priority to those waters where there is a likelihood that they may be removed from the list in the near future..."

It is clear both from the federal regulations and the guidance for 1998 lists that waters which do not meet applicable temperature criteria, even though they may be changed in the future, should be included on the state's list. Therefore, it is recommended that EPA disapprove Idaho's failure to list waters for which available data indicate temperature criteria violations.

c. Temperature criteria applicable in Idaho.

Pursuant to the goals of the Act (CWA Sec. 101(a)(2)), Idaho must protect aquatic life uses, wherever attainable. Idaho has established aquatic life uses that are to be protected in waters of the State, but IDEQ has only specifically designated aquatic life uses for a portion of its waters. Designated aquatic life uses include such categories as warm water biota, cold water biota, salmonid spawning, etc. For waters not specifically designated, a general provision has been included in the Idaho water quality standards (IDAPA 16.01.02.101.01.) stating that:

“..... the Department will apply coldwater biota criteria to undesignated waters unless Sections 101.01.b. and 101.01.c. are followed ... ”

Both State and federal temperature criteria have been established to protect aquatic life uses in Idaho, as summarized below¹:

¹ Idaho water quality standards and criteria citations refer to standards in place at the time the final 1998 list was submitted to EPA (January 4, 1999). Idaho subsequently revised its water quality standards on April 5, 2000, but standards in place at the time of list submittal were used by EPA for purposes of review of the 1998 list.

| Use | Instantaneous | Daily Average | Reference |
|--|---------------|--|-----------------------------------|
| Warmwater Biota | 33° C | 29° C | IDAPA 16.01.02.250.02.b. ii |
| Coldwater Biota | 22° C | 19° C | IDAPA 16.01.02.250.02.c. ii |
| Salmonid Spawning (applies seasonally dependent upon species present) | 13° C | 9° C | IDAPA 16.01.02.250.02.d. ii |
| Bull Trout (State Criteria) ² | | 9° C (Sept. - Oct.) | IDAPA 16.01.02.250.02.e |
| Bull Trout (State Criteria) ² | | 12° C (June - Aug.) | IDAPA 16.01.02.250.02.e |
| Bull Trout (Federal Criteria) ² | | 10° C (7 day rolling average of daily maxima; June - Sept.) | 40 CFR 131.33(a) |

Many waters have more than one applicable temperature criteria. For example, EPA has established temperature criteria for protection of bull trout, and identified specific waters to which this criteria applies (40 CFR §131.33(a)). These waters are also protected for coldwater biota and salmonid spawning uses, in most cases. There is often an overlap of applicable temperature criteria, and some of the criteria apply only seasonally. As a result, these criteria will often vary throughout the year, and more than one temperature criteria may apply at any time. Where more than one criteria is applicable, the more stringent criteria is used to evaluate compliance.

d. Data sources considered for EPA listing.

In identifying which additional waters should be added to the list for temperature, EPA only considered data which was readily available to IDEQ up to the close of the public comment

² EPA promulgated temperature criteria for bull trout in Idaho at 40 CFR 131.33(a). In this promulgation EPA specifically identified the waters to which the criteria applied. Idaho has also adopted a temperature criteria for bull trout, and identified the waters to which it applies (IDAPA 16.01.02.250.02.e.). Where there is an overlap in waters identified under the federal and state standards, only the federal criteria is applicable. For waters identified under the state standard only (ie. not identified under the federal criteria), the state criteria is applicable.

period for the draft 1998 list (July 15, 1998). Although additional data may now be available, EPA believes it is unreasonable to expect States to consider new data indefinitely for any given list, since new data can be considered in subsequent list cycles. Per 40 CFR 130.7(d) States are required to publish 303(d) lists every two years. Therefore, our disapproval of not listing certain waters for temperature, and hence our listing of these waters, is focused on data readily available to IDEQ up to the time the public comment period closed.

EPA conducted an independent evaluation of these data (see section e. below for decision criteria) to establish which waters should be added to the list.

i 1998 List Package.

