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Monday  
April 28, 1997

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## Part III

# Environmental Protection Agency

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40 CFR Part 131  
Water Quality Standards for Idaho;  
Proposed Rule

**ENVIRONMENTAL PROTECTION  
AGENCY****40 CFR Part 131****[FRL-5817-8]****Water Quality Standards for Idaho****AGENCY:** Environmental Protection Agency.**ACTION:** Proposed rule.

**SUMMARY:** EPA is proposing water quality standards that would be applicable to the waters of the United States in the State of Idaho. If promulgated as final standards, they will supersede those aspects of Idaho's water quality standards that EPA disapproved in 1993 and 1996. EPA is taking this action because it believes those State water quality standards are inconsistent with the Clean Water Act and EPA's implementing regulations. The timing of this rulemaking is designed to comply with a court order directing EPA to propose standards by April 21, 1997 and to promulgate final standards 90 days thereafter. EPA is proposing new use designations on currently unclassified waters in the State, and new use designations on 53 specified water body segments whose use designations do not meet the goals of the Clean Water Act and which have not been justified by the State. EPA is also proposing new temperature criteria necessary to protect certain threatened and endangered species and species being considered for listing as threatened and endangered. Finally, EPA's proposal addresses the State's mixing zone and anti-degradation policies as well as its excluded waters provision.

**DATES:** EPA will accept public comments on this rulemaking until May 28, 1997. Comments postmarked after this date may not be considered. EPA is sponsoring two public hearings on today's proposed water quality

standards for Idaho on May 12, 1997. The first is scheduled for 2-5:00 pm (MDT), and the second for 6:30-9:30 pm (MDT).

**ADDRESSES:** An original plus 2 copies, and if possible an electronic version of comments either in WordPerfect or ASCII format, should be addressed to Lisa Macchio, U.S. EPA Region 10, Office of Water, 1200 Sixth Avenue, Seattle, Washington, 98101.

The public hearings will be held in Rooms A and B of the Department of Environmental Quality Earl Chandler Building, 1410 North Hilton, Boise, Idaho.

The administrative record for today's proposed rule is available for public inspection at EPA Region 10, Office of Water, 1200 Sixth Avenue, Seattle, Washington, 98101, between 8:00 a.m. to 4:30 p.m.

**FOR FURTHER INFORMATION CONTACT:** Lisa Macchio at U.S.EPA Region 10, Office of Water, 1200 Sixth Avenue, Seattle, Washington, 98101 (telephone: 206-553-1834), or William Morrow in U.S.EPA Headquarters at 202-260-3657.

**SUPPLEMENTARY INFORMATION:****Preamble Outline**

- A. Potentially Affected Entities
- B. Background
  - 1. Statutory and Regulatory Background
  - 2. Factual Background
- C. Unclassified Waters
  - 1. Background
  - 2. Idaho's Unclassified Waters Provision
  - 3. Federal Use Designation for Unclassified Waters in Idaho
- D. Stream Segments With Specific Beneficial Use Designations
  - 1. Background
  - 2. EPA Review of Idaho's Use Designations
  - 3. Recent Idaho Actions
  - 4. Federal Beneficial Use Designations for Specific Water Body Segments
    - i. Primary Contact Recreation
    - ii. Cold Water Biota
    - iii. Salmonid Spawning

- 5. Request for Comment and Data
- E. Temperature Criteria for Threatened and Endangered Species
  - 1. Background
  - 2. Kootenai River White Sturgeon
    - i. EPA's Review
    - ii. Idaho's Temperature Criteria
    - iii. EPA's Proposed Temperature Criteria
  - 3. Freshwater Aquatic Snails
    - i. EPA's Review
    - ii. Idaho's Temperature Criteria
    - iii. EPA's Proposed Temperature Criterion
  - 4. Bull Trout
    - i. EPA's Review
    - ii. Idaho's Temperature Criteria
    - iii. EPA's Proposed Temperature Criteria and Bull Trout Distribution
- F. Antidegradation Policy
- G. Mixing Zone Policy
  - 1. Idaho's Existing Policy
  - 2. Federal Mixing Zone Policy for Idaho
- H. Excluded Waters Provision
- I. Federal Variances
- J. Regulatory Impact Analysis
  - 1. Use Attainability
  - 2. Costs
    - i. Overview of Methodology to Estimate Potential Costs Related to New Use Designations
    - ii. Results for Stream Segments with Specific Use Designations and Unclassified Waters
    - iii. Overview of Approach to Estimate Potential Costs Related to New Temperature Criteria
- K. Executive Order 12866
- L. Regulatory Flexibility Act as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996
- M. Unfunded Mandates Reform Act
- N. Paperwork Reduction Act
- O. Executive Order 12875

**A. Potentially Affected Entities**

Citizens concerned with water quality in Idaho may be interested in this rulemaking. Entities discharging pollutants to waters of the United States in Idaho could be indirectly affected by this rulemaking since water quality standards are used in determining National Pollutant Discharge Elimination System (NPDES) permit limits. Categories and entities which may ultimately be affected include:

Category	Examples of potentially affected entities
Industry .....	Industries discharging pollutants to surface waters in Idaho.
Municipalities .....	Publicly-owned treatment works discharging pollutants to surface waters in Idaho.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding NPDES regulated entities likely to be affected by this action. This table lists the types of entities that EPA is now aware could potentially be affected by this action.

**B. Background****1. Statutory and Regulatory Background**

Under section 303 (33 U.S.C. 1313) of the Clean Water Act (CWA), States are required to develop water quality standards for waters of the United States within the State. Section 303(c) provides that water quality standards shall include the designated use or uses

to be made of the water and criteria necessary to protect the uses. States are required to review their water quality standards at least once every three years and, if appropriate, revise or adopt new standards. The results of this triennial review must be submitted to EPA, and EPA must approve or disapprove any new or revised standards.

EPA regulations implementing section 303(c) are published at 40 CFR Part 131. Under these rules, the minimum elements that must be included in a State's water quality standards include: use designations for all water bodies in the State, water quality criteria sufficient to protect those use designations, and an anti-degradation policy consistent with EPA's water quality standards. 40 CFR 131.6. States may also include in their standards policies generally affecting the standards' application and implementation. See 40 CFR 131.13. These policies are subject to EPA review and approval.

The authority to review and to approve or disapprove new or revised water quality standards for EPA Region X has been delegated from the Administrator to the Regional Administrator, and redelegated to the Regional Director of Water. See EPA's Delegation Manual, § 2-10, dated January 28, 1976, and EPA Region X's redelegation manual, § R10 1250.42, September 12, 1995. The authority to determine that new or revised standards are needed, notwithstanding a prior approval, has not been delegated, and so remains with the Administrator.

Section 303(c) of the CWA authorizes EPA to promulgate water quality standards to supersede State standards that have been disapproved, or in any case where the Administrator determines that a new or revised standard is needed to meet the CWA's requirements. EPA is acting today to promulgate standards superseding State standards that have been deemed disapproved by the U.S. District Court for the Western District of Washington's in *Idaho Conservation League v. Browner* (No. C96-807WD, February 20, 1997, herein "*ICL v. Browner*"). Today's proposal represents a preliminary determination by the Administrator that each of the elements in today's rulemaking is necessary and appropriate.

EPA's usual practice when promulgating a water quality standard is to provide 45 days advance notice of a hearing, and a public comment period that extends at least until the date of the hearing. 40 CFR § 25.5(a). However, the regulations also allow for the modification of specific deadlines where necessary to accommodate the specific provisions of court orders. Here, EPA is under a court order to propose standards in 60 days and to promulgate 90 days after proposal. A comment period of 45 days would not allow EPA sufficient time to analyze and consider a substantial set of comments. Accordingly, EPA is providing a

comment period of 30 days as well as holding two public hearings on May 12, 1997. The demanding schedule for promulgation of standards in this case has also led EPA to propose a special procedure by which the Regional Administrator for Region 10 may grant variances from EPA-designated uses where, following promulgation of these standards, information becomes available showing that an EPA-designated use is unattainable. See section I. below for a detailed discussion.

Section 7 of the Endangered Species Act requires federal agencies, in consultation with the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS), to insure that their actions are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of habitat of such species which have been designated as "critical." Consultation is designed to assist federal agencies in complying with the requirements of section 7 by supplying a process within which FWS and NMFS provide such agencies with advice and guidance on whether an action complies with the substantive requirements of ESA. Approval of State water quality standards and federal promulgation of water quality standards are considered federal actions, and hence EPA is required to comply with the requirements of section 7 of ESA prior to final promulgation.

As a result of EPA's responsibilities and duties under Section 7 of the Endangered Species Act, EPA has initiated informal consultation with FWS and NMFS on this rulemaking. As part of this process EPA is preparing a biological assessment document which will be submitted to FWS and NMFS prior to the final rulemaking. EPA expects to conclude consultation with the Services prior to the final rulemaking.

EPA developed today's proposed standards by application of existing State requirements for development of water quality standards set out in 40 CFR Part 131, EPA's implementing policies and procedures, and existing methodologies for criteria development. The basis for the proposed rule is described more fully below in sections C-I.

## 2. Factual Background

On July 11, 1994, Idaho submitted a complete set of water quality standards to EPA for review and approval. Pursuant to section 303(c)(3) of the CWA, EPA reviewed this complete set of standards. Under the mistaken

assumption that all the standards submitted in 1994 were new or revised, EPA reviewed and approved or disapproved all of the State's standards in a June 25, 1996 letter from Chuck Clarke, Region X Regional Administrator, to Wallace Cory, Director, Idaho Division of Environmental Quality. Specifically, the letter disapproved the State's default use designation for unclassified waters, the use designations for 53 waters with designated uses, temperature criteria, portions of the mixing zone and antidegradation policies, the Kinross-Delamar variance, and the excluded waters provision. The letter stated that EPA was approving the remainder of Idaho's water quality standards, subject to completing the consultation required under section 7 of the Endangered Species Act.

Subsequent to the June 25, 1996 action, EPA Region X discovered records that clarified that the standards it had acted on included not only new and revised standards, but also standards which had been previously approved in the same or substantially the same form. This discovery was significant because Region X had been delegated authority to approve or disapprove only new or revised State standards; the Administrator has reserved the authority to determine that new or revised federal standards are needed where State standards have previously been approved. EPA promptly notified the parties and the court of this discovery.

To ensure that all the deficiencies in Idaho's standards were addressed in these circumstances, by a November 22, 1996 memorandum from Chuck Clarke to the Administrator, Region X acknowledged its error and recommended that the EPA Administrator act pursuant to her discretionary authority to fill those gaps where Region X had acted beyond its authority. On February 20, 1997, the District Court in *ICL v. Browner* held that EPA was obligated to promulgate standards to supersede all of those disapproved in the June 25, 1996 letter, regardless of whether the standards were new or revised.

## C. Unclassified Waters

### 1. Background

Water quality standards consist of designated beneficial uses, criteria necessary to protect those uses, and an antidegradation policy. Water quality standards establish the "goals" for a water body. Designated beneficial uses determine what criteria apply to the water body. In general, States have not

had the resources to designate beneficial uses on a segment-by-segment basis for all of the State's surface waters. States usually initially designate beneficial uses site-specifically for a subset of water segments that are potentially threatened by degradation, and then as resources and information become available gradually begin to classify the remainder. This allows States to focus limited resources on collecting information to protect the water segments at most risk. This approach combined with a default use designation for unclassified waters ensures all State surface waters have designated beneficial uses and are protected for purposes of the Clean Water Act.

Section 101(a)(2) of the Clean Water Act States the national goal of achieving by July 1, 1983, "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and \* \* \* recreation in and on the water," wherever attainable. These national goals are commonly referred to as the "fishable/swimmable" goals of the Clean Water Act. Section 303(c)(2)(A) requires water quality standards to "protect the public health and welfare, enhance the quality of water, and serve the purposes of this Act." EPA's regulations at 40 CFR Part 131 interpret and implement these provisions through a requirement that water quality standards provide for fishable/swimmable uses unless those uses have been shown to be unattainable, effectively creating a rebuttable presumption of attainability. Unless that presumption has been rebutted, a default designation of fishable/swimmable beneficial uses apply.

Under 40 CFR § 131.10(j), States and Tribes are required to conduct a use attainability analysis (UAA) whenever the State or Tribe designates or has designated uses that do not include the uses specified in Section 101(a)(2) of the CWA, or when the State or Tribe wishes to remove a designated use that is specified in Section 101(a)(2) of the Act, or adopt subcategories of uses that require less stringent criteria. Section 131.10 lists grounds upon which a finding of un-attainability may be based. At a minimum, uses are considered by EPA to be attainable if the uses can be achieved when (1) effluent limitations under Section 301(b)(1) (A) and (B) and Section 306 are established for point source dischargers, and (2) cost effective and reasonable best management practices are established for nonpoint source dischargers.

A UAA is defined in 40 CFR § 131.3(g) as a "structured scientific assessment of the factors affecting the attainment of a use which may include physical, chemical, biological, and economic factors as described in § 131.10(g)." In a UAA, the physical, chemical and biological factors affecting the attainment of a use are evaluated through a water body survey and assessment. In addition, where the economic impact of attaining a use is an issue, those impacts may be documented in the UAA.

## 2. Idaho's Unclassified Waters Provision

Idaho's regulations at 16.01.02.101.01. adopted August 24, 1994, protected unclassified surface waters for primary contact recreation, unless the physical characteristics of a water body prevented primary contact recreation. In those cases, the water body was protected for secondary contact recreation. While providing for swimmable waters unless and until such use is shown to be unattainable, this provision did not provide any protection for aquatic life, that is, the "fishable" component of fishable/swimmable uses. In its June 1996 letter, EPA disapproved this provision because it did not protect unclassified waters for "protection and propagation of fish, shellfish and wildlife" and because the State had not demonstrated that such uses were unattainable in unclassified waters, as required by sections 101(a) and 303(c) of the CWA and by EPA's regulations.

On December 1, 1996, Idaho adopted a modified unclassified waters provision which protects unclassified waters for all recreational use in and on the water and the protection and propagation of fish, shellfish and wildlife, "wherever attainable." By letter dated September 23, 1996, Idaho explained that this language was not intended to establish a default designation for aquatic life, but rather that the State contemplated that when regulatory decisions such as NPDES permit decisions arose, data would be reviewed to determine the appropriate beneficial use. Based on this letter and conversations with Idaho's Division of Environmental Quality, it is EPA's understanding that under Idaho's intended interpretation, this provision does not presume that unclassified waters will be protected for fishable/swimmable uses and does not require that such uses be demonstrated to be unattainable before a lesser use is employed in regulatory decisions. Idaho's approach appears to shift the

burden so as to require a demonstration that fishable/swimmable uses are attainable before they will be protected. This is inconsistent with the goals of CWA § 101(a)(2) and the requirements of CWA § 303(b)(2) and 40 CFR 131.10.

## 3. Federal Use Designation for Unclassified Waters in Idaho

EPA is proposing to promulgate a default use designation for unclassified waters which provides for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, unless it is demonstrated to EPA for a particular water body that such use(s) are unattainable. Demonstrations that a fishable/swimmable use is unattainable for a particular unclassified water body can be made by applying for a variance to the federal standard. The federal variance procedure is discussed in section I. The CWA specifies that States are to establish water quality standards which includes designating beneficial uses. It is only when a State adopts standards inconsistent with the CWA, that EPA must promulgate replacement standards. If Idaho formally designates a beneficial use for a specific unclassified water body, that water body would no longer be subject to the proposed unclassified waters provision. Such designations are subject to EPA review and approval under CWA § 303(c)(2). In addition, if Idaho corrects the deficiency in their current designated use for unclassified waters, and EPA approves, EPA will remove today's federal designated use for unclassified waters.

In order to provide for the protection and propagation of aquatic life in unclassified waters, it is necessary to determine the predominant type of aquatic life in Idaho's surface waters. Aquatic life in different ecosystems have different needs. Salmonid fishes, especially chinook salmon and bull trout, are often referred to as cold-water fish (ODEQ, 1995). Cold-water fish occur in all of Idaho's basins, with some limited exceptions of isolated sub-basins in southern Idaho. Table 1 shows the non-salmonid fish found in Idaho (Simpson and Wallace, 1982). These fish are classified as cool/cold-and warm-water species (ODEQ, 1995; Simpson and Wallace, 1982; Sigler and Sigler, 1987). Non-salmonid cool/cold-water fish native to Idaho include several species of sculpin, dace, chub, and suckers. The only known warm-water species of fish native to Idaho are the Utah sucker and the Utah chub.

TABLE 1.—NONSALMONID FISHES OF IDAHO (SIMPSON AND WALLACE, 1982)

Family	Common names	Introduced or native	Warm or cool/cold
CLUPEIDAE .....	American Shad, Herring .....	Introduced .....	Warm.
CENTRARCHIDAE ....	Bass, Largemouth Bass, Pumpkinseed, White Crappie, Green Sunfish, Warmouth, Bluegill.	Introduced .....	Warm.
	Black Crappie, Smallmouth Bass .....	Introduced .....	Cool/Cold.
COTTIDAE .....	Bear Lake Sculpin, Mottled Sculpin, Paiute Sculpin, Shorthead Sculpin, Shoshone Sculpin, Slimy Sculpin, Torrent Sculpin, Wood River Sculpin.	Native .....	Cool/Cold.
ICTALURIDAE .....	Black Bullhead, Brown Bullhead, Channel Catfish, Tadpole Madtom, Flathead Catfish.	Introduced .....	Warm.
CATOSTOMIDAE .....	Bluehead Sucker, Bridgelp Sucker, Largescale Sucker, Longnose Sucker, Mountain Sucker.	Native .....	Cool/Cold.
	Utah Sucker .....	Native .....	Warm.
GADIDAE .....	Burbot .....	Native .....	Cool/Cold.
CYPRINIDAE .....	Common Carp, Fathead Minnow, Goldfish, Tench, Tui Chub .....	Introduced .....	Warm.
	Chiselmouth, Leatherside Chub, Leopard Dace, Longnose Dace, Northern Squawfish, Peamouth, Redside Shiner, Speckled Dace, Lake Chub.	Native .....	Cool/Cold.
	Utah Chub .....	Native .....	Warm.
POECILIIDAE .....	Guppy, Western Mosquitofish .....	Introduced .....	Warm.
PETROMYZONTIDAE .....	Pacific Lamprey .....	Native .....	Cool/Cold.
ESOCIDAE .....	Northern Pike .....	Introduced .....	Cool/Cold.
OSMERUS .....	Rainbow Smelt .....	Introduced .....	Cool/Cold.
PERCOPSIDAE .....	Sand Roller .....	Native .....	Cool/Cold.
ACIPENSERIDAE .....	White Sturgeon .....	Native .....	Cool/Cold.
PERCIDAE .....	Walleye, Yellow Perch .....	Introduced .....	Cool/Cold.

The Utah Chub is native to the Bear River basin and the Snake River basin above Shoshone falls. It is also found in the Wood River system and in Henry's Fork of the Snake River with its range restricted to the area below Mesa Falls (Simpson and Wallace, 1982). The Utah Chub prefers lake, pond and reservoir environments and is tolerant of warmer water temperatures (Simpson and Wallace, 1982). The Utah Chub is considered a "nuisance" in trout waters, and the Idaho Department of Fish and Game has attempted, unsuccessfully to eradicate Utah Chub from important trout waters (Simpson and Wallace, 1982). Although no life cycle studies have been conducted in Idaho, the successful colonization of the Utah Chub in trout waters would seem to indicate that the Utah Chub can reproduce and survive in cold water. The Utah Sucker is also found in the Bear River basin and the Snake River basin above Shoshone Falls. Although the temperature requirements for different stages of its life cycle are unknown, its geographic distribution covers a wide range of warm to very cold waters which suggest it is an adaptable species (Simpson and Wallace, 1982).

The majority of native Idaho fish are classified as cold water species and the presence of these species occurs throughout the entire State. The only two warm water native fish species are of limited geographic range and also occur where cold water native fish species exist. In addition, of the 240 water segments that Idaho has

specifically designated beneficial uses for in their water quality standards (see IDAPA 16.01.02.100.-161.), only 3 have been designated as warm water biota. Of those three, EPA is proposing to promulgate cold water protection for one of those streams based on the presence of cold water species (see section D.4.ii.). EPA believes having a default assumption protective of cold water species applicable in the State of Idaho is reasonable based upon the State's beneficial use designations to date and the scientific information presented above.

Idaho has set out in its water quality standards at 16.01.02.250.02.c. criteria necessary to support cold water aquatic life. Because the predominant ecosystem in Idaho is comprised of cold water aquatic life, EPA is proposing to rely on Idaho's existing criteria for cold water biota for the protection of unclassified waters, except where lower temperatures are required to protect threatened and endangered species (see section E below). Idaho's existing criteria for cold water biota include criteria for dissolved oxygen (D.O.), temperature, ammonia, and turbidity. EPA solicits comment on the selection of cold water biota as a default beneficial use for unclassified waters. In particular, EPA seeks information about the present distribution of various salmonid and non-salmonid cold water species in Idaho. EPA also solicits comment on the distribution of warm water species in Idaho. EPA seeks data on the temperature requirements of sensitive life cycle stages for the Idaho

Chub and the Idaho Sucker. EPA also seeks comment on the historical distribution of both native cold water and native warm water species in Idaho.

The second component of "fishable/swimmable" is proposed to be addressed through the primary contact recreation use and associated criteria. However, as discussed below in section D.4.i., Idaho's criteria for secondary contact recreation are adequate to protect swimming. EPA seeks comment on the option of relying on secondary contact recreation for protection of recreation in unclassified waters. Specifically, EPA is seeking comment on whether a primary contact recreation use designation is necessary when the criteria associated with secondary contact recreation are protective of swimming.