Temperature data and other relevant information in the 1998 List Package was evaluated by EPA for listing purposes. The primary sources of information within the List Package were Chapter 3, including the identification of waters with “major” temperature criteria exceedances in Section 3.8, and waterbody specific data elsewhere in the Chapter.

ii IDEQ single measurement BURP data.

EPA obtained an electronic copy of IDEQ’s database of temperature measurements collected during BURP monitoring between 1994 and 1997 (IDEQ, 1999g) . The database includes records of individual measurements (as opposed to continuous recording thermographs) taken at the time other data was collected at BURP sites. These data were sorted in descending order for evaluation based on criteria in e.ii. below.

iii IDEQ thermograph data.

EPA obtained an electronic copy of IDEQ’s database of all continuous temperature measurements for surface waters collected during BURP or other monitoring (IDEQ, 1999h). Much of this data was collected during 1996 and 1997, with some measurements beginning as early as 1994. These data were analyzed to determine the percentage of measurements which exceeded applicable criteria (USEPA, 2000a).

iv Little Lost River Sub-basin Assessment

During 1998 IDEQ submitted the final Little Lost River Sub-basin Assessment to EPA (IDEQ, 1998e). In the assessment, IDEQ inventoried temperature data collected in the sub-basin by several agencies, primarily the Challis-Salmon National Forest. Table 18 in the assessment identifies 16 streams within the sub-basin with “major” exceedances of applicable temperature criteria.

v Other IDEQ data.

IDEQ conducted a watershed study of Big Elk Creek and Little Elk Creek in collaboration with the U.S. Forest Service in 1992 (IDEQ, 1996a). Daily temperature measurements were recorded during the summer months for both of these streams using a Ryan meter (IDEQ, 1992). These data were reviewed to determine the percentage of temperature measurements exceeding criteria for designated and existing uses. Coldwater biota and salmonid spawning are designated uses for Big Elk Creek (IDAPA 16.01.02.120.01.f), and these are also known to be existing uses in Little Elk Creek (IDEQ, 2000a ; IDFG, 2000). These data were analyzed to determine the percentage of measurements which exceeded applicable criteria (USEPA, 2000b).

vi Public comments.

IDEQ received 39 submittals during the November 25, 1997 - January 5, 1998 public request for data for the 1998 list (IDEQ, 1998a), and 113 public comments regarding the 1998 303(d) list (Section 4.1, 1998 List Package).

IDEQ's summary of thermograph data received from the Bureau of Land Management (BLM) during the data request (Table X. in IDEQ, 1998a) indicates that data for two waterbodies, Grays Lake Outlet (17040205) and Willow Creek (17040205) significantly exceeded applicable temperature criteria.

Regarding comments submitted during the public comment period, we reviewed IDEQ's Responses to Comments (Chapter 4, List Package) and obtained copies of comments and submittals which appeared to contain data regarding temperature (Sedler, 1997; Brown and Hoyt, 1998). Data included in these comments were primarily collected by IDEQ, either single measurement BURP data or continuous thermograph data, discussed in ii. and iii. above.

Comments submitted by Liz Sedler (Sedler, 1997) also contained data generated by the Panhandle Bull Trout Technical Advisory Team (TAT). These data identified waters in which the 7 day rolling average temperature was $\geq 15^{\circ}\text{C}$. In her comment letter, Sedler identified which of these waters the federal bull trout temperature criteria (10°C , as a 7 day rolling average of daily maxima) applied to. The method the TAT used to average their data is not the same as the federal criteria; the TAT averaged temperatures over an entire 7 day period, rather than averaging just the daily maxima for 7 days. The TAT's method likely results in a lower calculated 7 day average because it includes lower temperatures, such as would occur at night. In addition, waters the TAT identified with a 7 day average $\geq 15^{\circ}\text{C}$ would clearly exceed a 7 day average of 10°C . Finally, IDEQ staff indicated that the Panhandle Bull Trout TAT data were of sufficient quality for 303(d) listing purposes (USEPA, 1999c). Therefore, we felt these data provided an adequate basis to add waters to the list for temperature.

vii Lower Snake River data.