When Idaho designates a beneficial use for a specific water body that is currently unclassified, that water body will no longer be within the scope of EPA's unclassified waters beneficial designated use. EPA will review the State's beneficial use designation for specific water bodies and approve or disapprove as part of EPA's review process under section 303(c) of the CWA.

#### D. Stream Segments With Specific Beneficial Use Designations

##### 1. Background

As discussed in Section "C. Unclassified Waters" above, the federal water quality standards regulations require that water quality standards

provide for fishable/swimmable uses unless it has been demonstrated that attaining the designated beneficial uses is not feasible for any of the reasons described in 40 CFR 131.10(g). Whenever the State designates or has designated uses that do not include these fishable/swimmable uses or when the State wishes to remove a designated use, a use attainability analysis (UAA) must be completed and submitted to EPA for review.

## 2. EPA Review of Idaho's Use Designations

Idaho's 1994 water quality standards which were submitted to EPA for review contained 53 water body segments which had designated beneficial uses which were less than fishable/swimmable. More specifically, the designated beneficial uses for 9 segments were missing cold water biota, for 18 were missing primary contact recreation and for 26 were missing both cold water biota and primary contact recreation. Idaho had not submitted UAA's justifying the lowered uses for these segments.

In a letter to Idaho from EPA in October 1995, EPA pointed out this deficiency. Idaho took no action. On June 25, 1996, EPA disapproved the uses for these 53 water body segments because the State had failed to justify lower use classifications in accordance with 40 CFR § 131.10(j). EPA Stated that, to meet the requirements of the CWA, Idaho must either submit use attainability analyses providing the justification for less than fishable/swimmable uses for the subject waters or revise the standards to include fishable and swimmable uses.

## 3. Recent Idaho Actions

To date, Idaho has taken action to revise the designated beneficial uses for 2 of the 53 water body segments. Idaho adopted a temporary rule on February 11, 1997 for the upgrade of uses for West Fork Blackbird Creek, SB 4211 in the Salmon Basin, and Lindsay Creek, CB 210 in the Clearwater Basin. The temporary rule designated cold water biota and salmonid spawning use for West Fork Blackbird Creek and secondary contact recreation for Lindsay Creek and became effective on March 1, 1997. Idaho submitted this temporary rule to EPA on March 24, 1997.

With these changes, it appears that the beneficial use designations for these segments meet the requirements of 40 CFR 131.10. However, the process followed by Idaho in adopting this temporary rule has not yet provided an opportunity for public hearing or comment on the rule as required by 40

CFR 131.20. Because these segments are covered by Judge Dwyer's order, and because EPA has not completed its approval/disapproval action on Idaho's temporary rules for these segments, they are included in today's proposal. If EPA approves these or other State adopted standards before promulgating a final Federal rule, there will be no need to include them in the final promulgation.

## 4. Federal Beneficial Use Designations for Specific Water Body Segments

In its modified order, the District Court ordered EPA to propose water quality standards by April 21, 1997 for the 53 water body segments whose designations EPA had disapproved in June 1996. The brevity of this schedule did not allow EPA time to complete its review of available data on each of these segments, nor did it allow EPA time to solicit data prior to this proposed rulemaking. Accordingly, in proposing designated beneficial uses for the water body segments of concern, EPA is relying on the rebuttable presumption implicit in its regulations, that fishable/swimmable uses are attainable. If further data indicates that this presumption is not appropriate for particular water bodies, EPA's final rule will be revised accordingly. In particular, if EPA determines, based on the record, that any of Idaho's designations are justified, there will not be a need for federally promulgated use designations for the water bodies in question. EPA believes that this approach is reasonable because it is consistent with the goals in section 101(a)(2) of the CWA and the implementing requirements in the water quality standards regulations at 40 CFR Part 131.

Idaho's use classification system includes a number of beneficial uses for its waters, including "domestic water supply", "agricultural water supply", "cold water biota", "warm water biota", "salmonid spawning", "primary contact recreation" and "secondary contact recreation". EPA's approach in proposing beneficial uses for the 53 water body segments is to select uses from Idaho's system which correspond to "fishable/swimmable" uses. This approach meets the requirements of the CWA while facilitating ultimate withdrawal of federal standards.

### i. Primary Contact Recreation

Forty-four of the water bodies whose beneficial use designations were disapproved by EPA were missing primary contact recreation. In most instances, the water bodies were assigned secondary contact recreation; a few segments had neither primary or secondary. In light of recent discussions

with the State, it now appears that the criteria assigned by Idaho to protect secondary contact recreation are consistent with EPA guidance on bacteriological criteria for primary contact recreation.

In the current Idaho water quality standards, except for fecal coliform bacteria, all of the criteria applicable to primary contact recreation are also applicable to secondary contact recreation (i.e., all toxic substance criteria for the protection of human health apply to both primary and secondary contact recreation, see IDAPA 16.01.02.250.01.c.). It is only the bacteriological criteria which differ between primary and secondary contact recreation.

Idaho's current bacteriological criteria for the protection of secondary contact recreation are concentrations of fecal coliform bacteria not to exceed a geometric mean of 200/100 milliliters (ml) based on a minimum of five samples taken over a thirty day period, 800/100 ml at any time; and 400/100 ml in more than ten percent of the total samples taken over a thirty day period. (See IDAPA 16.01.02.250.01.b.)

Idaho's current bacteriological criteria applicable for the protection of primary contact recreation apply between May 1 and September 30 of each calendar year and are concentrations of fecal coliform bacteria not to exceed a geometric mean of 50/100 ml based on a minimum of five samples taken over a thirty day period, 500/100 ml at any time; and 200/100 ml in more than ten percent of the total samples taken over a thirty day period. (See IDAPA 16.01.02.250.01.a.). EPA's section 304(a)(1) bacteriological criteria document published in 1976 recommended a log mean fecal coliform limits of 200 FC/100 ml.

EPA believes it is required by the terms of the District Court's order to propose primary contact recreation as a designated beneficial use for those water bodies which already have secondary contact as a designated beneficial use. However, EPA is soliciting comment on whether Idaho's secondary contact recreation, with its associated criteria, is sufficient. Specifically, EPA seeks comment on (1) whether Idaho's criteria for secondary contact recreation are in fact sufficient to protect primary contact recreation; and (2) if that is so, whether there is any reason to promulgate federal primary contact recreation use designations for the streams already subject to the secondary contact recreation criteria.

### ii. Cold Water Biota

Thirty five of the 53 segments addressed in EPA's June 1996 letter

were disapproved because they were missing a cold water biota beneficial use designation. As discussed above, under section C (Unclassified Waters), cold water biota is the appropriate default aquatic life classification for Idaho. To the extent possible prior to proposal, EPA also examined data for these 35 segments relevant to the existence of, or potential to support, cold water biota.

EPA solicited and collected water chemistry data for the South Fork Coeur d'Alene River Basin from Idaho Fish and Game, the Coeur d'Alene Tribe and from within EPA's Superfund Program. In addition, biological monitoring data on macroinvertebrates and fish population data was collected from the Idaho Department of Fish and Game and the Coeur d'Alene Tribe for this basin.

EPA also reviewed physical, chemical and biological data on West Fork Blackbird Creek which Idaho DEQ submitted to EPA. Additionally Idaho DEQ submitted to EPA preliminary results of assessment data which either they had collected or had been collected from other sources, such as Idaho Department of Fish and Game, on the 35 water body segments which were lacking a cold water biota beneficial use designation.

Based on the above data, as well as EPA's approach discussed in Section C above, EPA determined that it is appropriate to propose a cold water biota designated beneficial use for the 35 water body segments.

### iii. Salmonid Spawning

As a result of EPA's responsibilities and duties under Section 7 of the Endangered Species Act, EPA initiated informal consultation with FWS and NMFS on our proposed action. In conferring with NMFS on designating beneficial uses for these 53 segments, EPA obtained data from Idaho Department of Fish and Game which indicated that 7 of the 53 segments provide spawning habitat for chinook and steelhead salmon. Of these 7, there were 4 which Idaho had not already designated for salmonid spawning use. As a result of this information, EPA is proposing an additional designated use of salmonid spawning for the following four segments: Grasshopper Creek, Little Bear Creek, Blackbird Creek, Panther Creek.

Based on the information provided, EPA determined that salmonid spawning, which requires more stringent temperature and dissolved oxygen criteria than those assigned to cold water biota, was the appropriate beneficial use to ensure "fishable" water quality for these four water body segments.

### 5. Request for Comment and Data

EPA believes the above beneficial uses are appropriate considering the requirements of the CWA and given the time frame which the court had ordered. Nonetheless, it is possible that information exists which may further support or refute their attainability or support or refute the appropriateness of the State's uses. Accordingly, EPA will evaluate any data which is submitted with regard to the aquatic life uses (i.e., cold water biota and salmonid spawning) of the 35 water body segments as well as the proposed primary contact recreational use. Based on such information EPA can make a final decision whether the designated uses in today's proposal are appropriate and required by the Clean Water Act. To assist the Agency in ensuring that its decisions are based upon the best available information, the Agency is soliciting information. To assist commenters the following paragraphs provide guidance on what information is relevant.

Specifically EPA is seeking information that would assist in determining whether the beneficial uses identified above are currently being attained, can be attained, or have been attained since or before 1975; whether natural conditions or features or human caused conditions prevent the attainment of these uses and cannot be remedied or would cause more environmental damage to correct than to leave in place; or whether the controls more stringent than those required by Section 301(b) and 306 of the Clean Water Act would be needed to attain the uses and would cause substantial and widespread economic and social impact. Below is a general discussion of the types of data/information requested by the Agency:

**Ambient Monitoring Information:** (1) Any in-stream data for any of the above stream segments reflecting either natural conditions (e.g., in-stream flow data or other data relating to stream hydrology) or irretrievable human-caused conditions which prevent the uses or water quality criteria from being attained; (2) any available in-stream biological data; (3) any chemical and biological monitoring data that verify improvements to water quality as a result of treatment plant/facility upgrades and/or expansions; and (4) any in-stream data reflecting nonpoint sources of pollution or best management practices that have been implemented for nonpoint source control.

**Current and Historical Effluent Data:** (1) Any data and information relating to mass loadings from point source

discharges of pollutants such as BOD, NH<sub>3</sub>-N, chlorine, metals (e.g., As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn), toxics (e.g., volatile organic chemicals such as benzene or toluene, acid extractables such as pentachlorophenol, base neutrals such as anthracene, fluorene or pyrene, and pesticides such as aldrin, lindane, DDT, dieldrin, endrin and toxaphene); (2) data and information related to facility or treatment plant effluent quality; and (3) any information related to releases of pollutants from other sources such as landfills, transportation facilities, construction sites, agriculture/silviculture, incinerators, and contaminated sediments.

**Models:** (1) Any data or information on analytical models which can be used to evaluate or predict stream quality, flow, morphology; (2) any physical, biological or chemical characteristics relating to beneficial uses; and (3) the results of any such models which can be used to evaluate beneficial uses.

**Economic Data:** Any information relating to costs and benefits associated with facility or treatment plant expansions or upgrades. This information includes: (1) Qualitative descriptions or quantitative estimates of any costs and benefits associated with facility or treatment plant expansions or upgrades, or associated with facilities or treatment plants meeting limits; (2) any information on costs to households in the community with facility or treatment plant expansions or upgrades, whether through an increase in user fees, an increase in taxes, or a combination of both; (3) descriptions of the geographical area affected; (4) any changes in median household income, employment, and overall net debt as a percent of full market value of taxable property; and (5) any effects of changes in tax revenues if the private-sector entity were to go out of business, changes in income to the community if workers lose their jobs, and effects on other businesses both direct and indirect.

## E. Temperature Criteria for Threatened and Endangered Species

### 1. Background

Water quality standards consist, in part, of designated uses and criteria to protect those uses. States designate uses for aquatic life to provide protection for a variety of aquatic species which may be present in their waters. Thermal requirements for these species vary among species and among different life stages. Providing protection for these varied species and their temperature requirements can be accomplished a

number of ways. Most commonly, temperature criteria are set to protect the more sensitive species residing at a site, or subcategories of uses are established with criteria tailored to address and protect particular species and/or life stages.

Idaho has three aquatic life designated beneficial uses, cold water biota, warm water biota and salmonid spawning, with each category having differing applicable temperature criteria. When designating uses and applying this categorical aquatic life based approach, Idaho is required to ensure that the criteria are sufficiently protective to safeguard the full range of waters in the State to which the uses are assigned. EPA's review of the criteria assigned by Idaho to its cold water biota beneficial use designation indicated that the temperature criteria did not provide adequate protection to some more sensitive species. Accordingly, EPA disapproved aspects of Idaho's cold water biota temperature criteria in the June 1996 letter. Idaho has not revised these criteria to meet EPA's objection.

EPA's approach today is to propose more protective temperature criteria to apply to Idaho's current cold water biota beneficial use designation for those segments and river reaches with more sensitive species. The Agency believes this approach minimizes the impact on Idaho's current water quality standards while providing the protection required by the CWA. EPA proposes to modify only the temperature criteria applicable to the cold water biota beneficial use designation for specific water bodies [for a list of these waters see § 131.33 (c)–(e) of today's proposed rule]. The remaining criteria applicable to coldwater biota (i.e., turbidity, ammonia, and dissolved oxygen) remain unchanged. Specifically, today's proposal includes more stringent temperature criteria for specified waters in Idaho in order to protect the Kootenai River white sturgeon, five species of aquatic snails (hereinafter "snails"), and bull trout. The literature indicates that Idaho's temperature criteria are inadequate to protect these aquatic species. EPA is consulting with the FWS concerning the adequacy of the criteria being proposed today. The following is a discussion of why EPA determined more stringent criteria were needed and how EPA selected the criteria being proposed today.

FWS has determined that Kootenai River white sturgeon and five species of aquatic snails are threatened by extinction in Idaho. In addition, the bull trout is a candidate for listing as threatened or endangered. (Although FWS was petitioned to list the bull

trout, it has not yet listed it.) Where a species is likely to be listed EPA assesses the effects to candidate aquatic species in a similar manner as listed species. Therefore EPA specifically assessed the impacts of Idaho's water quality standards to bull trout.

In order to determine whether EPA's approval of Idaho's water quality standards would adversely effect species listed or candidates for listing under ESA, EPA reviewed applicable scientific literature. Based on a review of the literature available to EPA, the Agency determined that Idaho's temperature criteria were inadequate in providing protection to Kootenai River white sturgeon, 5 species of aquatic snails and bull trout. As discussed more fully below, the scientific literature indicates that temperatures in exceedance of applicable requirements, along with other habitat parameters, are threats to each of these aquatic species. EPA determined that temperatures lower than those currently specified under the State's designated uses are more appropriate for these species. Based on this determination, on June 25, 1996 EPA disapproved Idaho's temperature criteria in certain water body segments which provide habitat for these species.

## 2. Kootenai River White Sturgeon

### i. EPA's Review

According to the literature and review of the data from the Kootenai River monitoring programs conducted from 1990 through 1995, Kootenai River white sturgeon (*Acipenser transmontanus*) spawned within a 16 river kilometer (10 river mile) stretch of the Kootenai River, primarily from Bonners Ferry downstream to the lower end of Shorty's Island (White Sturgeon: Kootenai River Population Draft Recovery Plan, U.S. FWS). Kootenai River sturgeon spawn from May through July (58 FR 36379–86; July 7, 1993). Spawning is dependent on, and therefore occurs when, the physical environment permits egg development and cues ovulation. Following fertilization, white sturgeon eggs attach to river substrate and undergo a relatively short incubation period of 8 to 15 days until they hatch (Brannon et al., 1985). Landlocked populations of white sturgeon normally spawn during the period of peak flows from April through July (Duke et al. 1990).

According to the literature, significant modification to the natural hydrograph in the Kootenai River caused by flow regulation at Libby Dam is considered the primary reason for the Kootenai River sturgeon's declining numbers

(Apperson and Anders 1991). Since 1972, when Libby Dam began operating, spring flows in the Kootenai River have been reduced an average 50 percent, and winter flows have increased by 300 percent over normal. As a consequence, natural high spring flows required by white sturgeon for reproduction rarely occur during the May to July spawning season when suitable temperature, water velocity and photoperiod conditions exist.

Based on recent monitoring studies of Kootenai River flow, temperature, and fertilized egg distribution, water temperatures corresponding to estimated spawning dates of Kootenai River sturgeon range from approximately 8.5 to 14 °C and have been estimated to occur in the May–July time period. During 1970, 1974 and 1980, where successful, natural recruitment of Kootenai sturgeon is believed to have occurred, temperatures associated with peak flow events during the presumed spawning period ranged from 11 to 13 °C (U.S. Fish and Wildlife Service, Columbia River Basin Field Office, "Rationale for Reestablishment of Natural Recruitment of Kootenai River White Sturgeon"). Elsewhere, spawning of white sturgeon has been documented at higher temperatures than Kootenai sturgeon, with reported spawning in the lower Columbia River occurring at temperatures ranging from 10–18 °C during 1987 to 1991 (Parsley et al., 1993). Parsley et al. further report that most of the spawning in the lower Columbia River occurred between 10 and 12 °C. Because the Columbia River white sturgeon may be acclimated to warmer temperatures than those experienced by sturgeon in the Kootenai River, the applicability of Columbia River data to Kootenai sturgeon is unclear. It should be further noted that white sturgeon spawning is cued by other factors, of which flow is among the most important, and therefore, the lack of spawning at some temperatures may be due to suboptimal flow conditions or other important factors. Thus, while the available information suggests that 8–14 °C is a reasonable temperature range to be considered for maintenance of Kootenai River sturgeon, the current optimal temperature range for Kootenai River white sturgeon is not entirely certain.

Partly because of the uncertainty in defining optimal spawning conditions for Kootenai sturgeon, the FWS and the U.S. Army Corps of Engineers (COE) are experimenting with agreed upon operational guidelines for flow releases at Libby Dam during 1997 and 1998 in part, to obtain more data to determine optimal spawning conditions for



sturgeon. Future studies and monitoring may more accurately determine Kootenai River white sturgeon spawning requirements.

Data on temperature requirements of other life stages of white sturgeon is much more limited. An optimum temperature for egg development of 14 °C is reported by Wang et al. (1985 as cited by Parsley et al., 1993), with elevated mortality occurring at 18 °C and complete mortality at 20 °C. Temperature tolerance data for other life stages was not found, although older sturgeon are reported to inhabit deeper locations in Kootenai River locations with temperatures ranging from 14 to 20 °C (PSMFC, 1992).

In addition to evaluation of the literature, EPA conferred with FWS and COE staff in determining appropriate temperature values protective of sturgeon spawning. EPA reviewed data from monitoring efforts by the COE on the Kootenai River from 1993 through 1997.

#### ii. Idaho's Temperature Criteria

Idaho's current designated beneficial use for the Kootenai River from Bonners Ferry to Shorty's Island is cold water biota, which has applicable temperature criteria of 22 °C or less with a maximum daily average of 19 °C. Hence, EPA concluded that Idaho's cold water biota temperature criteria do not provide an adequate level of protection for Kootenai River white sturgeon spawning.

#### iii. EPA's Proposed Temperature Criteria

Temperature criteria being proposed for the Kootenai River from Bonners Ferry to Shorty's Island were derived using EPA's temperature criteria guidance ("Temperature Criteria for Freshwater Fish: Protocol and Procedures"; U.S. EPA, 1977). The EPA protocol recommends expression of temperature criteria in two forms: (1) A short-term maxima (protection against lethal conditions, usually for a duration of 24 hours), and (2) a mean temperature value (expressed as the maximum weekly average temperature) that is designed to protect critical life stage functions such as spawning, embryogenesis, growth, maturation and development. For sturgeon, sufficient data were available to derive weekly mean temperature criteria to protect spawning and egg incubation.

In addition to data sources discussed previously, EPA relied on communications with relevant Corps and FWS staff.

Based on the information reviewed, EPA is proposing seasonal minimum

and maximum weekly average temperature criteria to protect for white sturgeon spawning [see § 131.33(d) of today's proposed rule]. Rather than setting temperature criteria based on fixed calendar dates, the temperature criteria for Kootenai River sturgeon are designed to protect critical spawning and egg incubation life stages, but allow for some temporal flexibility as to when such temperatures for spawning and egg incubation activities can occur. This flexibility is desirable given known, natural temperature variations that occur at the Kootenai River site from year to year. Therefore, such criteria are based on first establishing a *minimum* weekly average temperature of 8 °C (believed to be the lower limit for spawning), followed by an 8-week time period where the *maximum* weekly average temperature does not exceed the upper spawning temperature limit of 14 °C currently estimated for Kootenai River sturgeon. Selection of an 8-week "spawning window" approximates the length of the spawning period currently estimated for Kootenai River sturgeon. The maximum weekly average temperature criterion of 16 °C set for weeks 9 and 10 (after achievement of the 8 °C minimum temperature) is intended to protect egg incubation of late spawners based on 1–2 week egg incubation time reported for Kootenai River sturgeon. The 16 °C maximum weekly average temperature criterion is an EPA inferred estimate of the threshold for egg incubation based on data reported by Wang et al. (1985; as cited in Parsley et al., 1993) and reflects natural gradual warming of water temperatures that will likely occur at this site during mid to late July.

EPA believes that these temperature criteria in combination with the time frame regime will provide appropriate protection for white sturgeon spawning in the Kootenai River while maintaining necessary flexibility due to natural variability in seasonal temperature regimes. While recognizing that other factors besides temperature are also limiting to a viable population of sturgeon in the Kootenai River system, EPA determined that revising the temperature criteria in this known spawning segment was an appropriate and needed measure towards the protection and conservation of this species.

EPA is soliciting comments and data on the proposed temperature criteria. Comments are particularly sought concerning: (a) Additional information on range, distribution, and population of the species; (b) the relationship between water velocities, temperature and spawning; (c) appropriate time

frames for sturgeon spawning; (d) implementation issues associated with the weekly moving average and onset of the maximum weekly average; and (e) appropriateness of both the minimum and maximum weekly average values.

### 3. Freshwater Aquatic Snails

#### i. EPA's Review

EPA reviewed the available scientific literature in order to determine the water quality requirements for the following five species of freshwater aquatic snails which are listed as threatened or endangered under the ESA: the Bliss Rapids snail, the Snake River physa, Banbury Springs lanx, Utah valvata snail and Idaho springsnail.

According to the 1995 Snake River Aquatic Species Recovery Plan developed by the FWS, these 5 snails occupy habitat in the middle Snake River from C.J. Strike Reservoir to American Falls Dam. The recovery area for 4 of the species (Idaho springsnail, Utah valvata snail, Snake River physa and Bliss Rapids snail) has been delineated in the mainstem Snake River between river kilometers (rkm) 834–1142 (rivermiles (rm) 518–709). The recovery area for the one remaining species (Banbury Springs lanx) includes cold-water spring complexes to the Snake River between rkm 941.5–948.8 (rm 584.8–589.3).

Little is known about the ecology of the listed snail species. A priority recovery measure in the Recovery Plan is to obtain more data to describe habitat and life history requirements. EPA reviewed available literature on the distribution and habitat conditions where the listed snails are found in the Snake River. From a survey conducted by Idaho Power in the Middle Snake River from April through December 1995 (Crazier and Myers, 1996) there is data showing that the Bliss Rapids snail occurred in water temperatures of 7.6 degrees C to 19.8 degrees C, the Banbury Springs lanx occurred in temperatures of 11.8 degrees C to 14.5 degrees C, and the Idaho springsnail was found in water temperatures of 7.6 degrees C to 19.8 degrees C. The Utah valvata and Snake River physa were not found in the portion of the river that was surveyed. The Snake River Recovery Plan (1995) notes that the Banbury Springs lanx had only been found at that time in waters of 15 degrees C. to 16 degrees C. The Recovery Plan recommends annual average temperatures below 18 degrees C, however an annual average is not likely to provide an adequate basis for

implementation of a temperature criterion.

#### ii. Idaho's Temperature Criteria

The current Idaho water quality standards designate part of the recovery area within the Snake River, specifically, water body segment SWB-10, Snake River from King Hill to Marsing, primary contact recreation, which has no applicable temperature criteria, and designate other parts of the recovery area cold water biota, which has temperature criteria of 22 °C or less with a maximum daily average of 19 °C.

Based on the information which was reviewed and conferring with FWS, EPA determined that the cold water biota temperature criteria do not provide an adequate level of protection for these five species of snails. Therefore, on June 25, 1996, EPA disapproved Idaho's temperature criteria applicable within the specified geographic ranges or recovery areas for each of the 5 snail species.

#### iii. EPA's Proposed Temperature Criterion

In order to provide adequate and protective temperatures for the listed snail species EPA is proposing a maximum daily average temperature of 18 degrees C in the Middle Snake River from river mile 518 to river mile 709. Additionally, for water body segment SWB 10, which does not currently have cold water biota designated use, EPA is also proposing that use as well as a maximum daily average of 18 degrees C temperature criterion. This proposal is based on the limited temperature information available related to the species occurrence, the Recovery Plan recommendation, and correspondence between the FWS and Idaho on April 11, 1997. The FWS letter responded to a State request for clarification of the Recovery Plan recommendation, and it again stressed the need for a temperature at or below 18 degrees C as a level necessary to move toward recovery of the listed aquatic snails. The letter additionally noted that spring habitats where listed snails occur adjacent to the Snake River will likely require even lower temperatures for optimal habitat conditions.

EPA is soliciting comments on the proposed temperature criterion. Because of the limited information available at the time of this proposal, EPA is soliciting additional data. Data and information are sought pertinent to: (1) aquatic snail occurrence in the Middle Snake River, and (2) refining the habitat and temperature requirements of the individual species. EPA is also soliciting comments on other options for

applying temperature criteria to the Middle Snake River for protection of listed aquatic snails.

#### 4. Bull Trout

##### i. EPA's Review

According to the literature, bull trout (*Salvelinus confluentus*) is a species which is considered an indicator of the environmental health of watersheds and is known to reproduce only in clean, cold relatively pristine streams.

EPA evaluated the literature and conferred with biologists from the Idaho Department of Fish and Game, and the Interior Columbia Ecosystem Management Project. According to the literature, bull trout is a species requiring a narrow and relatively cold range of temperature conditions to reproduce and survive. They appear to be one of the most temperature intolerant species of salmonids. They spawn in late summer through fall (late August-November) and have a long egg incubation period (typically lasting from early fall to April). High temperatures are therefore a concern for migration and spawning in the late summer and early fall.

Incubation of bull trout eggs requires cold temperatures ranging from 1 to 6 °C and occurs at optimum temperatures of approximately 4 °C (ORDEQ, 1994; Weaver and White, 1985; McPhail and Murray, 1979). Specifically, Weaver and White (1985) report 4 to 6 °C as being needed for egg incubation of bull trout embryos in Montana streams. Further, McPhail and Murray (1979) report 0% to 20% survival of incubating bull trout embryos at temperatures ranging from 8 to 10 °C; 60% to 90% survival at 6 °C; and 85–95% survival at 2–4 °C, further suggesting 6 °C as close to a reasonable threshold for egg incubation.

Based on EPA's review of the literature, in addition to a review conducted by the Oregon Department of Environmental Quality (ORDEQ, 1994), a temperature range of 4–10 °C is believed to be necessary to maintain successful bull trout spawning. A temperature range of approximately 6 to 8 °C is believed approximate the optimum spawning temperatures of bull trout (Idaho Department of Fish and Game). Optimum temperatures for fry growth have been reported to be 4 °C (McPhail and Murray, 1979). For later life stages of bull trout, temperatures less than 12 °C appear to be most suitable for juvenile rearing and adult migration. Specifically, Shepard et al. (1984) report the highest densities of bull trout in Montana streams at temperatures of 12 °C and below, some presence of bull trout at 15 to 18 °C and

complete absence of bull trout in streams with temperatures exceeding 19 °C. Based on field observations of the presence of juvenile bull trout in Idaho streams, 12 °C also appears to be a maximum temperature where juveniles are found (Idaho Dept. Fish and Game). Temperatures between 10 and 12 °C are also reported to be the optimum range for adult migration, which occurs between bull trout feeding and spawning areas (ORDEQ, 1994).

##### ii. Idaho's Temperature Criteria

The current temperature criteria applicable to the cold water biota use classification (22 °C or less with a maximum daily average of 19 °C) does not provide an adequate level of protection for bull trout. Therefore, on June 25, 1996, EPA disapproved Idaho's temperature criteria applicable within geographic ranges where bull trout occur.

##### iii. EPA's Proposed Temperature Criteria and Bull Trout Distribution

Temperature criteria being proposed for Idaho streams designated as bull trout habitat were derived using EPA's temperature criteria guidance ("Temperature Criteria for Freshwater Fish: Protocol and Procedures; U.S. EPA, 1977). The EPA protocol recommends expression of temperature criteria in two forms: (1) a short-term maxima (protection against lethal conditions, usually for a duration of 24 hours), and (2) a mean temperature value (expressed as the maximum weekly average temperature) that is designed to protect critical life stage functions such as spawning, embryogenesis, growth, maturation and development. Sufficient data were available to derive temperature criteria as maximum weekly average temperatures (MWAT) that would be protective of various bull trout life stages, including spawning, egg incubation, juvenile rearing and adult migration. Because of the complex life history of bull trout, EPA is proposing temperature criteria that would span a calendar year, but that would vary depending on the presence and thermal tolerances of various bull trout life stages [see § 131.33(c)(1) in today's proposed rule].

During January and February, the maximum weekly average temperature (MWAT) criterion is proposed at 4 °C to protect optimum temperatures required for egg incubation. During March, a MWAT of 6 °C is being proposed based on data discussed earlier that indicate 6 °C approximates a maximum temperature threshold for successful egg incubation. A MWAT of 8 °C during the

month of April is being proposed to account for an expected gradual increase in stream temperatures during this time period and is considered to be within the optimum range for juvenile growth. During May, a MWAT of 10 °C is proposed because it reflects an expected gradual increase in stream temperatures that is likely to occur at this time and is considered an optimum temperature for adult migration and juvenile growth. A MWAT criterion of 12 °C is being proposed for the months of June, July and through August 15 to protect against exceedence of temperature limits reported for juvenile rearing. A MWAT criterion of 10 °C is proposed from August 16 through the month of September because this temperature reflects the upper range for spawning reported in the literature for bull trout and bull trout spawning occurs during this time period. During the month of October, a MWAT value of 8 °C is proposed to maintain optimal temperature conditions for bull trout spawning and reflects an expected gradual decrease in stream temperatures. Finally, a MWAT value of 6 °C is proposed for the months of November and December to reflect the limit for egg incubation and spawning optimum.

At the time of the disapproval, EPA had not identified the exact geographic areas inhabited by bull trout. EPA believed that Idaho had the resources to ascertain this information as the Office of the Governor of Idaho was in the process of developing a bull trout conservation plan. On July 1, 1996 a final version of the Governor's Bull Trout Plan was released. This plan identifies 59 key watersheds which should be targeted for the protection and restoration of bull trout populations. Although this plan identifies watersheds of concern, it did not provide the level of resolution which EPA deems necessary in describing distribution of bull trout.

Today's proposed rulemaking includes a list of water bodies where revised temperature criteria are needed in order to protect bull trout. In deriving this list, EPA relied upon bull trout distribution data from the Interior Columbia Basin Ecosystem Management Project (ICBEMP) as well as bull trout distribution data from the Idaho Department of Fish and Game.

Section 131.33(c)(2) of today's proposed rule contains a list of Idaho water bodies that are known, suspected, and/or predicted to serve as spawning and rearing areas of bull trout. The ICBEMP's "Key Salmonid" database [footnote 1 to § 131.33(c)(2)], and the Idaho Department of Fish and Game

Digital Bull Trout Distribution Database [footnote 2 to § 131.33(c)(2)] were both used in deriving this list.

The ICBEMP data are tied to sub-watersheds, also known as "6th-code HUCs". ICBEMP scientists determined criteria to identify sub-watersheds that represent spawning and rearing areas. Sub-watersheds identified as migration corridors only are excluded. The resultant sub-watersheds were overlaid with the digital Pacific Northwest River Reach File in the EPA Geographic Information System to produce a file of streams within these sub-watersheds with possible spawning and rearing activity. Only streams with attributed names in the dataset were used in this process. Some streams with no actual bull trout spawning and rearing activity are probably included, as only one stream with bull trout presence was sufficient to cause the entire sub watershed (thus all named streams within) to indicate spawn and rearing presence from this database. EPA used the 1994-1995 version of this database.

The Idaho Department of Fish and Game attributed bull trout distribution data to Pacific Northwest River Reach File segments. Water bodies coded as having "known or suspected" bull trout presence are contained in the table with a superscript of "2". Hence the water bodies from this database in the table contain areas that may be used as only migration corridors, as there was no way to specifically exclude them.

EPA had discussions with FWS on the temperature requirements for bull trout protection. Additionally EPA consulted with staff from Idaho Department of Fish & Game as well as numerous biologists familiar with bull trout requirements and distribution.

Based on the above information, EPA is proposing maximum weekly average seasonal temperature criteria. These criteria are proposed in § 131.33(c)(1) of today's proposed rule.

EPA is soliciting comment on both the temperature criteria as well as the distribution data. Comments are particularly sought concerning (a) affirmation of the presence of bull trout spawning in the current list of water bodies in section (c)(2) of today's proposed rule; (b) the adequacy of the proposed methodology for defining bull trout distribution; (c) whether or not there is a better way to describe the distribution; (d) site specific temperature data for any of the listed water bodies; (e) site specific or laboratory temperature data on bull trout; (f) proposals to address protection of migratory corridors; (g) identification of water bodies in § 131.33(c)(2) of today's proposed rule which are not

spawning and rearing areas; (h) identification of additional known water bodies which provide spawning and rearing habitat; (i) original information which would refine the list down to stream level as opposed to watershed level along with geographic identifiers for these streams i.e., USGS hydrologic unit codes; and (j) other methods for refining the geographic distribution list.

#### F. Antidegradation Policy

The third component of a State's water quality standards, in addition to designated uses and criteria to support those uses, is an antidegradation policy consistent with 40 CFR 131.12. Section 131.12(a) specifies three levels of protection to be accorded waters. The first level (commonly referred to as Tier I) requires that existing uses, and the level of water quality needed to protect such uses, be protected and maintained [§ 131.12(a)(1)]. The second level (Tier II) requires that water quality in certain high quality waters not be lowered unless the lowering is found to be necessary to accommodate important social and economic development [§ 131.12(a)(2)]. The highest level of protection (Tier III) applies to waters identified as "Outstanding National Resource Waters;" water quality in such waters shall be maintained and protected [§ 131.12(a)(3)].

EPA Region X's June 1996 letter disapproved the Tier III portion of Idaho's antidegradation policy (IDAPA 16.01.02.051.03) because it did not protect Tier III waters from degradation caused by point sources, and thus did not provide effective protection for such waters. On November 14, 1996, the State adopted a temporary rule which added protection from point sources and addressed EPA's concern. This rule was effective December 1, 1996. The State formally submitted this revised rule to EPA for approval by a letter dated March 13, 1997, which was received by EPA on March 24, 1997. Because of the timing of this State submission and the work involved in preparing today's proposal, EPA has not yet completed its approval process on the State's revision. Accordingly, EPA believes it is still bound by the court's order to propose a federal water quality standard addressing the deficiency in section 16.01.02.051.03 of Idaho's 1993 antidegradation policy.

Therefore, EPA is today proposing a Tier III antidegradation provision applicable to waters of the United States within the State of Idaho. EPA's proposed rule uses the wording of the revised Idaho antidegradation policy, both because that revision addressed EPA's concern and because using the

same language will facilitate the ultimate withdrawal of EPA's proposal upon formal approval by EPA of Idaho's revision.

### G. Mixing Zone Policy

#### 1. Idaho's Existing Policy

Idaho's mixing zone policy at IDAPA 16.01.02.060. applies to point source wastewater discharges. The policy States that, after a biological, chemical, and physical appraisal of a receiving water and proposed discharge, the Department of Environmental Quality (DEQ) will determine the appropriateness of a mixing zone, its size, configuration, and location. In making such a determination, the DEQ is required to consider a number of parameters specified in subsections 060.01.a–h. Subsections 060.01.a–d. address the use of submerged pipes and diffusers; unreasonable interferences to the beneficial uses; and limitations for overlapping or multiple mixing zones. In addition, subsections 060.01.e. and f. specify discrete physical limitations to the size, shape, and location of mixing zones for discharges to free-flowing systems (e.g., streams and rivers) and discharges to open waters (e.g., lakes or reservoirs). Subsection 060.01.g. allows water quality within a mixing zone to be exempt from both Idaho's chemical-specific water quality criteria at 16.01.02.250. and selected narrative criteria at 16.01.02.200.01., 16.01.02.200.02., and 16.01.02.200.03. (Idaho's subsection 200.01. prohibits State surface waters from containing concentrations of hazardous materials that are of significance to public health; subsection 200.02 prohibits toxic substances in toxic concentrations; and subsection 200.03. prohibits deleterious materials in concentrations that impair designated beneficial uses.)

EPA disapproved subsection 060.01.g. of Idaho's mixing zone policy because, although the principles identified in the remainder of Idaho's mixing zone policy are adequate to ensure that the designated uses of the receiving water are maintained, the language of the policy makes these principles non-binding. Subsection 060.01. States "the Department will *consider* [emphasis added] the following principles" (060.01.a–h). Thus, although subsections 060.01.a.–f. and h. contain explicit language regarding the physical limitations to the size, shape, and location of mixing zones, which on their face would appear to protect designated beneficial uses even if narrative criteria are not applicable, the word "consider" indicates that compliance with

subsections 060.01.a.–f. and h. is not mandatory.

Clean Water Act § 303(c)(2)(A) requires States to adopt water quality criteria to protect designated beneficial uses. EPA's implementing regulations at 40 CFR 131.11 further clarify that such criteria "must contain sufficient parameters or constituents to protect the designated use." There are no exceptions identified, or alluded to in the CWA or EPA's implementing regulations. Water quality within a mixing zone is not exempted. By definition a mixing zone is an area where chemical-specific acute and chronic water quality criteria can be exceeded as long as a number of other protections are maintained (Water Quality Standards Handbook; EPA–823–B–94–005a, August 1994). These other protections are narrative criteria. EPA is not precluding flexibility in how Idaho chooses to interpret the narrative criteria at subsections 200.01.–03. EPA has simply disapproved an authorized, categorical exemption from the narrative criteria in the absence of other binding requirements in the mixing zone policy.

EPA's regulations at 40 CFR 131.11(a)(2) require States and tribes to identify methods for implementing narrative criteria. Such methods need to address all mechanisms to be used by the State to ensure that narrative criteria are attained. Chemical-specific ambient water quality criteria are most frequently used to ensure that narrative criteria and beneficial designated uses are attained. However, when chemical-specific criteria are absent or do not apply, as is the case for water quality within a mixing zone, other implementation methods are needed to ensure the designated uses are attained (WQS Handbook, Chap. 3). While mixing zones allow the magnitude component of an ambient water quality criterion to be exceeded, controlling the exposure component ensures the beneficial designated use is maintained. Idaho's implementation methods at 060.01.a.–h. would control exposure by limiting the size, shape, and location of a mixing zone, if they were mandatory.

#### 2. Federal Mixing Zone Policy for Idaho

To address the above deficiency, EPA considered two options. Under the first option, EPA would make the requirements of subsections 060.01.a.–f. and h. mandatory. This would protect the water quality within a mixing zone and ensure that the designated beneficial uses for the water body as a whole are maintained. However, EPA was concerned that this approach would disregard site-specific situations that may warrant some flexibility. For

example, stream-specific and discharge-specific conditions may allow a mixing zone to consume more than 25% of the volume of stream flow (as specified in 060.01.e.ii.) and still ensure that the designated beneficial use is attained.

For that reason, EPA also considered a second option that changes the language at 060.01.g. so as not to exempt water quality within a mixing zone from the narrative criteria at subsections 200.01.–03. This approach allows Idaho to retain the discretion on when to rely on the default implementation methods specified in subsections 060.01.a.–f. and h., and when to rely on alternative methods to ensure the designated beneficial use is maintained. Today's proposed rule contains this second option.

EPA solicits comment on the appropriateness of option 1 and option 2. Does the increased flexibility provided in option 2 leave too much discretion to the State? Are there other alternatives for protecting the water quality within a mixing zone to ensure the designated beneficial uses for the water body as a whole are maintained?

### H. Excluded Waters Provision

Each State is required to have water quality standards for all navigable waters in the State. CWA § 303. The term "navigable waters" is defined in § 502(7) of the CWA to mean the "waters of the United States, including the territorial seas". In accordance with the intent expressed by the legislative history of the CWA, the term "waters of the United States" is in turn defined in regulations to include, *inter alia*, intrastate waters whose use, degradation, or destruction would or could affect interstate commerce. 40 CFR 122.2 and § 232.2(q). This portion of the definition is further explained at 53 FR 20765 (June 6, 1988).

Idaho's standards provide that, unless designated for particular uses, lakes, ponds, pools, streams, and springs outside public lands but located wholly and entirely upon a person's land are not protected specifically and generally for any beneficial use (see IDAPA 16.01.02.101.03.).

The fact that a water may be located wholly on a person's land does not necessarily preclude it from being a water "the use, degradation or destruction of which would or could affect interstate commerce." Hence, it is at least theoretically possible that some of these unprotected excluded waters could be waters of the United States. To ensure that any such waters receive the protection afforded other unclassified waters, EPA is today proposing a rule which effectively adds to the State's

excluded waters provision the qualifying phrase "unless such waters \* \* \* are 'waters of the United States' as defined at 40 CFR § 122.2."

This proposal is precautionary in nature. EPA has not identified any specific waters which would be affected by this change. However, the language EPA is proposing ensures that, if such waters are later identified, their beneficial uses will be protected in the same way uses of other unclassified waters are.

### I. Federal Variances

As explained above in Sections C. and D., because of the scope of rulemaking and the schedule ordered by the District Court, EPA has relied on a rebuttable presumption approach to designating beneficial uses and is only able to provide a 30-day comment period. EPA's final rule will reflect consideration of the data made available to it by the close of the comment period. However, it is possible that subsequent data may become available which will be material to the attainability of the uses involved in today's proposal.

If this occurs, one option available to EPA would be to propose to revise or withdraw the federal use designation. An alternative approach, particularly where the information is discharger-specific and/or it appears that the use in question will eventually be attainable, is to grant a water quality standards variance applicable to the discharger in question. EPA has approved the granting of water quality standards variances by States in circumstances which would otherwise justify changing a use designation on grounds of unattainability. In contrast to a change in standards which removes a use designation for a waterbody, a water quality standards variance applies only to the discharger to whom it is granted and only to the pollutant parameter(s) upon which the finding of unattainability was based; the underlying standard remains in effect for all other purposes.

For example, if a designated aquatic life use is currently precluded because of high levels of metals from past mining activities which cannot be remediated in the short term, but it is expected that water quality will eventually improve, a temporary variance may be granted to a discharger with relaxed criteria for such metals, until remediation progresses and the use becomes attainable. The practical effect of such a variance is to allow a permit to be written using less stringent criteria, while encouraging ultimate attainment of the underlying standard. A water quality standards variance

provides a mechanism for assuring compliance with sections 301(b)(1)(C) and 402(a)(1) of the CWA that require NPDES permits meet applicable water quality standards, while granting temporary relief to point source dischargers.