During review of the 1998 list, EPA was simultaneously reviewing an application by the Potlatch Corporation to renew its Lewiston NPDES discharge permit. Through the course of development of this permit, temperature data on the Lower Snake River (Potlatch, 1997) came to our attention which indicates that temperature criteria are exceeded in $>10\%$ of measurements taken at a location near Hellsgate State Park (RM 144), approximately five miles above the confluence of the Snake and Clearwater Rivers. In addition, data available in annual U.S. Geological Survey monitoring reports (USGS, 1975 - 1995), and data posted on the Streamnet website (<http://www.streamnet.org/subbasin/crbtdata.html>) indicates significant exceedances of applicable temperature criteria in the lower Snake River in Idaho.

This river segment is designated under the Endangered Species Act as critical habitat for fall and spring/summer chinook and Snake River sockeye. Additionally, the river segment is a key migratory pathway for steelhead, which has been listed as threatened under the Endangered Species Act. Because data show significant exceedances of applicable criteria, we believe it is essential to add this water to the Idaho list now to protect listed species, rather than await the next listing cycle.

e. EPA decision rules for including waters on the list.

In establishing which waters must be added to the 1998 list for temperature, EPA independently evaluated data available to Idaho during the 1998 list cycle. Rules used by EPA in making listing decisions are explained in the following sub-sections.

i IDEQ “major” criteria violation determinations.

In the WBAG (IDEQ, 1996c), IDEQ has established a procedure to determine whether exceedances of applicable criteria are “major” and therefore warrant 303(d) listing, or “minor” and do not warrant listing. Generally the guidance recommends that regional IDEQ staff make a professional judgement based on a weight of evidence approach, considering the frequency or duration of exceedances, as to whether criteria exceedances resulted in the waterbody not fully supporting its beneficial uses. For the final 1998 list, in Figure 4.8 (p. 138) of the List Package, IDEQ further clarified this policy for violations of the temperature criteria, as follows:

Major for salmonid spawning is >16 degrees Celsius
Major for coldwater biota is >22 degrees Celsius

Although it is unclear whether this policy is intended to apply to daily average criteria, the instantaneous criteria, or both, waters which IDEQ believes have major temperature criteria violations are identified in Section 3.8 of the List Package.

EPA has a number of concerns regarding Idaho’s treatment of temperature criteria exceedances as major or minor, our primary concern being that implementation of the policy essentially raises the criteria by 3°C. This is inconsistent with federal regulations and the Clean Water Act in that criteria may only be changed by officially revising the Idaho water quality standards.

Despite our concerns with Idaho’s policy, we concur with IDEQ’s judgement that exceedances they view as “major” should be a basis for adding these waters to the list because they represent significant exceedances of established criteria. However, we believe it may be appropriate to list some of the waters Idaho identifies as having “minor” violations as well. We believe these additional waters have been identified through our independent evaluation of the data Idaho considered.

ii Single sample BURP temperature measurements.

At many BURP sites IDEQ records a single measurement of the water temperature while other BURP data is collected. IDEQ elected not to use this data to identify major temperature violations because they did not establish a set field procedure for collecting the data (e.g. location, time of day, etc.) to ensure its representativeness, they were concerned over the accuracy of the measurements due to the coarse scale (-10 to 100° C) of some of the thermometers used, and it is unknown whether thermometers were calibrated (IDEQ, 1999c).

EPA understands the limitations of this data both from a quality assurance and representativeness standpoint. Although there is uncertainty in the representativeness of the BURP temperature data because there are no established monitoring protocols, the Idaho instantaneous temperature standard is also non-specific as to when or how data should be collected to compare to the standard. For example, sampling procedures and locations are not specified in the description of the instantaneous and daily average temperature criteria to protect coldwater biota:

“...Water temperatures of twenty-two (22) degrees C or less with a maximum daily average of nineteen (19) degrees C ...”