While 40 § CFR 131.13 allows States to adopt variance procedures for State-adopted water quality standards, such State procedures may not be used to grant variances from federally adopted standards. EPA believes that it is appropriate to provide comparable federal procedures where, as proposed here, EPA adopts use designations which rely, at least in part, on a rebuttable presumption that fishable/swimmable uses are attainable or adopts more stringent criteria for the State's use designations. Therefore, EPA is proposing to authorize the Region X Regional Administrator to grant water quality standard variances where a permittee submits data indicating that an EPA-designated use is not attainable for any of the reasons in 40 CFR § 131.10(g) or that a State designated use is not attainable due to EPA-promulgated temperature criteria. This variance procedure will apply to standards promulgated by EPA for specific named segments. EPA does not believe it is necessary to have a variance procedures for unclassified waters, since Idaho may effectively provide the same relief by classifying an unclassified water, but invites comment on this point.

Today's proposed rule spells out the process for applying for and granting such variances. Because water quality standard variances are technically revised water quality standards, the proposal requires a variance to go through the same basic steps as the originally promulgated standard, that is, publication of the proposed variance, the opportunity for a hearing, and publication of the final variance. However, the Administrator is delegating to the Regional Administrator the authority to propose and grant these variances. This delegation should expedite the processing of variance requests, as they will typically arise in the context of NPDES proceedings being handled by EPA Region X.

The proposed variance procedures require an applicant for a water quality standards variance to submit a request to the Regional Administrator (or his delegatee) with supporting information. To avoid delays in the permitting process attributable to the variance request, the proposal requires the applicant to submit the variance request prior to or concurrent with the NPDES application. EPA seeks comment on the

appropriateness of this timing requirement.

The burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for one of the reasons specified in 40 CFR 131.10(g). A variance may not be granted if the use could be attained by all dischargers implementing effluent limitations required under sections 301(b) and 306 of the CWA and the applicant implementing reasonable best management practices for nonpoint source control. EPA will incorporate into the permittee's NPDES permit all conditions needed to implement the variance.

Under the proposal, a variance may not exceed 5 years or the term of the NPDES permit, whichever is less. A variance may be renewed if the permittee demonstrates that the use in question is still not attainable. Renewal of the variance may be denied if the permittee did not comply with the conditions of the original variance.

EPA is soliciting comment on the need for a variance process for EPA-promulgated use designations, the appropriateness of the particular procedures proposed today, and whether the proposed variance procedures are sufficiently detailed.

### J. Regulatory Impact Analysis

As explained more fully below in section L (Regulatory Flexibility Act), EPA's proposed rule does not itself establish any requirements directly applicable to regulated entities. While implementation of today's proposed rule may ultimately result in some new or revised permit conditions for some dischargers, EPA's action today does not impose any of these as yet unknown requirements on dischargers. Nonetheless, EPA is attempting, within the limits of these uncertainties, to make an estimate of the possible indirect costs which might ultimately result from this rulemaking.

The following is a summary of the proposed methodology being used for the regulatory impact analysis (RIA) that is being prepared for this rule. Further discussion will be included in the full RIA, which will be included in the docket as part of the final rulemaking.

Under the CWA, costs cannot be a basis for adopting water quality criteria that will not be protective of designated uses. If a range of scientifically defensible criteria that are protective can be identified, however, costs may be considered in selecting a particular criterion within that range.

The designated uses and water quality criteria of the proposed rule are not enforceable requirements until separate

steps are taken to implement them. Therefore, this publication of the proposed rule does not have an immediate effect on dischargers. Until actions are taken to implement these designated uses and criteria, there will be no economic effect on any dischargers.

In the short time prior to proposal EPA attempted to assess, to the best of its ability, compliance costs for facilities that could eventually be indirectly affected by the designated uses and water quality criteria of today's proposed rule. As described below, EPA searched readily available data sources but did not find the information necessary to accurately estimate these potential costs. Although the costs are not expected to be significant, EPA has developed a methodology to estimate the potential indirect cost impacts on facilities discharging pollutants to waters subject to the numeric water quality criteria and uses established by this proposal. During the public comment period EPA will continue to gather additional data and information on the facilities and waters needed to evaluate use attainability and the costs attributable to this rule.

EPA is soliciting public comment and supporting data on the facilities and waters it intends to evaluate as part of the RIA, and on the methodology it will use to estimate costs associated with implementation of the proposed rule. EPA will review the comments and data provided by the public as well as the information and data it gathers during the public comment period, and will estimate the potential costs to facilities as an indirect result of attaining numeric water quality criteria and uses proposed in this rule. EPA will include this information as part of the final rulemaking.

#### *1. Use Attainability*

As discussed earlier in this preamble, EPA is relying on the rebuttable presumption that fishable/swimmable uses are attainable in the water body segments affected by this rulemaking. However, in order to properly assess the impact of EPA's new use designations in Idaho, EPA performed a preliminary evaluation to determine if this presumption is appropriate for all assessed water body stream segments affected by this proposal.

Although an appropriate evaluation of use attainability should consider physical, biological, and chemical indicators, the court-ordered schedule did not provide adequate time to properly evaluate all indicators. EPA did, however, extract chemical-specific data from the EPA STORET data base,

which houses ambient water quality data for water bodies throughout the U.S., including Idaho. If EPA were to find that significant exceedances of water quality criteria (in terms of relative magnitude above the applicable criteria, duration of exceedance above the criteria, and the number and types of pollutants) has occurred, then an upgrade of designated uses might not be appropriate.

EPA's STORET extraction included all data on record, and all pollutants for which EPA's new use designation would result in more stringent water quality criteria. EPA focused on the 35 water body segments for which the cold water biota protection designated use will be applied. Upon extraction, EPA generated summary statistics (minimum, average, and maximum values on record) for the ambient water quality within each affected stream segment and compared them to the applicable water quality criteria to protect the cold water biota use designation.

Most data on record in STORET for the affected water body stream segments is from the period prior to the mid-to late-1980's. Based on this data, EPA found periodic exceedances of water quality criteria for several water body stream segments for several specific parameters. However, due to the age of most of the data, and the fact that data for all applicable parameters were not available, EPA could not definitively conclude that a downgrade for any water body stream segment affected by this rule was justified. Therefore for purposes of cost estimates, EPA assumed that the new use designation would apply to all affected water bodies. EPA is requesting comments and data regarding the applicability of the new use designation for these water body stream segments. The affected water body stream segments can be found in Section 131.33(b), Tables 1-6, within this proposal. EPA is most interested in the following types of information: instream characteristics (e.g., mean width/depth, flow/velocity, reaeration rates); riparian characteristics; biological inventory; biological potential (e.g., diversity, intolerant species); and ambient pollutant concentrations for applicable parameters of concern for the stream segment.

#### *2. Costs*

##### *i. Overview of Methodology To Estimate Potential Costs Related to New Use Designations*

The new use designations being proposed by EPA, by themselves, will

have no impact or effect. However, when the water quality criteria to protect these uses are applied to dischargers through the NPDES permit program, then costs may be incurred by regulated entities (i.e., point source dischargers) but these costs can vary significantly because of the wide range of control strategies available to dischargers. Since the NPDES permitting authority also has significant flexibility and discretion in how it chooses to implement water quality criteria, analysis of potential costs would be difficult to perform for all potentially affected entities, even if EPA had more time than was allowed under the Court established time-frame. EPA attempted to estimate the potential costs attributable to the proposal by developing detailed cost estimate for a selected subset (a sample) of facilities from the point source dischargers that may be impacted by the proposed rule and then used the sample results to extrapolate to the universe of potentially affected facilities. As explained below, EPA has not been able to come up yet with a reliable cost estimate due to significant data gaps. The following discussion addresses the approach which EPA has attempted to use, and plans to follow if more data is obtained.

The actual impact of the proposed rule will depend upon the procedures and policy decisions that will be established by the permitting authority to implement the rule and on which control strategy the discharger selects in order to bring the facility into compliance. These procedures and policy decisions established by the permitting authority typically provide the methods to determine the need for water quality-based effluent limits (WQBELs) and, if WQBELs are required, how to derive WQBELs from applicable water quality criteria. The implementation procedures used to derive WQBELs for this analysis were based on the methods recommended in the EPA "Technical Support Document for Water Quality-based Toxics Control" (or TSD) (EPA/505/2-90-001; March 1991). Specifically, a projected effluent quality (PEQ) was calculated and compared to the projected WQBEL. A PEQ is considered an effluent value statistically adjusted for uncertainty to estimate a maximum value that may occur.

The PEQ for each selected pollutant was compared to the projected WQBEL. If the PEQ exceeded the projected WQBEL, a reasonable potential existed to exceed the WQBEL. Pollutants with a reasonable potential to exceed then were analyzed to determine potential costs to achieve the projected WQBEL.

Prior to estimating compliance costs, an engineering analysis of how each sample facility could comply with the projected WQBEL was performed. The costs were then estimated based on the decisions and assumptions made in the analysis. To ensure consistency and reasonableness in estimating the general types of controls that would be necessary for a sample facility to comply with the proposal (assuming that implementation of the rule resulted in more stringent discharge requirements), as well as to integrate into the cost analysis the other alternatives available to regulated facilities, a costing decision matrix was used for each sample facility. Specific rules were established in the matrix to provide the reviewing engineers with guidance in consistently selecting options.

Under the decision matrix, costs for minor treatment plant operation and facility changes were considered first. Minor, low-cost modification or adjustment of existing treatment was determined to be feasible where literature indicated that the existing treatment process could achieve the projected WQBEL and where the additional pollutant reduction was relatively small (e.g., 10 to 25 percent of current discharge levels).

Where it was not technically feasible to simply adjust existing operations, the next most attractive control strategy was determined to be waste minimization/pollution prevention controls. However, costs for these controls were estimated only where they were considered feasible based on the reviewing engineer's understanding of the

process(es) at a facility. The practicality of techniques was determined based on several criteria established in the decision matrix. Decision considerations included the level of pollutant reduction achievable through waste minimization/pollution prevention techniques, appropriateness of waste minimization/pollution prevention for the specific pollutant, and knowledge of the manufacturing processes generating the pollutant of concern.

If waste minimization/pollution prevention alone was deemed not feasible to reduce pollutant levels to those needed to comply with the projected WQBELs, as calculated for this analysis, a combination of waste minimization/pollution prevention, simple treatment, and/or process optimization was considered. If these relatively low-cost controls could not achieve the projected WQBELs, more expensive controls (e.g., end-of-pipe treatment) were considered.

Development of end-of-pipe treatment cost estimates constituted a review of the existing treatment systems at each facility. Decisions to add new treatment systems or to supplement existing treatment systems were based on this initial evaluation. For determining the need for additional or supplemental treatment, sources of performance information included the EPA Office of Research and Development (ORD), Risk Reduction Engineering Laboratory's "RREL Treatability Database" (Version 4.0). The pollutant removal capabilities of the existing treatment systems and/or any proposed additional or supplemental systems were evaluated

based on the following criteria: (1) The effluent levels that were being achieved currently at the facility; and (2) the levels that are documented in the EPA "RREL Treatability Database." If this analysis showed that additional treatment was needed, unit processes that would achieve compliance with the projected WQBELs were chosen using the same documentation.

#### ii. Results for Stream Segments With Specific Use Designations and Unclassified Waters

EPA identified 46 facilities that possess NPDES permits to discharge to stream segments with specific use designations for which new use designations are being proposed in this rule. Of these 46 facilities, 12 are classified as major dischargers, and 34 are classified as minor dischargers. For purposes of sample selection, EPA grouped the facilities into six categories of dischargers, including mining, food products manufacturing, power plants, logging and lumber production, publicly owned treatment works (POTWs), and miscellaneous facilities (e.g., universities, agricultural supplies manufacturers, etc.). The following table presents the universe of facilities and the number of sample facilities randomly selected by EPA to represent each category. The number of sample facilities selected by EPA was based on ensuring adequate representation of the dischargers within the group (relative to other groups), as well as considering the time frame available to perform the analyses.

SUMMARY OF DISCHARGERS TO STREAM SEGMENTS WITH SPECIFIC USE DESIGNATIONS

Category	No. of point source dischargers		No. of sample facilities selected	
	Major	Minor	Major	Minor
Mining .....	7	1	1	1
Food Products Manufacturing .....	2	1	1	.....
Power Plants .....	.....	4	.....	1
Logging and Lumber Production .....	.....	1	.....	1
Miscellaneous .....	.....	11	.....	2
POTWs .....	3	16	1	4
Total .....	12	34	3	9

An exact number of NPDES permitted facilities that discharge to unclassified waters was not possible due to the court ordered schedule to propose the rule. However, EPA estimated the potential number of facilities that could be affected by the proposal through data and information contained in the EPA Permit Compliance System (PCS).

Specifically, EPA manually subtracted from the entire list of NPDES permitted dischargers within Idaho, all dischargers to stream segments with specific use designations (including those stream segments for which EPA is proposing new use designations). Exclusion of a facility was based on the receiving water name for the discharge as contained in

PCS. As a result of this effort, EPA estimates that 110 facilities have NPDES permits to discharge to unclassified waters within Idaho. Of the 110, eight are classified as majors and 102 are classified as minors. The following table presents the estimated universe of facilities discharging to unclassified waters and the number of sample



facilities randomly selected by EPA to represent each category. Again, the number of sample facilities selected by

EPA was based on ensuring adequate representation of the dischargers within the group (relative to other groups), as

well as considering the time frame available to perform the analyses.

#### SUMMARY OF DISCHARGERS TO UNCLASSIFIED WATERS

Category	No. of point source dischargers		No. of sample facilities selected	
	Major	Minor	Major	Minor
Mining .....	3	15	1	2
Food Products Manufacturing .....		3		1
Power Plants .....		4		1
Logging and Lumber Production .....		3		1
Miscellaneous .....	4	52	2	4
POTWs .....	1	25	1	3
Total .....	8	102	4	12

To estimate costs for each of the sample facilities, EPA obtained data from NPDES permit files (permit application, permit, fact sheet or Statement of basis), and downloaded effluent monitoring data from PCS.

For each sample facility, EPA performed an evaluation of reasonable potential to exceed water quality-based effluent limits (WQBELs) based on applicable water quality criteria to protect new use designations (i.e., cold water biota protection). EPA considered any pollutant for which water quality criteria existed and for which data were available. EPA assumed that reasonable potential existed if a permit limit for the pollutant of concern was included in the existing permit for the sample facility. In the absence of a permit limit, but where monitoring data were available, EPA evaluated reasonable potential based on the monitoring data and the procedures contained in the TSD (EPA 505/2-90-001; March 1991). It should be noted that evaluation of the reasonable potential to exceed the applicable dissolved oxygen criteria was not possible in most cases, due to the lack of data. However, there were several sample facilities that were discharging oxygen-demanding pollutants. To account for the possible

effect of the oxygen demand potential from these facilities, EPA used a flow-based approach to determine the reasonable potential to exceed the dissolved oxygen criteria. In particular, if the discharge from a sample facility was to an effluent dominated stream (i.e., the effluent discharge flow from the sample facility was greater than 50 percent of the receiving stream flow), then EPA assumed that treatment was needed to meet the dissolved oxygen criteria.

To calculate WQBELs, EPA used the TSD procedures to derive maximum daily and monthly average limits. Background concentrations were based on the average of data contained in STORET for upstream monitoring stations (including nearby tributaries); in the absence of background data, EPA assumed zero. Critical low flows were calculated from data contained in the United States Geological Survey (USGS) Daily Flow file data base for nearby gage stations; the 1-day, 10-year low flow (1Q10) was used for acute aquatic life protection and the 7-day, 10-year low flow (7Q10) was used for chronic aquatic life protection. In the absence of stream flow data, EPA conservatively assumed zero low flow.

Once WQBELs were derived, EPA attempted to derive cost estimates that represent the cost to remove the incremental amount of pollutant(s) to levels needed to comply with WQBELs (based on the existing effluent limit or reported effluent quality in the absence of a limit). Ideally, this assessment would be based on an evaluation of the performance of existing treatment system units, as well as consideration of other possible control options (e.g., waste minimization, pollution prevention). However, the general lack of appropriate information and data, particularly for the minor sample facilities, prohibited EPA from assessing the feasibility of potential control options to reduce pollutant concentrations. Although EPA does not expect significant costs based on initial examination of the types and number of pollutants that would be affected by the proposed rule, any estimates made by EPA without an adequate information base would be speculation.

As a result of the significant data gaps for the sample facilities, EPA was unable to estimate costs for the sample facilities. The following table presents the facilities that were randomly selected as sample facilities for the cost analysis.

#### SAMPLE FACILITIES SELECTED BY EPA FOR COST ANALYSIS

Category	Sample facility name	NPDES permit No.
<b>Stream Segments with Specific Use Designations</b>		
Mining .....	Goldback Mines Corp .....	ID0026026
	Hecla Mining Co .....	ID0000167
	Star/Morning Mine and Mill.	
Food Products Manufacturing .....	Armour Fresh .....	ID0000787
Power Plants .....	Idaho Power—Swans Falls .....	ID0022551
Logging and Lumber Production .....	Boise Cascade Council Sawmill .....	ID0025631
Miscellaneous .....	University of Idaho Irrigation Lagoons .....	ID0027464
	Agway Inc. Seed Coop .....	ID0027464
POTWs .....	City of Preston .....	ID0020214



## SAMPLE FACILITIES SELECTED BY EPA FOR COST ANALYSIS—Continued

Category	Sample facility name	NPDES permit No.
	City of Troy .....	ID0023604
	Clarkia Water & Sewer District .....	ID0025071
	Cambridge Sewer Association .....	ID0020338
	City of Franklin .....	ID0025569
<b>Unclassified Waters</b>		
Mining .....	Beartrack Gold .....	ID0027022
	Caladay Project—Daly Gulch .....	ID0025429
	Unnamed Discharge to Crooked Creek .....	ID0024881
Food Products Manufacturing .....	Wippco Processing Plant .....	ID0026794
Power Plants .....	Idaho Power Company .....	ID0027502
Logging and Lumber Production .....	Jayne Plywood .....	ID0000451
Miscellaneous .....	Niagara Springs Hatchery .....	ID0022381
	Snake River Hatchery .....	ID0000752
	Standal Ponds .....	ID0027782
	Yoder Farms .....	ID0024236
	Great Western Chemical .....	ID0027537
	Unnamed Discharge to Lapwai Creek .....	ID0025168
POTWs .....	Unnamed Discharge to American Falls Reservoir .....	ID0020176
	City of Kamiah .....	ID0027545
	Unnamed Discharge to Hangman Creek .....	ID0025101
	Unnamed Discharge to Four Mile Creek .....	ID0026310

EPA is requesting comments, data, and information for the sample facilities that could assist EPA in evaluating the potential indirect costs to the sample facilities, including, but not limited to, descriptions of existing treatment systems and pollutant control systems; pollutants expected in effluent discharge; long-term average discharge flow and pollutant effluent concentrations; long-term average receiving water pollutant concentrations; and critical low flow values for receiving water stream segments.

### iii. Overview of Approach to Estimate Potential Costs Related to New Temperature Criteria

EPA is also including as part of today's proposed rule temperature criteria for threatened and endangered species. Due to the number of water body stream segments that are affected by this more stringent temperature criteria and lack of data, EPA was not able to project the potential costs to NPDES permitted dischargers associated with proposal of the more stringent temperature criteria. The water body stream segments with more stringent temperature criteria to protect threatened and endangered species can be found in Sections 131.33 (c) through (e) of today's proposed rule.

If sufficient data can be obtained, the approach EPA plans to use to estimate potential costs is similar to the approach used for estimating the costs for new use designations (i.e., randomly selecting sample facilities to represent the

universe of affected facilities). The data requirements to evaluate the potential costs would include not only ambient and effluent temperature data for critical times of the year during which spawning and rearing occur, but also detailed operational information to evaluate the ability of a facility to comply with the more stringent temperature criteria.

This detailed data were not available to EPA within the time-frame to complete the cost analysis, and therefore EPA was not able to fully assess the impact to NPDES permitted dischargers. EPA is soliciting the above mentioned data for facilities located on water body stream segments identified in Sections 131.33 (c)–(e) of today's proposed rule.

### K. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether the regulatory action is "significant" and therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined that this is not a "significant regulatory action" under the terms of Executive Order 12866, and is therefore not subject to OMB review.

### L. Regulatory Flexibility Act as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996

The Regulatory Flexibility Act (RFA) provides that, whenever an agency publishes a rule under 5 U.S.C. § 553, after being required to publish a general notice of proposed rulemaking, an agency must prepare a regulatory flexibility analysis unless the head of the agency certifies that the proposed rule will not have a significant economic impact on a substantial number of small entities. 5 U.S.C. §§ 604 & 605. The Administrator is today certifying, pursuant to § 605(b) of the RFA, that this proposed rule will not have a significant impact on a substantial number of small entities. Therefore, the Agency did not prepare a regulatory flexibility analysis.

Under the CWA water quality standards program, States must adopt water quality standards for their waters

that must be submitted to EPA for approval. If the Agency disapproves a State standard, EPA must promulgate standards consistent with the statutory requirements. These State standards (or EPA-promulgated standards) are implemented through the NPDES program that limits discharges to navigable waters except in compliance with an EPA permit or permit issued under an approved State program. The CWA requires that all NPDES permits must include any limits on discharges that are necessary to meet State water quality standards.

Thus under the CWA, EPA's promulgation of water quality standards where State standards are inconsistent with statutory requirements establishes standards that are implemented through the NPDES permit process by authorized States, or, in the absence of an approved State NPDES program, by EPA. EPA implements the NPDES program in Idaho. EPA and authorized States have discretion in deciding how to meet the water quality standards and in developing discharge limits as needed to meet the standards. While State or EPA implementation of federally-promulgated water quality standards may result in new or revised discharge limits being placed on small entities, the standards themselves do not apply to any discharger, including small entities.

Today's proposed rule imposes obligations on EPA but, as explained above, does not itself establish any requirements that are applicable to small entities. As a result of this action, EPA will need to ensure that permits issued in the State of Idaho include any limitations on discharges necessary to comply with the standards in the final rule. EPA and the State have a number of discretionary choices associated with permit writing and total maximum daily load (TMDL) calculations and waste load allocations (WLAs) which can affect the burden felt by any small entity as a result of EPA action to implement the final rule. While implementation of the final rule may ultimately result in some new or revised permit conditions for some dischargers, including small entities, EPA's action today does not impose any of these as yet unknown requirements on small entities.

The RFA requires analysis of the impacts of a rule on the small entities *subject to the rules' requirements*. See *United States Distribution Companies v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996). Today's proposed rule establishes no requirements applicable to small entities, and so is not susceptible to regulatory flexibility analysis as prescribed by the RFA. ("[N]o analysis

is necessary when an agency determines that the rule will not have a significant economic impact on a substantial number of small entities *that are subject to the requirements of the rule*," *United Distribution* at 1170, quoting *Mid-Tex Elec. Co-op v. FERC*, 773 F.2d 327, 342 (D.C. Cir. 1985) (emphasis added by *United Distribution* court).) The Agency is thus certifying that today's proposed rule will not have a significant economic impact on a substantial number of small entities, within the meaning of the RFA.

#### M. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and Tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written Statement, including a cost-benefit analysis, for proposed and final rules with "Federal Mandates" that may result in expenditures to State, local, and Tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a written Statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the rule an explanation why that alternative was not adopted.

Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including Tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of the affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

As noted above, this proposed rule is limited to water quality standards for a limited number of waters within the State of Idaho. EPA believes that this

proposed rule contains no regulatory requirements that might significantly or uniquely affect small governments. EPA also believes that this proposed rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any one year. Thus, today's proposed rule is not subject to the requirements of sections 202 and 205 of the UMRA.

#### N. Paperwork Reduction Act

Today's rulemaking imposes no new or additional information collection activities subject to the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*). Therefore, no Information Collection request will be submitted to the Office of Management and Budget for review in compliance with the Paperwork Reduction Act.

#### O. Executive Order 12875

In compliance with Executive Order 12875, EPA has involved State governments in the development of this rule. Prior to this rulemaking action, EPA met numerous times with representatives of Idaho's Division of Environmental Quality and Idaho's Attorney General's office to discuss our concerns with the State's water quality standards, possible remedies for addressing the disapproved sections of the water quality standards, and the rulemaking process. EPA has also corresponded with Idaho's Division of Environmental Quality and the Governor's office. EPA has held telephone conferences and meetings with U.S. Fish and Wildlife Service and the National Marine Fisheries Service to discuss Endangered Species Act consultation issues related to this action. In addition, EPA issued a notice on March 21, 1997, (62 FR 13567) outlining EPA's rulemaking plans and informing the public that EPA would be seeking information on specific streams in Idaho. EPA will continue to work with affected parties before finalizing water quality standards for Idaho.

EPA has scheduled two public hearings for May 12, 1997, in Boise, Idaho. EPA's public notification process is targeting interested parties, both within and outside of government, to ensure them the opportunity for involvement.

#### List of Subjects in 40 CFR Part 131

Environmental protection, Water pollution control, Water Quality Standards.

Dated: April 21, 1997.

**Carol M. Browner,**  
Administrator.

For the reasons set forth in the preamble, EPA proposes to amend 40 CFR Part 131 as follows:

**PART 131—WATER QUALITY STANDARDS**

1. The authority citation for part 131 continues to read as follows:

**Authority:** 33 U.S.C. 1251 *et seq.*

**Subpart D—[Amended]**

2. Section 131.33 is added to read as follows:

**§ 131.33 Idaho.**

(a) Prior to classification by the State, unclassified waters shall be protected for primary contact recreation and cold water biota.

(b) In addition to the State adopted use designations, the following water body segments in Idaho have the beneficial uses designated in paragraph (b)(1) of this section.

Idaho map code	Waters	Cold water biota	Salmonid spawning	Primary contact recreation
<b>(1) Panhandle Basin</b>				
PB 11S .....	Granite Creek-source to mouth .....	.....	.....	x
PB 121S .....	Canyon Creek-below mining impact .....	x	.....	x
PB 140S .....	South Fork Coeur d'Alene River-Daisy Gulch to mouth .....	x	.....	x
PB 142S .....	Nine Mile Creek-below mining impact .....	x	.....	x
PB 143S .....	Big Creek-below mining impact .....	x	.....	x
PB 145S .....	Government Gulch-source to mouth .....	x	.....	x
PB 146S .....	Pine Creek-below mining impact .....	.....	.....	x
PB 147S .....	Lake Creek-below mining impact .....	x	.....	x
PB 148S .....	Shields Gulch-below mining impact .....	x	.....	x
PB 220P .....	Trestle Creek-source to mouth .....	.....	.....	x
PB 322S .....	St. Maries-Fernwood to mouth .....	x	.....	.....
PB 340S .....	Plummer Creek-source to mouth .....	x	.....	x
PB 450S .....	Hangman Creek-source to Idaho-Washington border .....	x	.....	x
PB 451S .....	Rock Creek-source to Idaho-Washington border .....	x	.....	x
<b>(2) Clearwater Basin</b>				
CB 152 .....	Cottonwood Creek-source to mouth .....	x	.....	.....
CB 170 .....	Palouse River-Princeton to Idaho-Washington border .....	x	.....	x
CB 171 .....	So. Fork Palouse River-source to Idaho-Washington border .....	x	.....	x
CB 210 .....	Lindsay Creek .....	.....	.....	x
CB 1321 .....	Three Mile Creek-source to mouth .....	.....	.....	x
CB 1322 .....	Cottonwood Creek-source to mouth .....	.....	.....	x
CB 1421 .....	Grasshopper Creek-source to mouth .....	x	x	.....
CB 1541 .....	Little Bear Creek-source to mouth .....	x	x	x
CB 1711 .....	Cow Creek-source to Idaho-Washington border .....	x	.....	x
CB 1712 .....	Paradise Creek source to Idaho-Washington border .....	x	.....	x
<b>(3) Salmon Basin</b>				
SB 130 .....	Thompson Creek-source to mouth .....	.....	.....	x
SB 140 .....	Squaw Creek-source to mouth .....	.....	.....	x
SB 421 .....	Blackbird Creek-source to mouth .....	x	x	x
SB 430 .....	Panther Creek-Blackbird Creek to mouth .....	.....	x	x
SB 4211 .....	West Fork Blackbird Creek-source to mouth .....	x	x	x
<b>(4) Southwest Idaho Basin</b>				
SWB 10 .....	Snake River-King Hill to Marsing .....	x	.....	.....
SWB 20 .....	Snake River-Marsing to Boise River .....	x	.....	.....
SWB 30 .....	Snake River-Payette River to Boise River .....	x	.....	.....
SWB 271 .....	Ten Mile Creek-source to mouth .....	.....	.....	x
SWB 271 .....	Five Mile Creek-source to mouth .....	.....	.....	x
SWB 282 .....	Indian Creek-below Sugar Avenue Nampa to mouth .....	x	.....	x
SWB 410 .....	Weiser River-source to Midvale .....	x	.....	.....
SWB 421 .....	Crane Creek-source to mouth .....	x	.....	.....
<b>(5) Upper Snake Basin</b>				
USB 235 .....	North Fork Teton River-source to mouth .....	.....	.....	x
USB 236 .....	South Fork Teton River-source to mouth .....	.....	.....	x
USB 320 .....	Willow Creek-Ririe Dam to mouth .....	.....	.....	x
USB 360 .....	Blackfoot River-Equalizing Dam to mouth .....	x	.....	x
USB 411 .....	Marsh Creek-source to mouth .....	x	.....	x
USB 430 .....	Bannock Creek-source to mouth .....	x	.....	x
USB 730 .....	Rock Creek-Rock Creek City to mouth .....	.....	.....	x
USB 740 .....	Cedar Draw-source to mouth .....	.....	.....	x
USB 800 .....	Mud Creek-Deep Creek Road to mouth .....	.....	.....	x

Idaho map code	Waters	Cold water biota	Salmonid spawning	Primary contact recreation
USB 810 .....	Deep Creek-source to mouth .....	.....	.....	x
BB 310 .....	Soda Creek-source to mouth .....	x	.....	x
BB 430 .....	Battle Creek—source to mouth .....	x	.....	x
BB 420 .....	Worm Creek-source to Idaho-Washington border .....	x	.....	x
BB 450 .....	Cub Creek-Mapleton to Idaho-Utah border .....	x	.....	x
BB 470 .....	Malad River-Little Malad River to Idaho-Utah border .....	x	.....	x
BB 480 .....	Deep Creek-source to Idaho-Utah border .....	x	.....	.....

(c) Temperature Criteria for Bull Trout.

(1) The following seasonal temperature requirements and maximum weekly average temperature criteria apply to the Idaho waterbody segments identified in paragraph (c)(2) of this section.

Date	Maximum weekly average temperature (°C)
January .....	4
February .....	4
March .....	6
April .....	8
May .....	10
June .....	12
July .....	12
August 1–15 .....	12
August 15–30 .....	10
September .....	10
October .....	8
November .....	6
December .....	6

(2) **Note:** In paragraph (c)(2), “1” denotes waterbody segments included in the Interior Columbia Basin Ecosystem Management Project is “Key Salmonid” Database; “2” denotes waterbody segments included in the Idaho Department of Fish and Game Digital Bulltrout Distribution Database.

(i) Boise-Mores Basin: Boise River,<sup>2</sup> Devils Creek,<sup>1 2</sup> East Fork Sheep Creek,<sup>1 2</sup> Middle Fork Boise River,<sup>2</sup> North Fork Boise River,<sup>2</sup> Sheep Creek,<sup>1 2</sup>

(ii) Brownlee Reservoir Basin: Allison Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Board Gulch,<sup>1</sup> Brownlee Creek,<sup>1</sup> Butterfield Gulch,<sup>1</sup> Calf Pen Gulch,<sup>1</sup> Cave Creek,<sup>1</sup> Cold Spring Creek,<sup>1</sup> Cottonwood Creek,<sup>1</sup> Cow Creek,<sup>1</sup> Crooked River,<sup>1 2</sup> Deer Creek,<sup>1</sup> Dick Ross Creek,<sup>1</sup> Doe Creek,<sup>1</sup> Dukes Creek,<sup>1</sup> Eckels Creek,<sup>1</sup> Fawn Creek,<sup>1</sup> Gladheart Gulch,<sup>1</sup> Grouse Creek,<sup>1</sup> Hoo Hoo Gulch,<sup>1</sup> Indian Creek,<sup>2</sup> Jackson Gulch,<sup>1</sup> Kinney Creek,<sup>1</sup> Lick Creek,<sup>1</sup> Little Bear Creek,<sup>1</sup> Raft Creek,<sup>1</sup> Sheep Creek,<sup>1</sup> Snake River,<sup>1</sup> Stevens Creek,<sup>1</sup> Sumac Creek,<sup>1</sup> Summit Gulch,<sup>1</sup> Swapit Creek,<sup>1</sup> Thorn Creek,<sup>1</sup> Thorn Spring Creek,<sup>1</sup> Trail Creek,<sup>1</sup> Wayle Creek,<sup>1</sup> Wickiup Creek,<sup>1</sup> Wolf Creek,<sup>1</sup>

(iii) Bruneau Basin: Bruneau River,<sup>1</sup> East Fork Jarbidge River,<sup>2</sup> Jarbidge River,<sup>2</sup> Stiff Tree Draw.<sup>1</sup>

(iv) Clearwater Basin: Beards Gulch,<sup>1</sup> Big Canyon Creek,<sup>2</sup> Clearwater River,<sup>1</sup> Cole Canyon,<sup>1</sup> Cougar Creek,<sup>1</sup> Feather Creek,<sup>1</sup> Laguna Creek,<sup>1</sup> Lolo Creek,<sup>2</sup> Nikesa Creek,<sup>1</sup> North Fork Clearwater River,<sup>1</sup> Orofino Creek,<sup>2</sup> Rattlesnake Canyon,<sup>1</sup> Talapus Creek,<sup>1</sup> West Fork Potlatch River,<sup>1</sup> Wheeler Canyon.<sup>1</sup>

(v) Coeur d'Alene Lake Basin: Canary Creek,<sup>1</sup> Cataldo Gulch,<sup>1</sup> Cave Lake,<sup>1</sup> Clark Creek,<sup>1</sup> Coeur d'Alene Lake,<sup>1</sup> Coeur d'Alene River,<sup>1</sup> Cougar Creek,<sup>1</sup> Evans Creek,<sup>1</sup> Fernan Creek,<sup>1</sup> Fortier Creek,<sup>1</sup> French Gulch,<sup>1</sup> Hardy Gulch,<sup>1</sup> Hayden Gulch,<sup>1</sup> Kid Creek,<sup>1</sup> Killarney Creek,<sup>1</sup> Killarney Lake,<sup>1</sup> Lane Creek,<sup>1</sup> Medicine Lake,<sup>1</sup> Mica Creek,<sup>1</sup> Robinson Creek,<sup>1</sup> Rose Creek,<sup>1</sup> Skeel Gulch,<sup>1</sup> South Fork Mica Creek,<sup>1 2</sup> Squaw Creek,<sup>1</sup> Turner Creek,<sup>1</sup> Whiteman Draw,<sup>1</sup> Willow Creek.<sup>1</sup>

(vi) Hells Canyon Basin: Bear Gulch,<sup>1</sup> Bernard Creek,<sup>1</sup> Big Canyon Creek,<sup>1</sup> Big Sulphur Creek,<sup>1</sup> Brush Creek,<sup>1</sup> Camp Creek,<sup>1</sup> Caribou Creek,<sup>1</sup> Clarks Fork,<sup>2</sup> Corral Creek,<sup>1</sup> Deep Creek,<sup>1</sup> Devils Farm Creek,<sup>1</sup> Dog Creek,<sup>1</sup> Doug Creek,<sup>1</sup> Dry Creek,<sup>1 2</sup> East Fork Sheep Creek,<sup>1</sup> Fir Creek,<sup>1</sup> Getta Creek,<sup>2</sup> Granite Creek,<sup>1 2</sup> Highrange Creek,<sup>1</sup> Jones Creek,<sup>1</sup> Kirby Creek,<sup>1</sup> Klopton Creek,<sup>1 2</sup> Kurry Creek,<sup>1 2</sup> Left Fork Dry Creek,<sup>1</sup> Little Granite Creek,<sup>1</sup> North Fork Klopton Creek,<sup>1</sup> Oxbow Creek,<sup>1</sup> Salt Creek,<sup>2</sup> Sheep Creek,<sup>1 2</sup> Snake River,<sup>1 2</sup> Steep Creek,<sup>1</sup> Thorn Creek,<sup>1</sup> Trail Creek,<sup>1</sup> Two Creek,<sup>1</sup> Vance Gulch,<sup>1</sup> West Creek,<sup>1</sup> West Fork West Creek,<sup>1</sup> Wyley Creek,<sup>1</sup> Zigzag Creek.<sup>1</sup>

(vii) Lemhi Basin: Adams Creek,<sup>1</sup> Alder Creek,<sup>1</sup> Baldy Creek,<sup>1</sup> Basin Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Bear Valley Creek,<sup>1 2</sup> Big Eightmile Creek,<sup>1 2</sup> Big Springs Creek,<sup>1</sup> Big Timber Creek,<sup>1 2</sup> Bray Creek,<sup>1</sup> Bull Creek,<sup>1</sup> Cabin Creek,<sup>1</sup> Canyon Creek,<sup>1 2</sup> Carol Creek,<sup>1</sup> Chamberlain Creek,<sup>1</sup> Clear Creek,<sup>1</sup> Climb Creek,<sup>1</sup> Cooper Creek,<sup>1</sup> Dairy Creek,<sup>1 2</sup> Deer Creek,<sup>1 2</sup> Deer Park Creek,<sup>1</sup> Divide Creek,<sup>1</sup> Dry Creek,<sup>1</sup> East Fork Hayden Creek,<sup>1 2</sup> East Fork Kenney Creek,<sup>1</sup> East Fork Kirtley Creek,<sup>1</sup>

Eighteenmile Creek,<sup>1 2</sup> Falls Creek,<sup>1</sup> Ferry Creek,<sup>1</sup> Ford Creek,<sup>1</sup> Gary Creek,<sup>1</sup> Geertson Creek,<sup>1 2</sup> Goose Creek,<sup>1</sup> Grove Creek,<sup>1</sup> Hawley Creek,<sup>1 2</sup> Hayden Creek,<sup>1 2</sup> Haynes Creek,<sup>1</sup> Kadletz Creek,<sup>1</sup> Kenney Creek,<sup>1 2</sup> Kirtley Creek,<sup>1 2</sup> Lake Creek,<sup>1</sup> Lee Creek,<sup>2</sup> Lemhi River,<sup>1 2</sup> Little Eightmile Creek,<sup>1 2</sup> Little Mill Creek,<sup>1</sup> Little Sawmill Creek,<sup>1</sup> Little Timber Creek,<sup>1 2</sup> McGinty Creek,<sup>1</sup> McNutt Creek,<sup>1</sup> Meadow Creek,<sup>1</sup> Middle Fork Little Timber Creek,<sup>1 2</sup> Milk Creek,<sup>1</sup> Mill Creek,<sup>1 2</sup> Mogg Creek,<sup>1</sup> Muddy Creek,<sup>1</sup> Mulkey Creek,<sup>1</sup> Negro Green Creek,<sup>1</sup> North Fork Kirtley Creek,<sup>1 2</sup> North Fork Little Timber Creek,<sup>1</sup> Paradise Creek,<sup>1</sup> Patterson Creek,<sup>1</sup> Payne Creek,<sup>1</sup> Poison Creek,<sup>1</sup> Prospect Creek,<sup>1</sup> Reese Creek,<sup>1</sup> Rocky Creek,<sup>1</sup> Ryegrass Creek,<sup>1</sup> Short Creek,<sup>1</sup> Squaw Creek,<sup>1</sup> Squirrel Creek,<sup>1</sup> Texas Creek,<sup>1</sup> Tobias Creek,<sup>1</sup> Trail Creek,<sup>1</sup> Walter Creek,<sup>1</sup> Warm Spring Creek,<sup>1</sup> West Fork Hayden Creek,<sup>1 2</sup> West Fork Little Eightmile Creek,<sup>1</sup> Wright Creek.<sup>1</sup>

(viii) Little Lost Basin: Aspen Creek,<sup>1</sup> Badger Creek,<sup>1 2</sup> Barney Creek,<sup>1</sup> Bear Canyon,<sup>1</sup> Bear Creek,<sup>1</sup> Bell Mountain Creek,<sup>1</sup> Big Creek,<sup>1 2</sup> Bird Canyon,<sup>1</sup> Black Creek,<sup>1</sup> Buck Canyon,<sup>1</sup> Bull Creek,<sup>1</sup> Cedar Run Creek,<sup>1</sup> Chicken Creek,<sup>1</sup> Coal Creek,<sup>1</sup> Corral Creek,<sup>1</sup> Deep Creek,<sup>1</sup> Dry Creek,<sup>1</sup> Dry Creek Canal,<sup>1</sup> Firbox Creek,<sup>1 2</sup> Garfield Creek,<sup>1</sup> Hawley Canyon,<sup>1</sup> Hawley Creek,<sup>1 2</sup> Horse Creek,<sup>1</sup> Horse Lake Creek,<sup>1</sup> Iron Creek,<sup>1 2</sup> Jackson Creek,<sup>1 2</sup> Little Lost River,<sup>1 2</sup> Mahogany Creek,<sup>1</sup> Main Fork Sawmill Creek,<sup>1 2</sup> Massacre Creek,<sup>1</sup> Meadow Creek,<sup>1</sup> Mill Creek,<sup>1 2</sup> Moffett Creek,<sup>1</sup> Moonshine Creek,<sup>1</sup> Quigley Creek,<sup>1</sup> Red Rock Creek,<sup>1 2</sup> Sands Creek,<sup>1</sup> Sawmill Creek,<sup>1 2</sup> Slide Creek,<sup>1</sup> Smithie Fork,<sup>1 2</sup> Squaw Creek,<sup>1 2</sup> Summerhouse Canyon,<sup>1</sup> Summit Creek,<sup>1 2</sup> Timber Creek,<sup>1 2</sup> Warm Creek,<sup>1 2</sup> Wet Creek,<sup>1 2</sup> Williams Creek.<sup>1 2</sup>

(ix) Little Salmon Basin: Bascum Canyon,<sup>1</sup> Boulder Creek,<sup>2</sup> Brown Creek,<sup>1</sup> Campbell Ditch,<sup>1</sup> Castle Creek,<sup>1</sup> Clayburn Creek,<sup>1</sup> Copper Creek,<sup>1</sup> Granite Fork Lake Fork Rapid River,<sup>1</sup> Hard Creek,<sup>1 2</sup> Hazard Creek,<sup>1 2</sup> Hyatt Creek,<sup>1</sup> Jacks Creek,<sup>1</sup> Lake Fork Rapid River,<sup>1</sup> Little Salmon River,<sup>1 2</sup> Paradise

Creek,<sup>1</sup> Pony Creek,<sup>2</sup> Rapid River,<sup>1,2</sup> Squirrel Creek,<sup>2</sup> Trail Creek,<sup>1</sup> Warm Springs Creek,<sup>1</sup> West Fork Rapid River.<sup>2</sup>