The BURP data collected may not be as accurate as desirable, but BURP workplans (IDEQ 1996b; IDEQ 1997c) specify a standard method for calibrating thermometers, with a specific recommendation that the thermometers have a scale marked every 0.1°C. Although scales of this precision may not always have been used in practice, we believe thermometers used could be read to at least +/- 1° C.

Although BURP or other single sample temperature data is not the most desirable data to evaluate compliance with temperature criteria, we believe it is unreasonable to exclude its use for listing purposes where more reliable data (e.g. thermographs) are not available.

However, we believe there are limitations in how this data should be used. First, the data are instantaneous measurements taken once at a single sample location. It would not be appropriate to compare these single-point-in-time measurements to the federal or state bull trout criteria, or the average daily salmonid spawning or coldwater biota criteria, all of which are based on either daily or weekly average values. For this reason, we believe these data should only be used to evaluate compliance with instantaneous criteria.

Second, as stated above, we believe field crews should be able to determine temperatures to within +/- 1° C. If field crews recorded a temperature 1° C or more above the applicable instantaneous criteria, EPA believes it is reasonable to assume that the actual stream temperature at that point exceeded the instantaneous criteria, and these measurements should be a basis for listing the water.

EPA obtained an electronic copy of the BURP temperature monitoring database from IDEQ (IDEQ, 1999g). Instantaneous temperature criteria in Idaho water quality standards include

criteria for warm water biota (33° C), cold water biota (22° C), and salmonid spawning (13° C). Idaho water quality standards were reviewed to establish the applicable use for each waterbody, and BURP measurements were evaluated to determine if they exceeded the applicable temperature criteria by 1° C or more (See Idaho 1998 303(d) Zip disk, files under BURP single measurement data - 1996, 1997). Waters exceeding this threshold will be proposed to be added the 1998 303(d) list (see Attachment C).

iii Continuous thermograph data.

During 1996 and 1997, IDEQ monitored a number of streams for temperature using continuous (or near continuous) reading thermographs. Since this type of monitoring generates enormous quantities of data, decisions must be made as to how to summarize and interpret the data. In analyzing continuous data, we relied upon guidance published by EPA for preparing 1996 §305(b) reports (USEPA, 1995). This guidance indicates that if $\leq 10\%$ of measurements exceed an applicable criteria such as temperature, then the waterbody should be considered to fully support its uses for that criteria.

In our analysis of thermograph data, we first established the applicable uses and temperature criteria by reviewing the Idaho water quality standards, and by contacting IDEQ regional office staff. Regional staff were often able to identify sensitive existing uses which are protected but not specifically designated in Idaho water quality standards. In the case of salmonid spawning, regional staff were often able to identify which salmonid species were present in a stream in order to establish the appropriate time period in which the salmonid spawning temperature criteria apply.

A statistical analysis was then conducted to determine what percentage of measurements recorded by each thermograph exceeded the applicable criteria for that waterbody. If the criteria were exceeded in more than 10% of measurements for any applicable temperature criteria, it was considered an adequate basis to propose adding the water to the 1998 303(d) list. A summary of the data and analysis results is presented in Attachment C.

2. Other waters.

a. 17050102 - Wickahoney Creek

Wickahoney Creek was included in 1996 303(d) list for sediment and flow alteration with boundaries of "*Headwaters to Big Jacks Creek*". IDEQ received a comment during the public comment period (Jackson and Jackson, 1998) stating that the upper 2.5 miles of the listed segment should not be listed because it is ephemeral. No new information was presented indicating that the section in question was meeting water quality standards.

The IDEQ response to this comment was very brief:

"... (Allotment Permittee) BURP data=NFS, not removing H or QALT..."

Based on this comment, IDEQ chose to change the upper boundary of the listed segment, so that the listed segment is now

"2.5 miles below headwaters to Big Jacks Creek".