(x) Lochsa Basin: Apgar Creek,<sup>1</sup> Badger Creek,<sup>1</sup> Bald Mountain Creek,<sup>1</sup> Bear Mtn. Creek,<sup>1</sup> Beaver Creek,<sup>1,2</sup> Big Flat Creek,<sup>1,2</sup> Big Stew Creek,<sup>1</sup> Boulder Creek,<sup>1,2</sup> Brushy Fork,<sup>1,2</sup> Cabin Creek,<sup>1</sup> California Creek,<sup>1</sup> Castle Creek,<sup>1</sup> Chain Creek,<sup>2</sup> Chimney Creek,<sup>1</sup> Cliff Creek,<sup>1</sup> Colgate Creek,<sup>1</sup> Coolwater Creek,<sup>1</sup> Cooperation Creek,<sup>1</sup> Crab Creek,<sup>1</sup> Crooked Fork Lochsa River,<sup>1,2</sup> Dan Creek,<sup>1</sup> Deadman Creek,<sup>2</sup> Doe Creek,<sup>1,2</sup> Dutch Creek,<sup>1</sup> Eagle Creek,<sup>1</sup> Eagle Mountain Creek,<sup>1</sup> East Fork Papoose Creek,<sup>1,2</sup> East Fork Split Creek,<sup>1</sup> East Fork Squaw Creek,<sup>1</sup> Eel Creek,<sup>1</sup> Fern Creek,<sup>1</sup> Fire Creek,<sup>2</sup> Fish Creek,<sup>1,2</sup> Fish Lake Creek,<sup>1,2</sup> Fox Creek,<sup>1,2</sup> Freezeout Creek,<sup>1</sup> Gass Creek,<sup>2</sup> Gold Creek,<sup>1</sup> Greystone Creek,<sup>1</sup> Gypsy Creek,<sup>1</sup> Ham Creek,<sup>1</sup> Handy Creek,<sup>1</sup> Hard Creek,<sup>1</sup> Haskell Creek,<sup>1</sup> Heather Creek,<sup>1</sup> Helix Creek,<sup>1</sup> Hellgate Creek,<sup>1</sup> Heslip Creek,<sup>1</sup> Hidden Creek,<sup>1</sup> Holly Creek,<sup>1</sup> Hopeful Creek,<sup>1,2</sup> Hungry Creek,<sup>2</sup> Indian Grave Creek,<sup>1,2</sup> Indian Meadow Creek,<sup>1</sup> Jay Creek,<sup>1</sup> Kerr Creek,<sup>1</sup> Kinnikinnick Creek,<sup>1</sup> Kube Creek,<sup>1</sup> Lochsa River,<sup>1,2</sup> Lone Knob Creek,<sup>1</sup> Lost Creek,<sup>1</sup> Lottie Creek,<sup>1</sup> Macaroni Creek,<sup>1</sup> Maud Creek,<sup>1</sup> Middle Fork Clearwater River,<sup>2</sup> Mocus Creek,<sup>1</sup> No-see-um Creek,<sup>1</sup> North Fork Spruce Creek,<sup>1</sup> North Fork Storm Creek,<sup>1</sup> Nut Creek,<sup>1</sup> Old Man Creek,<sup>1</sup> Otter Slide Creek,<sup>1</sup> Pack Creek,<sup>1</sup> Papoose Creek,<sup>1,2</sup> Parachute Creek,<sup>1</sup> Pass Creek,<sup>1</sup> Pedro Creek,<sup>1</sup> Pell Creek,<sup>1</sup> Pete King Creek,<sup>1,2</sup> Placer Creek,<sup>1</sup> Polar Creek,<sup>1</sup> Postoffice Creek,<sup>1,2</sup> Queen Creek,<sup>1</sup> Robin Creek,<sup>1</sup> Rock Creek,<sup>1</sup> Rye Patch Creek,<sup>1</sup> Sardine Creek,<sup>1</sup> Selway River,<sup>1,2</sup> Shoot Creek,<sup>1</sup> Shotgun Creek,<sup>1</sup> Skookum Creek,<sup>1</sup> Snowshoe Creek,<sup>1</sup> South Fork Spruce Creek,<sup>1</sup> South Fork Storm Creek,<sup>1</sup> Split Creek,<sup>1</sup> Sponge Creek,<sup>1,2</sup> Spring Creek,<sup>1</sup> Spruce Creek,<sup>1,2</sup> Squaw Creek,<sup>1,2</sup> Storm Creek,<sup>1,2</sup> Tadpole Creek,<sup>1</sup> Tick Creek,<sup>1</sup> Tomcat Creek,<sup>1</sup> Tumble Creek,<sup>1</sup> Twin Creek,<sup>1</sup> Wag Creek,<sup>1</sup> Walde Creek,<sup>1,2</sup> Walton Creek,<sup>1,2</sup> Warm Springs Creek,<sup>1,2</sup> Weir Creek,<sup>1,2</sup> Wendover Creek,<sup>1,2</sup> West Fork Boulder Creek,<sup>1</sup> West Fork Papoose Creek,<sup>1,2</sup> West Fork Squaw Creek,<sup>1,2</sup> West Fork Wendover Creek,<sup>1</sup> White Sands Creek,<sup>1,2</sup> Willow Creek.<sup>1</sup>

(xi) Lower Clark Fork Basin: Cascade Creek,<sup>1</sup> Clark Fork,<sup>1,2</sup> East Fork,<sup>1</sup> East Fork Creek,<sup>2</sup> East Fork East Fork Creek,<sup>1</sup> Gold Creek,<sup>1</sup> Johnson Creek,<sup>1,2</sup> Lightning Creek,<sup>1,2</sup> Middle Fork Clark Fork,<sup>2</sup> Mosquito Creek,<sup>1</sup> North Fork Clark Fork,<sup>2</sup> Porcupine Creek,<sup>2</sup> Rattle Creek,<sup>2</sup> South Fork Clark Fork,<sup>2</sup> Spring Creek,<sup>1,2</sup> Twin Creek,<sup>2</sup> Wellington Creek.<sup>1,2</sup>

(xii) Lower Kootenai Basin: Ball Creek,<sup>1</sup> Boundary Creek,<sup>2</sup> Brush Creek,<sup>1</sup> Brush Lake,<sup>1</sup> Cabin Creek,<sup>1</sup> Caribou Creek,<sup>1,2</sup> Cascade Creek,<sup>1</sup> Cedar Creek,<sup>1</sup> Cooks Creek,<sup>1</sup> Cow Creek,<sup>1</sup> Curley Creek,<sup>2</sup> Deep Creek,<sup>1,2</sup> Fall Creek,<sup>1</sup> Grass Creek,<sup>2</sup> Hall Creek,<sup>1</sup> Highland Creek,<sup>1</sup> Jim Creek,<sup>1</sup> Kootenai River,<sup>1,2</sup> Lime Creek,<sup>1</sup> Long Canyon Creek,<sup>1,2</sup> Mack Creek,<sup>1</sup> Mission Creek,<sup>2</sup> Molar Creek,<sup>1</sup> Moyie River,<sup>2</sup> Myrtle Creek,<sup>1,2</sup> Peak Creek,<sup>1</sup> Roman Nose Creek,<sup>1</sup> Snow Creek,<sup>1,2</sup> Trout Creek.<sup>1,2</sup>

(xiii) Lower Middle Fork Salmon Basin: Acorn Creek,<sup>1</sup> Alpine Creek,<sup>1</sup> Anvil Creek,<sup>1</sup> Arrastra Creek,<sup>1</sup> Bar Creek,<sup>1</sup> Beagle Creek,<sup>1</sup> Beaver Creek,<sup>1,2</sup> Belvidere Creek,<sup>1,2</sup> Big Creek,<sup>1,2</sup> Birdseye Creek,<sup>1</sup> Bismark Creek,<sup>1</sup> Boulder Creek,<sup>1</sup> Brush Creek,<sup>2</sup> Buck Creek,<sup>1</sup> Bull Creek,<sup>1</sup> Cabin Creek,<sup>2</sup> Camas Creek,<sup>1,2</sup> Camp Creek,<sup>1</sup> Canyon Creek,<sup>1</sup> Castle Creek,<sup>1,2</sup> Cave Creek,<sup>1</sup> Chalk Creek,<sup>1</sup> Cinch Creek,<sup>1</sup> Clark Creek,<sup>1</sup> Coin Creek,<sup>1</sup> Color Creek,<sup>1</sup> Copper Creek,<sup>1</sup> Corner Creek,<sup>1</sup> Coxey Creek,<sup>1</sup> Crooked Creek,<sup>1,2</sup> Dame Creek,<sup>1</sup> Deer Creek,<sup>1</sup> Doe Creek,<sup>1</sup> Duck Creek,<sup>1</sup> East Fork Crooked Creek,<sup>1</sup> East Fork Holy Terror Creek,<sup>1</sup> Fall Creek,<sup>1</sup> Fawn Creek,<sup>1</sup> Flume Creek,<sup>1</sup> Fly Creek,<sup>1</sup> Forge Creek,<sup>1</sup> Furnace Creek,<sup>1</sup> Garden Creek,<sup>1</sup> Goat Creek,<sup>1</sup> Gold Creek,<sup>1</sup> Government Creek,<sup>1</sup> Grouse Creek,<sup>1</sup> Hammer Creek,<sup>1</sup> Hand Creek,<sup>1,2</sup> Holy Terror Creek,<sup>1</sup> J Fell Creek,<sup>1</sup> Jackass Creek,<sup>1</sup> Jacobs Ladder Creek,<sup>1</sup> Jenny Creek,<sup>1</sup> Lake Creek,<sup>1</sup> Lewis Creek,<sup>1</sup> Liberty Creek,<sup>1</sup> Lick Creek,<sup>1</sup> Lime Creek,<sup>1</sup> Little Jacket Creek,<sup>1</sup> Little Marble Creek,<sup>1</sup> Little Ramey Creek,<sup>1</sup> Little White Goat Creek,<sup>1</sup> Little Woodtick Creek,<sup>1</sup> Logan Creek,<sup>1,2</sup> Lookout Creek,<sup>1</sup> Loon Creek,<sup>2</sup> Martindale Creek,<sup>1</sup> Meadow Creek,<sup>1</sup> Middle Fork Salmon River,<sup>1,2</sup> Middle Fork Smith Creek,<sup>1,2</sup> Milk Creek,<sup>1</sup> Monumental Creek,<sup>1,2</sup> Moore Creek,<sup>1</sup> Mud Creek,<sup>1</sup> Mulligan Creek,<sup>1</sup> North Fork Smith Creek,<sup>1</sup> North Fork Stoddard Creek,<sup>1</sup> Norton Creek,<sup>1</sup> Pack Horse Creek,<sup>1</sup> Paint Creek,<sup>1</sup> Placer Creek,<sup>1</sup> Pole Creek,<sup>1</sup> Rams Creek,<sup>1</sup> Range Creek,<sup>1</sup> Roaring Creek,<sup>1</sup> Routson Creek,<sup>1</sup> Rush Creek,<sup>1,2</sup> Sawlog Creek,<sup>1</sup> Sheep Creek,<sup>1</sup> Sheldon Creek,<sup>1</sup> Shellrock Creek,<sup>1</sup> Ship Island Creek,<sup>1</sup> Shovel Creek,<sup>1</sup> Silver Creek,<sup>1,2</sup> Slide Creek,<sup>1</sup> Smith Creek,<sup>1,2</sup> Snowslide Creek,<sup>2</sup> Soda Creek,<sup>1</sup> Soldier Creek,<sup>1</sup> South Fork Camas Creek,<sup>1</sup> South Fork Chamberlain Creek,<sup>2</sup> South Fork Holy Terror Creek,<sup>1</sup> South Fork Norton Creek,<sup>1</sup> South Fork Rush Creek,<sup>1</sup> South Fork Sheep Creek,<sup>1</sup> Spider Creek,<sup>1</sup> Spletts Creek,<sup>1</sup> Spring Creek,<sup>1</sup> Stoddard Creek,<sup>1</sup> Tale Creek,<sup>1</sup> Telephone Creek,<sup>1</sup> Trail Creek,<sup>1</sup> Twin Creek,<sup>1</sup> Two Point Creek,<sup>1</sup> West Fork Beaver Creek,<sup>1</sup> West Fork Camas Creek,<sup>1,2</sup> West Fork Crooked

Creek,<sup>1</sup> West Fork Monumental Creek,<sup>1,2</sup> West Fork Rush Creek,<sup>1</sup> Whiskey Creek,<sup>1</sup> White Goat Creek,<sup>1</sup> Wild Horse Creek,<sup>1</sup> Wilson Creek,<sup>1,2</sup> Woodtick Creek,<sup>1</sup> Yellowjacket Creek.<sup>1</sup>

(xiv) Lower North Fork Clearwater Basin: Adair Creek,<sup>1</sup> Anderson Creek,<sup>1</sup> Badger Creek,<sup>1</sup> Bathtub Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Beaver Creek,<sup>1,2</sup> Bertha Creek,<sup>1</sup> Bingo Creek,<sup>1</sup> Black Creek,<sup>1</sup> Bonner Creek,<sup>1</sup> Brush Creek,<sup>1</sup> Buck Creek,<sup>1</sup> Butte Creek,<sup>1</sup> Canyon Creek,<sup>1,2</sup> Caribou Creek,<sup>1</sup> Cataract Creek,<sup>1</sup> Crampton Creek,<sup>1</sup> Crescendo Creek,<sup>1</sup> Crimper Creek,<sup>1</sup> Delate Creek,<sup>1</sup> Devils Club Creek,<sup>1</sup> Dip Creek,<sup>1</sup> Dog Creek,<sup>1,2</sup> Dworshak Reservoir,<sup>1</sup> East Fork Beaver Creek,<sup>1</sup> Elkberry Creek,<sup>1</sup> Elmberry Creek,<sup>1</sup> Elmer Creek,<sup>1</sup> Falls Creek,<sup>1</sup> Fern Creek,<sup>1</sup> Floodwood Creek,<sup>1</sup> Foehl Creek,<sup>1</sup> Goat Creek,<sup>1</sup> Grandad Creek,<sup>1</sup> Harlan Creek,<sup>1</sup> Hodson Creek,<sup>1</sup> Idaho Creek,<sup>1</sup> Isabella Creek,<sup>1,2</sup> John Creek,<sup>1</sup> Jug Creek,<sup>1</sup> Jungle Creek,<sup>1,2</sup> Ladds Creek,<sup>1</sup> Larkins Creek,<sup>1</sup> Len Creek,<sup>1</sup> Lightning Creek,<sup>1</sup> Little Lost Lake Creek,<sup>1</sup> Little Meadow Creek,<sup>1</sup> Little North Fork Clearwater River,<sup>1,2</sup> Lost Lake Creek,<sup>1,2</sup> Lund Creek,<sup>1,2</sup> Marquette Creek,<sup>1</sup> McKinnon Creek,<sup>1</sup> Meadows Creek,<sup>1</sup> Milk Creek,<sup>1</sup> Minnesaka Creek,<sup>1</sup> Montana Creek,<sup>1</sup> Mowitch Creek,<sup>1</sup> Mulligan Creek,<sup>1</sup> North Fork Clearwater River,<sup>1,2</sup> Northbound Creek,<sup>1</sup> Papoose Creek,<sup>1</sup> Pitchfork Creek,<sup>1</sup> Rocky Run,<sup>1,2</sup> Rooney Creek,<sup>1</sup> Rutledge Creek,<sup>1,2</sup> Salmon Creek,<sup>1</sup> Sawtooth Creek,<sup>1</sup> Sheep Mountain Creek,<sup>1</sup> Sourdough Creek,<sup>1</sup> Sousie Creek,<sup>1</sup> South Fork Beaver Creek,<sup>1</sup> Spires Creek,<sup>1</sup> Spotted Louis Creek,<sup>1,2</sup> Springs Creek,<sup>1</sup> Stoney Creek,<sup>1</sup> Thompson Creek,<sup>1</sup> Thrasher Creek,<sup>1</sup> Triple Creek,<sup>1</sup> Twin Creek,<sup>1,2</sup> West Fork Butte Creek,<sup>1</sup> West Fork Hodson Creek,<sup>1</sup> West Fork Meadows Creek,<sup>1</sup> West Fork Montana Creek,<sup>1</sup> West Fork Rooney Creek,<sup>1</sup> White Creek,<sup>1</sup> Willow Creek.<sup>1</sup>

(xv) Lower Salmon Basin: Baker Gulch,<sup>1</sup> Bear Gulch,<sup>1</sup> Berg Creek,<sup>1</sup> Chapman Creek,<sup>1</sup> Cottonwood Creek,<sup>1</sup> East Fork John Day Creek,<sup>1</sup> Elkhorn Creek,<sup>2</sup> Fiddle Creek,<sup>2</sup> French Creek,<sup>1,2</sup> Hagen Draw,<sup>1</sup> Hurley Creek,<sup>1</sup> John Day Creek,<sup>1,2</sup> Kelly Creek,<sup>2</sup> Klip Creek,<sup>1</sup> Lake Creek,<sup>2</sup> Little Salmon River,<sup>2</sup> Little Slate Creek,<sup>2</sup> Little Van Buren Creek,<sup>1</sup> No Buisiness Creek,<sup>1</sup> North Creek,<sup>1</sup> North Fork Baker Gulch,<sup>1</sup> North Fork Slate Creek,<sup>1,2</sup> North Fork White Bird Creek,<sup>2</sup> Partridge Creek,<sup>2</sup> Price Creek,<sup>1</sup> Salmon River,<sup>1,2</sup> Slate Creek,<sup>1,2</sup> Slide Creek,<sup>1</sup> South Fork Baker Gulch,<sup>1</sup> South Fork John Day Creek,<sup>1</sup> South Fork White Bird Creek,<sup>2</sup> Trough Creek,<sup>1</sup> Warm Springs Creek,<sup>1</sup> Waterspout Creek,<sup>1</sup> White Bird Creek,<sup>1</sup> Willow Creek.<sup>1</sup>

(xvi) Lower Selway Basin: Anderson Creek,<sup>1</sup> Bailey Creek,<sup>2</sup> Barren Creek,<sup>1</sup> Browns Spring Creek,<sup>2</sup> Buck Lake

Creek,<sup>2</sup> Butte Creek,<sup>1</sup> Butter Creek,<sup>1</sup> Cabin Creek,<sup>1</sup> Cedar Creek,<sup>1,2</sup> Chain Creek,<sup>1,2</sup> Chute Creek,<sup>1</sup> Crew Creek,<sup>1</sup> Dent Creek,<sup>1,2</sup> Disgrace Creek,<sup>1</sup> Double Creek,<sup>2</sup> East Fork Meadow Creek,<sup>1</sup> East Fork Moose Creek,<sup>1,2</sup> East Fork Sable Creek,<sup>1</sup> Elbow Creek,<sup>2</sup> Fitting Creek,<sup>1</sup> Fivemile Creek,<sup>2</sup> Fourmile Creek,<sup>1</sup> Freeman Creek,<sup>1</sup> Gate Creek,<sup>1</sup> Gedney Creek,<sup>2</sup> Goddard Creek,<sup>2</sup> Grotto Creek,<sup>1</sup> Heath Creek,<sup>1</sup> Higgins Creek,<sup>1</sup> Horse Creek,<sup>2</sup> Indian Hill Creek,<sup>1,2</sup> Isaac Creek,<sup>1</sup> Lark Creek,<sup>1</sup> Little Boulder Creek,<sup>1,2</sup> Little Creek,<sup>1</sup> Little Schwar Creek,<sup>1</sup> Lizard Creek,<sup>1</sup> Lone Creek,<sup>1</sup> Matteson Creek,<sup>1</sup> Meadow Creek,<sup>1,2</sup> Monument Creek,<sup>1,2</sup> Moose Creek,<sup>2</sup> Moss Creek,<sup>1</sup> Newsome Creek,<sup>2</sup> North Fork Moose Creek,<sup>1,2</sup> Pea Creek,<sup>1</sup> Porphyry Creek,<sup>1</sup> Rabbit Creek,<sup>1</sup> Rhoda Creek,<sup>1,2</sup> Sable Creek,<sup>1</sup> Saddle Creek,<sup>1</sup> Schwar Creek,<sup>2</sup> Selway River,<sup>2</sup> Shake Creek,<sup>1</sup> Simmons Creek,<sup>1</sup> Sled Creek,<sup>1</sup> Spook Creek,<sup>1</sup> Spur Creek,<sup>1</sup> Squirrel Creek,<sup>1</sup> Tamarack Creek,<sup>1</sup> Three Prong Creek,<sup>1</sup> Twomile Creek,<sup>1</sup> West Fork Anderson Creek,<sup>1</sup> West Fork Gedney Creek,<sup>1,2</sup> West Fork Sable Creek,<sup>1</sup> West Fork Three Links Creek,<sup>1</sup> West Moose Creek,<sup>1,2</sup> Wounded Doe Creek,<sup>2</sup> Wye Creek.<sup>1</sup>

(xvii) Lower Snake-Asotin Basin: Big Cougar Creek,<sup>1</sup> Buffalo Draw,<sup>1</sup> Cave Gulch,<sup>1</sup> China Garden Creek,<sup>1</sup> Cottonwood Creek,<sup>1</sup> Crows Canyon,<sup>1</sup> First Creek,<sup>1</sup> Frenchy Creek,<sup>1</sup> Salmon River,<sup>2</sup> Snake River,<sup>1,2</sup> Thiessen Canyon.<sup>1</sup>

(xviii) Middle Fork Clearwater Basin: Baldy Creek,<sup>2</sup> Big Cedar Creek,<sup>2</sup> Browns Spring Creek,<sup>1,2</sup> Clear Creek,<sup>1,2</sup> Kay Creek,<sup>1</sup> Middle Fork Clear Creek,<sup>1,2</sup> Middle Fork Clearwater River,<sup>2</sup> Pine Knob Creek,<sup>1,2</sup> Solo Creek,<sup>1</sup> South Fork Clear Creek,<sup>1,2</sup> South Fork Clearwater River.<sup>2</sup>

(xix) Middle Fork Payette Basin: Albright Gulch,<sup>1</sup> Bell Creek,<sup>1</sup> Boom Creek,<sup>1</sup> Bridge Creek,<sup>1</sup> Bryan Creek,<sup>1</sup> Bull Creek,<sup>1,2</sup> Dash Creek,<sup>1</sup> Easley Creek,<sup>1</sup> Fool Creek,<sup>1</sup> Goat Creek,<sup>1</sup> Gooseberry Creek,<sup>1</sup> Ground Hog Creek,<sup>1</sup> Koppes Creek,<sup>1</sup> Lake Creek,<sup>1</sup> Lightning Creek,<sup>1</sup> Little Gooseberry Creek,<sup>1</sup> Middle Fork Payette River,<sup>1,2</sup> Oxtail Creek,<sup>1,2</sup> Pine Creek,<sup>1</sup> Pyle Creek,<sup>1</sup> Rattlesnake Creek,<sup>1</sup> Rocky Canyon,<sup>1</sup> Silver Creek,<sup>2</sup> Sixteen-to-one Creek,<sup>1</sup> Skull Creek,<sup>1</sup> Smith Creek,<sup>1</sup> South Fork Payette River,<sup>2</sup> South Fork West Fork Creek,<sup>1</sup> Tie Creek,<sup>1</sup> Trail Creek,<sup>1</sup> Warm Springs Creek,<sup>1</sup> West Fork Creek,<sup>1</sup> Wet Foot Creek.<sup>1</sup>

(xx) Middle Salmon-Chamberlain Basin: Arlington Creek,<sup>1</sup> Arrow Creek,<sup>1</sup> Bargamin Creek,<sup>1,2</sup> Basin Creek,<sup>1</sup> Bat Creek,<sup>1</sup> Bay Creek,<sup>1</sup> Bear Creek,<sup>2</sup> Bemis Creek,<sup>1</sup> Bend Creek,<sup>1</sup> Big Elkhorn Creek,<sup>1</sup> Big Harrington Creek,<sup>1</sup> Big

Mallard Creek,<sup>1,2</sup> Big Squaw Creek,<sup>1</sup> Bleak Creek,<sup>1</sup> Bronco Creek,<sup>1</sup> Broomtail Creek,<sup>1</sup> Brown Creek,<sup>1</sup> Bull Creek,<sup>1</sup> Butts Creek,<sup>1</sup> Canyon Creek,<sup>1</sup> Cayuse Creek,<sup>1</sup> Center Creek,<sup>1</sup> Chamberlain Creek,<sup>1,2</sup> Cliff Creek,<sup>1</sup> Club Creek,<sup>1</sup> Colt Creek,<sup>1</sup> Corn Creek,<sup>2</sup> Cottonwood Creek,<sup>1</sup> Crooked Creek,<sup>1,2</sup> Deer Creek,<sup>1</sup> Dennis Creek,<sup>1</sup> Disappointment Creek,<sup>1</sup> Dismal Creek,<sup>1</sup> Dog Creek,<sup>1</sup> East Fork Fall Creek,<sup>1,2</sup> East Fork Horse Creek,<sup>1</sup> East Fork Noble Creek,<sup>1</sup> East Fork Sheep Creek,<sup>1</sup> East Fork Whimstick Creek,<sup>1</sup> Fall Creek,<sup>1,2</sup> Farrow Creek,<sup>1</sup> Filly Creek,<sup>1</sup> Fish Creek,<sup>1</sup> Fitz Creek,<sup>1</sup> Flossie Creek,<sup>1</sup> Game Creek,<sup>1,2</sup> Gap Creek,<sup>1</sup> Ginger Creek,<sup>1</sup> Green Creek,<sup>1</sup> Grouse Creek,<sup>1</sup> Guard Creek,<sup>2</sup> Hamilton Creek,<sup>1</sup> Hartan Creek,<sup>1</sup> Horse Creek,<sup>1,2</sup> Hot Springs Creek,<sup>1</sup> Hotzel Creek,<sup>1</sup> Houston Creek,<sup>1</sup> Hungry Creek,<sup>1</sup> Hurst Creek,<sup>1</sup> Iodine Creek,<sup>1</sup> Jack Creek,<sup>1</sup> Jersey Creek,<sup>2</sup> Kitchen Creek,<sup>1</sup> Lake Creek,<sup>1,2</sup> Left Fork Slaughter Creek,<sup>1</sup> Little Horse Creek,<sup>1,2</sup> Little Lodgepole Creek,<sup>1</sup> Little Mallard Creek,<sup>1,2</sup> Lodgepole Creek,<sup>1</sup> Mayflower Creek,<sup>1,2</sup> McCalla Creek,<sup>1,2</sup> Meadow Creek,<sup>1</sup> Moose Creek,<sup>1,2</sup> Moose Jaw Creek,<sup>1</sup> Mule Creek,<sup>1</sup> Mustang Creek,<sup>1</sup> My Creek,<sup>1</sup> No Name Creek,<sup>1</sup> Our Creek,<sup>1</sup> Owl Creek,<sup>2</sup> Peak Creek,<sup>1</sup> Plummer Creek,<sup>1</sup> Poet Creek,<sup>1</sup> Pole Creek,<sup>1</sup> Porcupine Creek,<sup>1</sup> Power Creek,<sup>1</sup> Prospector Creek,<sup>1</sup> Pup Creek,<sup>1</sup> Queen Creek,<sup>1</sup> Rainey Creek,<sup>1</sup> Ranch Creek,<sup>1</sup> Rattlesnake Creek,<sup>1</sup> Red Top Creek,<sup>1</sup> Reynolds Creek,<sup>1</sup> Richardson Creek,<sup>1</sup> Rim Creek,<sup>1,2</sup> Ring Creek,<sup>1</sup> Rock Creek,<sup>1</sup> Root Creek,<sup>1</sup> Runaway Creek,<sup>1</sup> Sabe Creek,<sup>1</sup> Saddle Creek,<sup>1</sup> Salmon River,<sup>1,2</sup> Salt Creek,<sup>1</sup> Schissler Creek,<sup>2</sup> Sheep Creek,<sup>1,2</sup> Short Creek,<sup>1</sup> Shovel Creek,<sup>1</sup> Skull Creek,<sup>1</sup> Slaughter Creek,<sup>1,2</sup> Slide Creek,<sup>1</sup> Smith Creek,<sup>1</sup> South Fork Cottonwood Creek,<sup>1</sup> South Fork Chamberlain Creek,<sup>1,2</sup> South Fork Kitchen Creek,<sup>1</sup> South Fork Salmon River,<sup>2</sup> South Fork Whimstick Creek,<sup>1</sup> Spread Creek,<sup>1</sup> Spring Creek,<sup>1</sup> Starvation Creek,<sup>1</sup> Steamboat Creek,<sup>2</sup> Steep Creek,<sup>1</sup> Stud Creek,<sup>1</sup> Wapiti Creek,<sup>1</sup> Warren Creek,<sup>1,2</sup> Webfoot Creek,<sup>1,2</sup> West Fork Butts Creek,<sup>1</sup> West Fork Chamberlain Creek,<sup>1,2</sup> West Fork Rattlesnake Creek,<sup>1</sup> West Fork Whimstick Creek,<sup>1</sup> West Horse Creek,<sup>1</sup> Whimstick Creek,<sup>1,2</sup> Wind River,<sup>2</sup> Woods Fork Horse Creek.<sup>1</sup>

(xxi) Middle Salmon-Panther Basin: Allan Creek,<sup>1</sup> Allen Creek,<sup>1</sup> Anderson Creek,<sup>1</sup> Arnett Creek,<sup>1,2</sup> Badger Creek,<sup>1</sup> Beaver Creek,<sup>1,2</sup> Big Deer Creek,<sup>2</sup> Big Jureano Creek,<sup>1</sup> Big Silverlead Creek,<sup>1</sup> Blackbird Creek,<sup>1</sup> Boulder Creek,<sup>1,2</sup> Cabin Creek,<sup>1</sup> Camp Creek,<sup>1</sup> Carmen Creek,<sup>1,2</sup> Chipps Creek,<sup>1</sup> Clear Creek,<sup>1,2</sup> Cliff Creek,<sup>1</sup> Colson Creek,<sup>2</sup> Copper Creek,<sup>1</sup> Corral Creek,<sup>1</sup> Cougar Creek,<sup>1</sup>

Cove Creek,<sup>1</sup> Cow Creek,<sup>2</sup> Dahlonga Creek,<sup>1</sup> Daly Creek,<sup>1</sup> Deadhorse Creek,<sup>1</sup> Deep Creek,<sup>1,2</sup> Ditch Creek,<sup>1</sup> Dump Creek,<sup>1</sup> East Boulder Creek,<sup>1</sup> East Fork Indian Creek,<sup>1</sup> East Fork Owl Creek,<sup>1</sup> East Fork Pierce Creek,<sup>1</sup> East Fork Spring Creek,<sup>1</sup> Ebenezer Creek,<sup>1</sup> Elk Creek,<sup>1</sup> Elkhorn Creek,<sup>1</sup> Fawn Creek,<sup>1</sup> Fourth Of July Creek,<sup>1</sup> Freeman Creek,<sup>2</sup> Hammerean Creek,<sup>1</sup> Homet Creek,<sup>1</sup> Hughes Creek,<sup>1,2</sup> Hull Creek,<sup>1,2</sup> Humbug Creek,<sup>1</sup> Indian Creek,<sup>1,2</sup> Iron Creek,<sup>1,2</sup> Jackass Creek,<sup>1</sup> Jefferson Creek,<sup>1</sup> Jesse Creek,<sup>1,2</sup> Lake Creek,<sup>1,2</sup> Lemhi River,<sup>2</sup> Lick Creek,<sup>1</sup> Little Deep Creek,<sup>1,2</sup> Little Deer Creek,<sup>1</sup> Little Ditch Creek,<sup>1</sup> Little Hat Creek,<sup>2</sup> Little Moose Creek,<sup>1</sup> Little Sheep Creek,<sup>1</sup> Little Silverlead Creek,<sup>1</sup> Little Woodtick Creek,<sup>1</sup> McConn Creek,<sup>1,2</sup> McKim Creek,<sup>1,2</sup> Middle Fork Salmon River,<sup>2</sup> Mink Creek,<sup>1</sup> Moccasin Creek,<sup>1</sup> Moose Creek,<sup>1,2</sup> Moyer Creek,<sup>1,2</sup> Musgrove Creek,<sup>1,2</sup> Napias Creek,<sup>1,2</sup> Nez Perce Creek,<sup>1</sup> North Fork Hughes Creek,<sup>1</sup> North Fork Iron Creek,<sup>1,2</sup> North Fork McKim Creek,<sup>1</sup> North Fork Salmon River,<sup>1,2</sup> North Fork Williams Creek,<sup>2</sup> Opal Creek,<sup>1</sup> Otter Creek,<sup>1</sup> Owl Creek,<sup>1,2</sup> Panther Creek,<sup>1,2</sup> Park Creek,<sup>2</sup> Peel Tree Creek,<sup>1</sup> Phelan Creek,<sup>1</sup> Pierce Creek,<sup>1</sup> Pine Creek,<sup>1,2</sup> Pony Creek,<sup>1</sup> Porphyry Creek,<sup>1,2</sup> Pruvan Creek,<sup>1</sup> Quartz Creek,<sup>1</sup> Rabbit Creek,<sup>1</sup> Rancherio Creek,<sup>1</sup> Ransack Creek,<sup>1</sup> Rapps Creek,<sup>1</sup> Salmon River,<sup>1,2</sup> Salt Creek,<sup>1</sup> Salzer Creek,<sup>1</sup> Saw Pit Creek,<sup>1</sup> Sharkey Creek,<sup>1</sup> Sheep Creek,<sup>1,2</sup> Slide Creek,<sup>1</sup> Smithy Creek,<sup>1</sup> South Fork Cabin Creek,<sup>1</sup> South Fork Hull Creek,<sup>1</sup> South Fork Iron Creek,<sup>1,2</sup> South Fork Moyer Creek,<sup>1</sup> South Fork Phelan Creek,<sup>1</sup> South Fork Sheep Creek,<sup>1</sup> South Fork Williams Creek,<sup>2</sup> Spring Creek,<sup>1,2</sup> Squaw Creek,<sup>1,2</sup> State Creek,<sup>1</sup> Swamp Creek,<sup>1</sup> Thompson Gulch,<sup>1</sup> Threemile Creek,<sup>1</sup> Trail Creek,<sup>1,2</sup> Twelvemile Creek,<sup>1,2</sup> Twin Creek,<sup>1,2</sup> Vine Creek,<sup>1</sup> Votler Creek,<sup>1</sup> Wallace Creek,<sup>1</sup> Weasel Creek,<sup>1</sup> West Fork Anderson Creek,<sup>1</sup> West Fork Blackbird Creek,<sup>1,2</sup> West Fork Hughes Creek,<sup>1</sup> West Fork Hull Creek,<sup>1</sup> West Fork Indian Creek,<sup>1</sup> West Fork Iron Creek,<sup>1,2</sup> West Fork Nez Perce Creek,<sup>1</sup> West Fork Salmon River,<sup>1</sup> West Fork Squaw Creek,<sup>1</sup> Williams Creek,<sup>2</sup> Woodtick Creek.<sup>1,2</sup>

(xxii) Moyie Basin: Brass Creek,<sup>1</sup> Bussard Creek,<sup>1</sup> Copper Creek,<sup>1</sup> Deer Creek,<sup>1,2</sup> Faro Creek,<sup>1</sup> Keno Creek,<sup>1</sup> Kreist Creek,<sup>1</sup> Line Creek,<sup>1</sup> McDougal Creek,<sup>1</sup> Mill Creek,<sup>1</sup> Moyie River,<sup>1,2</sup> Placer Creek,<sup>1</sup> Rutledge Creek,<sup>1</sup> Skin Creek,<sup>1</sup> Spruce Creek,<sup>1</sup> West Branch Deer Creek.<sup>1</sup>

(xxiii) North and Middle Fork Boise Basin: Abby Creek,<sup>1</sup> Arrastra Creek,<sup>1</sup> Bald Mountain Creek,<sup>2</sup> Ballentyne Creek,<sup>1,2</sup> Banner Creek,<sup>1,2</sup> Bayhouse Creek,<sup>1</sup> Bear Creek,<sup>1,2</sup> Bear River,<sup>1,2</sup> Big

Gulch,<sup>1</sup> Big Silver Creek,<sup>1 2</sup> Billy Creek,<sup>1</sup> Blackwarrior Creek,<sup>1 2</sup> Bow Creek,<sup>1 2</sup> Browns Creek,<sup>1 2</sup> Buck Creek,<sup>1 2</sup> Cabin Creek,<sup>1</sup> Cahhah Creek,<sup>1</sup> Camp Gulch,<sup>1</sup> China Fork,<sup>1</sup> Coma Creek,<sup>1</sup> Corbus Creek,<sup>1</sup> Cow Creek,<sup>1</sup> Crooked River,<sup>1 2</sup> Cub Creek,<sup>1</sup> Decker Creek,<sup>1 2</sup> Dutch Creek,<sup>1</sup> Dutch Frank Creek,<sup>1</sup> East Fork Roaring River,<sup>1 2</sup> East Fork Swanholm Creek,<sup>1</sup> East Fork Yuba River,<sup>1</sup> Flint Creek,<sup>1</sup> Flytrip Creek,<sup>1</sup> Gotch Creek,<sup>1</sup> Graham Creek,<sup>1</sup> Granite Creek,<sup>1</sup> Grays Creek,<sup>1</sup> Greylock Creek,<sup>1</sup> Grouse Creek,<sup>1 2</sup> Hot Creek,<sup>1</sup> Hungarian Creek,<sup>2</sup> Joe Daley Creek,<sup>1</sup> Johnson Creek,<sup>1 2</sup> Kid Creek,<sup>1</sup> King Creek,<sup>1</sup> La Mayne Creek,<sup>1</sup> Leggit Creek,<sup>1</sup> Lightning Creek,<sup>1</sup> Little Queens River,<sup>1 2</sup> Little Silver Creek,<sup>1</sup> Louise Creek,<sup>1</sup> Lynx Creek,<sup>1</sup> Mattingly Creek,<sup>1</sup> McKay Creek,<sup>1</sup> McLeod Creek,<sup>1 2</sup> McPhearson Creek,<sup>1</sup> Middle Fork Boise River,<sup>1 2</sup> Middle Fork Corbus Creek,<sup>1</sup> Middle Fork Roaring River,<sup>1 2</sup> Mill Creek,<sup>1</sup> Misfire Creek,<sup>1</sup> Montezuma Creek,<sup>1</sup> North Fork Boise River,<sup>1 2</sup> Phifer Creek,<sup>1</sup> Pikes Fork,<sup>1 2</sup> Quartz Gulch,<sup>1</sup> Queens River,<sup>1 2</sup> Rabbit Creek,<sup>2</sup> Right Creek,<sup>1</sup> Roaring River,<sup>1 2</sup> Robin Creek,<sup>1</sup> Rock Creek,<sup>1</sup> Rockey Creek,<sup>1 2</sup> Sawmill Creek,<sup>1 2</sup> Scenic Creek,<sup>1 2</sup> Scotch Creek,<sup>1</sup> Scott Creek,<sup>1</sup> Shorip Creek,<sup>1</sup> Smith Creek,<sup>1</sup> Snow Creek,<sup>1</sup> Snowslide Creek,<sup>1</sup> South Fork Corbus Creek,<sup>1</sup> South Fork Cub Creek,<sup>1</sup> Spout Creek,<sup>1</sup> Steamboat Creek,<sup>1</sup> Steel Creek,<sup>1</sup> Steppe Creek,<sup>1</sup> Swanholm Creek,<sup>1</sup> Timpa Creek,<sup>1</sup> Trail Creek,<sup>1 2</sup> Trapper Creek,<sup>1</sup> Tripod Creek,<sup>1</sup> West Fork Creek,<sup>1</sup> West Warrior Creek,<sup>1 2</sup> Willow Creek,<sup>1 2</sup> Yuba River,<sup>1 2</sup>

(xxiv) North Fork Payette Basin: Foolhen Creek,<sup>1</sup> Gold Fork River,<sup>2</sup> Lodgepole Creek,<sup>1</sup> North Fork Gold Fork River,<sup>1 2</sup> North Fork Payette River,<sup>1</sup> Pearsol Creek,<sup>1</sup>

(xxv) Pahsimeroi Basin: Anderson Spring,<sup>1</sup> Baby Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Big Creek,<sup>1 2</sup> Big Gulch,<sup>1</sup> Burnt Creek,<sup>1</sup> Burnt Spring Gulch,<sup>1</sup> Christian Gulch,<sup>1</sup> Dead Cat Canyon,<sup>1</sup> Ditch Creek,<sup>1</sup> Donkey Creek,<sup>1</sup> Doublespring Creek,<sup>1</sup> Dry Canyon,<sup>1</sup> Dry Gulch,<sup>1</sup> East Fork Burnt Creek,<sup>1</sup> East Fork Morgan Creek,<sup>1</sup> East Fork Pahsimeroi River,<sup>1 2</sup> East Fork Patterson Creek,<sup>1</sup> Elkhorn Creek,<sup>1</sup> Ennis Gulch,<sup>1</sup> Falls Creek,<sup>1 2</sup> Goldberg Creek,<sup>1 2</sup> Grouse Creek,<sup>1</sup> Hillside Creek,<sup>1</sup> Inyo Creek,<sup>1</sup> John Short Springs,<sup>1</sup> Lawson Creek,<sup>1</sup> Long Creek,<sup>1</sup> Mahogany Creek,<sup>1 2</sup> Meadow Creek,<sup>1</sup> Middle Fork Lawson Creek,<sup>1</sup> Mill Creek,<sup>1</sup> Morgan Creek,<sup>1 2</sup> Morse Creek,<sup>1 2</sup> Mulkey Gulch,<sup>1</sup> North Fork Big Creek,<sup>1 2</sup> North Fork Lawson Creek,<sup>1</sup> North Fork Morgan Creek,<sup>1</sup> Pahsimeroi River,<sup>1 2</sup> Patterson Creek,<sup>1 2</sup> Rock Creek,<sup>1</sup> Rock Spring Canyon,<sup>1</sup> Salmon River,<sup>1 2</sup> Short Creek,<sup>1</sup> Snowslide Creek,<sup>1</sup> South Fork Big Creek,<sup>1 2</sup> South Fork Lawson Creek,<sup>1</sup> Spring Gulch,<sup>1</sup> Squaw Creek,<sup>1</sup> Stinking

Creek,<sup>1</sup> Sulphur Creek,<sup>1</sup> Tater Creek,<sup>1 2</sup> West Fork Burnt Creek,<sup>1</sup> West Fork North Fork Big Creek,<sup>1</sup> West Fork Pahsimeroi River,<sup>1</sup>

(xxvi) Payette Basin: Buck Canyon,<sup>1</sup> Lava Gulch,<sup>1</sup> Middle Fork Payette River,<sup>2</sup> Poison Creek,<sup>1</sup> Pole Creek,<sup>1</sup> South Fork Payette River,<sup>2</sup> Squaw Creek,<sup>1 2</sup> Third Fork Squaw Creek,<sup>1 2</sup>