Idaho water quality standards apply to waters of the State, which are defined as (IDAPA

16.01.02.003.116):

“... All the accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof which are wholly or partially within, which flow through or border upon the state...”

Similarly, waters of the United States are defined at 40 CFR 122.2 to include:

*“... (c) All other waters such as intra-state lakes, rivers, streams (including intermittent streams), ...
.....(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition ...”*

While the anecdotal information presented in the comment letter are inadequate to conclude whether the upper portions of Wickahoney Creek are intermittent, it is clear that intermittent streams are considered both waters of the U.S. and waters of the State, and therefore Idaho's water quality standards would apply to the upper portion of Wickahoney Creek in question. Since no new information has been presented indicating that the upper portion of Wickahoney Creek meets applicable water quality standards, and since the available BURP data results (IDEQ, 1998d) indicate that Wickahoney Creek does not fully support its uses, we recommend this boundary change be disapproved, and the original boundary of “*Headwaters to Big Jacks Creek*” be reinstated.

Consistent with EPA's position (USEPA, 1997d; Federal Register, 1999) of only listing waterbodies impaired by pollutants, we recommend the 2.5 mile upstream segment only be listed for sediment.

b. 17010214 - Pack River.

In the Decision Document for waters de-listed from the 1996 list (IDEQ, 1999b), a single BURP site is listed (94NIRO0009). IDEQ indicates that the support status for salmonid spawning is NFS (not full support), the site status is NFS, and the waterbody status is NFS. These findings are consistent with the decision process in the WBAG. The decision process specifies that waters become a:

“...candidate for listing as water quality-limited, as required under Section 303(d) of the CWA, once a beneficial use has been determined to be “Not Full Support”...”

However, in this instance IDEQ did not include Pack River on the 1998 list, nor was any additional data presented in the List Package or Decision Document to support not listing the waterbody. EPA contacted staff in both the IDEQ Regional and Central offices to establish whether other data was available to support the de-listing, but no data or rationale was forthcoming. Therefore, it is recommended that EPA add Pack River to the 1998 Idaho 303(d) list, for the same pollutants it was listed in 1996 (nutrients, sediment, dissolved oxygen, pathogens, pesticides), except habitat alteration. Consistent with EPA's position (USEPA, 1997d; Federal Register, 1999) of only listing waterbodies impaired by pollutants, we do not

recommend listing the Pack River for habitat alteration.

3. Waters recommended to be added to the Idaho Section 303(d) list.

Based on information and analysis presented in sections 1. and 2. above, it is recommended that EPA propose to add 134 waters for temperature, one water for sediment (Wickahoney Creek), and one water for nutrients, sediment, dissolved oxygen, pathogens and pesticides (Pack River) to the 1998 Idaho Section 303(d) list. These waters are identified in Attachment C, along with data sources used as a basis for their listing.

J. Waters in Indian Country.

The 1998 State of Idaho list includes some but not all waters EPA included in the 1994 list in response to court order. EPA's approval of Idaho's Section 303(d) list extends to all waterbodies on the list with the exception of those waters that are within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action to approve or disapprove the State's list with respect to those waters at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under Section 303(d) for those waters.

In the particular case of Idaho, the 1994 303(d) EPA listing of Indian Country waters remains in effect. Consistent with the order of the court, these waters are included in the TMDL development schedule developed jointly by IDEQ, the plaintiffs, and EPA. EPA, the Tribes, and State will continue working in partnership to develop TMDLs for waters included on the 1994 list.

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IV. ATTACHMENTS:

- A. IDEQ commitment to address WBAG and BURP Issues.
- B. Supporting documentation for Tygee Creek.
- C. Waters proposed to be added to the 1998 list.

ATTACHMENT A

IDEQ commitment to address WBAG and BURP Issues.

ATTACHMENT B

Supporting documentation for Tygee Creek

ATTACHMENT C

Waters proposed to be added to the 1998 list