(xxvii) Pend Oreille Basin: Pend Oreille River,<sup>1</sup> South Salmo River,<sup>1</sup> Branch North Gold Creek,<sup>1</sup> Cheer Creek,<sup>1</sup> Chloride Gulch,<sup>1</sup> Dry Gulch,<sup>1</sup> Dyree Creek,<sup>1</sup> Flume Creek,<sup>1</sup> Gold Creek,<sup>1 2</sup> Granite Creek,<sup>1 2</sup> Grouse Creek,<sup>1 2</sup> Kick Bush Gulch,<sup>1</sup> North Fork Clark Fork,<sup>2</sup> North Fork Grouse Creek,<sup>1 2</sup> North Gold Creek,<sup>1 2</sup> Pack River,<sup>1 2</sup> Pend Oreille River,<sup>2</sup> Plank Creek,<sup>1</sup> Priest River,<sup>2</sup> Rapid Lightning Creek,<sup>2</sup> South Fork Grouse Creek,<sup>1</sup> Strong Creek,<sup>2</sup> Thor Creek,<sup>1</sup> Trestle Creek,<sup>1 2</sup> West Branch Pack River,<sup>1</sup> West Gold Creek,<sup>1 2</sup> Wylie Creek,<sup>1</sup> Zuni Creek,<sup>1</sup>

(xxviii) Priest Basin: Abandon Creek,<sup>1</sup> Athol Creek,<sup>1</sup> Bath Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Bench Creek,<sup>1 2</sup> Blacktail Creek,<sup>1 2</sup> Bog Creek,<sup>1</sup> Boulder Creek,<sup>1 2</sup> Bugle Creek,<sup>1</sup> Canyon Creek,<sup>1</sup> Caribou Creek,<sup>1 2</sup> Cedar Creek,<sup>1 2</sup> Chicopee Creek,<sup>1</sup> Deadman Creek,<sup>1</sup> East Fork Trapper Creek,<sup>1</sup> East River,<sup>2</sup> Fedar Creek,<sup>1</sup> Floss Creek,<sup>1</sup> Gold Creek,<sup>2</sup> Granite Creek,<sup>1 2</sup> Horton Creek,<sup>1</sup> Hughes Fork,<sup>1 2</sup> Indian Creek,<sup>1 2</sup> Jackson Creek,<sup>1 2</sup> Jost Creek,<sup>1 2</sup> Kalispell Creek,<sup>1 2</sup> Kent Creek,<sup>1</sup> Keokee Creek,<sup>1</sup> Lime Creek,<sup>1 2</sup> Lion Creek,<sup>1 2</sup> Lost Creek,<sup>1</sup> Lucky Creek,<sup>1</sup> Malcom Creek,<sup>1 2</sup> Middle Fork East River,<sup>1 2</sup> Muskegon Creek,<sup>2</sup> North Fork Granite Creek,<sup>1</sup> North Fork Indian Creek,<sup>1 2</sup> Packer Creek,<sup>1 2</sup> Priest Lake,<sup>1</sup> Priest River,<sup>2</sup> Rock Creek,<sup>1</sup> Ruby Creek,<sup>1</sup> South Fork Granite Creek,<sup>1</sup> South Fork Indian Creek,<sup>1</sup> South Fork Lion Creek,<sup>1</sup> Squaw Creek,<sup>1</sup> Tango Creek,<sup>1</sup> Tarlac Creek,<sup>1 2</sup> The Thorofare,<sup>1</sup> Trapper Creek,<sup>1 2</sup> Two Mouth Creek,<sup>1 2</sup> Uleda Creek,<sup>1 2</sup> Upper Priest Lake,<sup>1</sup> Upper Priest River,<sup>1 2</sup> Zero Creek,<sup>1 2</sup>

(xxix) South Fork Boise Basin: Anderson Ranch Reservoir,<sup>2</sup> Badger Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Bear Gulch,<sup>1</sup> Big Smoky Creek,<sup>2</sup> Big Water Gulch,<sup>2</sup> Boardman Creek,<sup>1</sup> Burnt Log Creek,<sup>1</sup> Cayuse Creek,<sup>1</sup> Corral Creek,<sup>1</sup> Cow Creek,<sup>1</sup> Edna Creek,<sup>1</sup> Elk Creek,<sup>1</sup> Emma Creek,<sup>1 2</sup> Feather River,<sup>1</sup> Fern Gulch,<sup>1</sup> Grape Creek,<sup>1</sup> Gunsight Creek,<sup>1</sup> Haypress Creek,<sup>1</sup> Heather Creek,<sup>1</sup> Helen Creek,<sup>1</sup> Johnson Creek,<sup>1</sup> Lincoln Creek,<sup>1</sup> Little Cayuse Creek,<sup>1</sup> Little Rattlesnake Creek,<sup>1 2</sup> Little Skeleton Creek,<sup>1</sup> Little Smoky Creek,<sup>2</sup> Loggy Creek,<sup>1</sup> Marsh Creek,<sup>1</sup> Mule Creek,<sup>1</sup> North Fork Ross Fork,<sup>1</sup> Pinto Creek,<sup>1</sup> Rattlesnake Creek,<sup>1 2</sup> Regina Creek,<sup>1</sup> Ross Fork,<sup>1 2</sup> Russel Gulch,<sup>1</sup> Salt Creek,<sup>1</sup> Shake Creek,<sup>1</sup> Skeleton Creek,<sup>1 2</sup> Slater Creek,<sup>1</sup> Smokey Dome Canyon,<sup>1</sup> South Fork

Boise River,<sup>1 2</sup> South Fork Ross Fork,<sup>1</sup> Stevens Gulch,<sup>1</sup> Three Forks Creek,<sup>1</sup> Tipton Creek,<sup>1</sup> Vienna Creek,<sup>1</sup> Virginia Gulch,<sup>1</sup> Weeks Gulch,<sup>1</sup> West Fork Big Smoky Creek,<sup>1</sup> West Fork Salt Creek,<sup>1</sup> West Fork Shake Creek,<sup>1</sup> West Fork Skeleton Creek,<sup>1</sup> Willow Creek,<sup>1 2</sup>

(xxx) South Fork Clearwater Basin: American Creek,<sup>1</sup> American River,<sup>1 2</sup> Aubion Creek,<sup>1</sup> Baker Gulch,<sup>1</sup> Baldy Creek,<sup>1 2</sup> Baston Creek,<sup>1</sup> Bear Creek,<sup>2</sup> Beaver Creek,<sup>2</sup> Big Canyon Creek,<sup>1</sup> Big Elk Creek,<sup>1 2</sup> Blanco Creek,<sup>1</sup> Boundary Creek,<sup>1 2</sup> Box Sing Creek,<sup>1</sup> Boyer Creek,<sup>1</sup> Bridge Creek,<sup>1</sup> Cartwright Creek,<sup>1</sup> Cole Creek,<sup>1</sup> Crooked River,<sup>1 2</sup> Dawson Creek,<sup>1</sup> Deer Creek,<sup>1</sup> Ditch Creek,<sup>1</sup> East Fork American River,<sup>1 2</sup> East Fork Crooked River,<sup>1 2</sup> East Fork Trail Creek,<sup>1</sup> Elk Creek,<sup>1 2</sup> Fivemile Creek,<sup>1</sup> Flint Creek,<sup>1</sup> Fourmile Creek,<sup>1</sup> Fox Creek,<sup>1 2</sup> Frank Brown Creek,<sup>1</sup> French Gulch,<sup>1</sup> Galena Creek,<sup>1</sup> Gilmore Creek,<sup>1</sup> Gospel Creek,<sup>1 2</sup> Hagen Creek,<sup>1 2</sup> Hays Creek,<sup>1</sup> Johns Creek,<sup>1 2</sup> Jungle Creek,<sup>1</sup> Kirks Fork American River,<sup>1 2</sup> Leggett Creek,<sup>1</sup> Lick Creek,<sup>1</sup> Limber Luke Creek,<sup>1</sup> Little Elk Creek,<sup>1 2</sup> Little Moose Creek,<sup>1</sup> Little Siegel Creek,<sup>1</sup> Loon Creek,<sup>1</sup> Mackey Creek,<sup>1 2</sup> Meadow Creek,<sup>2</sup> Melton Creek,<sup>1 2</sup> Middle Fork Red River,<sup>1</sup> Mill Creek,<sup>1 2</sup> Monroe Creek,<sup>1</sup> Moores Creek,<sup>1 2</sup> Moores Lake Creek,<sup>1 2</sup> Moose Butte Creek,<sup>1 2</sup> Morgan Creek,<sup>1 2</sup> Mule Creek,<sup>2</sup> Newsome Creek,<sup>2</sup> Nuggett Creek,<sup>2</sup> Open Creek,<sup>1</sup> Otterson Creek,<sup>1 2</sup> Pat Brennan Creek,<sup>1</sup> Pilot Creek,<sup>1</sup> Quartz Creek,<sup>1</sup> Queen Creek,<sup>1</sup> Rabbit Creek,<sup>2</sup> Rainbow Gulch,<sup>1</sup> Red River,<sup>1 2</sup> Relief Creek,<sup>1 2</sup> Ryan Creek,<sup>1</sup> Sally Ann Creek,<sup>2</sup> Sawmill Creek,<sup>1 2</sup> Schooner Creek,<sup>1</sup> Schwartz Creek,<sup>2</sup> Sharmon Creek,<sup>1</sup> Shissler Creek,<sup>1</sup> Siegel Creek,<sup>1 2</sup> Silver Creek,<sup>1 2</sup> Sixmile Creek,<sup>1 2</sup> Sixtysix Creek,<sup>1</sup> Snoose Creek,<sup>1</sup> Soda Creek,<sup>1</sup> Sourdough Creek,<sup>1</sup> South Fork Clearwater River,<sup>2</sup> South Fork Gilmore Creek,<sup>1</sup> South Fork Red River,<sup>1 2</sup> Square Mountain Creek,<sup>1 2</sup> Swale Creek,<sup>1</sup> Swift Creek,<sup>1</sup> Taylor Creek,<sup>1</sup> Tenmile Creek,<sup>1 2</sup> Trail Creek,<sup>1 2</sup> Trapper Creek,<sup>1 2</sup> Trout Creek,<sup>1</sup> Twentymile Creek,<sup>1 2</sup> Twin Lakes Creek,<sup>1 2</sup> Umatilla Creek,<sup>1</sup> West Fork American River,<sup>1</sup> West Fork Big Elk Creek,<sup>1</sup> West Fork Crooked River,<sup>1 2</sup> West Fork Gospel Creek,<sup>1 2</sup> West Fork Newsome Creek,<sup>2</sup> West Fork Red River,<sup>1</sup> West Fork Twentymile Creek,<sup>1 2</sup> Whiskey Creek,<sup>2</sup> Whitaker Creek,<sup>1</sup> Williams Creek,<sup>1 2</sup>

(xxxi) South Fork Payette Basin: Archie Creek,<sup>1</sup> Ash Creek,<sup>1</sup> Baron Creek,<sup>1</sup> Basin Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Beaver Creek,<sup>1 2</sup> Benedict Creek,<sup>1</sup> Big Gallagher Creek,<sup>1</sup> Big Pine Creek,<sup>1</sup> Big Spruce Creek,<sup>1</sup> Birch Creek,<sup>1</sup> Bitter Creek,<sup>1</sup> Black Bear Creek,<sup>1</sup> Blacks Creek,<sup>1</sup> Blue Jay Creek,<sup>1</sup> Bunch Creek,<sup>1</sup> Burn Creek,<sup>1</sup> Bush Creek,<sup>1</sup> Calderwood

Creek,<sup>1</sup> Camp Creek,<sup>1</sup> Canyon Creek,<sup>1,2</sup> Carpenter Creek,<sup>1</sup> Casner Creek,<sup>1</sup> Castro Creek,<sup>1</sup> Cat Creek,<sup>1</sup> Chapman Creek,<sup>1</sup> Charters Creek,<sup>1</sup> Clear Creek,<sup>1,2</sup> Cooley Creek,<sup>1</sup> Coski Creek,<sup>1</sup> Cup Creek,<sup>1</sup> Danskin Creek,<sup>1</sup> Dead Man Creek,<sup>1</sup> Deadwood Jim Creek,<sup>1</sup> Deadwood Reservoir,<sup>1</sup> Deadwood River,<sup>1,2</sup> Deer Creek,<sup>1,2</sup> East Fork Big Pine Creek,<sup>1</sup> East Fork Deadwood Creek,<sup>1</sup> East Fork Eightmile Creek,<sup>1</sup> East Fork Horn Creek,<sup>1</sup> East Fork Warm Springs Creek,<sup>1,2</sup> Eby Creek,<sup>1</sup> Eightmile Creek,<sup>1</sup> Elkhorn Creek,<sup>1</sup> Emma Creek,<sup>1</sup> Fall Creek,<sup>1</sup> Fence Creek,<sup>1</sup> Fern Creek,<sup>1</sup> Fine Flat Creek,<sup>1</sup> Fivemile Creek,<sup>1</sup> Fox Creek,<sup>1</sup> Garney Creek,<sup>1</sup> Gates Creek,<sup>1</sup> Goat Creek,<sup>1,2</sup> Grandjem Creek,<sup>1</sup> Grayback Creek,<sup>1</sup> Grouse Creek,<sup>1</sup> Habit Creek,<sup>1</sup> Hanks Creek,<sup>1</sup> Helende Creek,<sup>1</sup> Hiyu Creek,<sup>1</sup> Hole in the Wall,<sup>1</sup> Horn Creek,<sup>1</sup> Horse Creek,<sup>1</sup> Horseshoe Creek,<sup>1</sup> Huckleberry Creek,<sup>1</sup> Jackson Creek,<sup>1</sup> Josie Creek,<sup>1</sup> Julie Creek,<sup>1</sup> Kettle Creek,<sup>1</sup> Kirkham Creek,<sup>1</sup> Lake Creek,<sup>1</sup> Left Fork Danskin Creek,<sup>1</sup> Lick Creek,<sup>1</sup> Little Camp Creek,<sup>1</sup> Little Fall Creek,<sup>1</sup> Little Hole in the Wall Creek,<sup>1</sup> Little Sams Creek,<sup>1</sup> Little Tenmile Creek,<sup>1</sup> Logging Gulch,<sup>1</sup> Long Creek,<sup>1</sup> Long Gulch,<sup>1</sup> Lorenzo Creek,<sup>1</sup> MacDonald Creek,<sup>1</sup> Meadow Camp Creek,<sup>1</sup> Meadow Creek,<sup>1</sup> Middle Fork Big Pine Creek,<sup>1</sup> Middle Fork Warm Springs Creek,<sup>1,2</sup> Miller Creek,<sup>1</sup> Monument Creek,<sup>1</sup> Moulding Creek,<sup>1</sup> Nellies Bash Creek,<sup>1</sup> Nelson Creek,<sup>1</sup> Ninemile Creek,<sup>1</sup> No Man Creek,<sup>1</sup> No Name Creek,<sup>1</sup> North Fork Baron Creek,<sup>1</sup> North Fork Canyon Creek,<sup>1</sup> North Fork Deer Creek,<sup>1,2</sup> North Fork Whitehawk Creek,<sup>1</sup> O'Keefe Creek,<sup>1</sup> Packsaddle Creek,<sup>1,2</sup> Park Creek,<sup>1</sup> Pass Creek,<sup>1</sup> Pinchot Creek,<sup>1</sup> Pine Creek,<sup>1</sup> Pitchfork Creek,<sup>1</sup> Pole Creek,<sup>1</sup> Poorman Creek,<sup>1</sup> Pungo Creek,<sup>1</sup> Rae Creek,<sup>1</sup> Reservoir Creek,<sup>1</sup> Richards Creek,<sup>1</sup> Road Fork Rock Creek,<sup>1</sup> Rock Creek,<sup>1</sup> Rough Creek,<sup>1</sup> Sams Creek,<sup>1</sup> Scott Creek,<sup>1,2</sup> Silver Creek,<sup>1</sup> Sixmile Creek,<sup>1</sup> Slaughterhouse Creek,<sup>1</sup> Slide Gulch,<sup>1</sup> Slim Creek,<sup>1</sup> Smith Creek,<sup>1,2</sup> Smokey Creek,<sup>1</sup> South Fork Beaver Creek,<sup>1,2</sup> South Fork Canyon Creek,<sup>1</sup> South Fork Clear Creek,<sup>1</sup> South Fork Payette River,<sup>1,2</sup> South Fork Scott Creek,<sup>1</sup> South Fork Warm Spring Creek,<sup>1</sup> Spring Creek,<sup>1</sup> Steep Creek,<sup>1</sup> Stevens Creek,<sup>1</sup> Stratton Creek,<sup>1</sup> Sweet Creek,<sup>1</sup> Tenlake Creek,<sup>1</sup> Tenmile Creek,<sup>1</sup> Topnotch Creek,<sup>1</sup> Trail Creek,<sup>1,2</sup> Wapiti Creek,<sup>1</sup> Warm Spring Creek,<sup>1</sup> Warm Springs Creek,<sup>1,2</sup> Wash Creek,<sup>1</sup> West Fork Big Pine Creek,<sup>1</sup> West Fork Horn Creek,<sup>1</sup> Whangdoodle Creek,<sup>1</sup> Whiskey Creek,<sup>1</sup> Whitehawk Creek,<sup>1</sup> Wild Buck Creek,<sup>1,2</sup> Wills Gulch,<sup>1</sup> Wilson Creek,<sup>1</sup> Wolf Creek.<sup>1</sup>

(xxxii) South Fork Salmon Basin: Alez Creek,<sup>1</sup> Back Creek,<sup>1</sup> Bear Creek,<sup>1,2</sup> Bishop Creek,<sup>1</sup> Blackmare Creek,<sup>1,2</sup> Blue Lake Creek,<sup>1</sup> Buck Creek,<sup>1</sup> Buckhorn Bar Creek,<sup>1</sup> Buckhorn Creek,<sup>1,2</sup> Burgdorf Creek,<sup>1</sup> Burntlog Creek,<sup>1,2</sup> Cabin Creek,<sup>1,2</sup> Calf Creek,<sup>1</sup> Camp Creek,<sup>1,2</sup> Cane Creek,<sup>1</sup> Caton Creek,<sup>2</sup> Cinnabar Creek,<sup>1</sup> Cliff Creek,<sup>1</sup> Cly Creek,<sup>1</sup> Cougar Creek,<sup>1,2</sup> Cow Creek,<sup>1</sup> Cox Creek,<sup>1</sup> Curtis Creek,<sup>2</sup> Deep Creek,<sup>1</sup> Dollar Creek,<sup>1,2</sup> Dutch Creek,<sup>1</sup> East Fork South Fork Salmon River,<sup>1,2</sup> East Fork Zena Creek,<sup>1</sup> Elk Creek,<sup>1,2</sup> Enos Creek,<sup>1</sup> Falls Creek,<sup>1</sup> Fernan Creek,<sup>1</sup> Fiddle Creek,<sup>1</sup> Fitsum Creek,<sup>1,2</sup> Flat Creek,<sup>1</sup> Fourmile Creek,<sup>1,2</sup> Goat Creek,<sup>1</sup> Grimmet Creek,<sup>1</sup> Grouse Creek,<sup>1,2</sup> Halfway Creek,<sup>1</sup> Hanson Creek,<sup>1</sup> Hays Creek,<sup>1</sup> Holdover Creek,<sup>1</sup> Hum Creek,<sup>1,2</sup> Indian Creek,<sup>1</sup> Jeanette Creek,<sup>1</sup> Johnson Creek,<sup>1,2</sup> Josephine Creek,<sup>1</sup> Jungle Creek,<sup>1</sup> Knee Creek,<sup>1</sup> Krassel Creek,<sup>1</sup> Lake Creek,<sup>1,2</sup> Landmark Creek,<sup>1</sup> Lick Creek,<sup>1,2</sup> Little Buckhorn Creek,<sup>1,2</sup> Little Indian Creek,<sup>1</sup> Lodgpole Creek,<sup>1,2</sup> Loon Creek,<sup>1,2</sup> Maverick Creek,<sup>1</sup> Meadow Creek,<sup>1,2</sup> Middle Fork Elk Creek,<sup>1</sup> Missouri Creek,<sup>1,2</sup> Moose Creek,<sup>1</sup> Mormon Creek,<sup>1,2</sup> Nasty Creek,<sup>1</sup> Nethker Creek,<sup>1</sup> Nick Creek,<sup>1</sup> No Mans Creek,<sup>1</sup> North Fork Bear Creek,<sup>1</sup> North Fork Buckhorn Creek,<sup>1</sup> North Fork Camp Creek,<sup>1</sup> North Fork Dollar Creek,<sup>1</sup> North Fork Fitsum Creek,<sup>2</sup> North Fork Lake Fork,<sup>1</sup> North Fork Lick Creek,<sup>1</sup> North Fork Riordan Creek,<sup>1</sup> North Fork Six-bit Creek,<sup>1</sup> Oompaul Creek,<sup>1</sup> Paradise Creek,<sup>1</sup> Park Creek,<sup>1</sup> Peanut Creek,<sup>1</sup> Pepper Creek,<sup>1</sup> Phoebe Creek,<sup>1</sup> Piah Creek,<sup>1</sup> Pid Creek,<sup>1</sup> Pilot Creek,<sup>1</sup> Pony Creek,<sup>2</sup> Porcupine Creek,<sup>1</sup> Porphyry Creek,<sup>2</sup> Prince Creek,<sup>1</sup> Profile Creek,<sup>1,2</sup> Quartz Creek,<sup>1,2</sup> Reeves Creek,<sup>1,2</sup> Rice Creek,<sup>1,2</sup> Riordan Creek,<sup>1,2</sup> Roaring Creek,<sup>1</sup> Ruby Creek,<sup>1</sup> Rustican Creek,<sup>1</sup> Ryan Creek,<sup>1</sup> Salt Creek,<sup>1,2</sup> Sand Creek,<sup>1,2</sup> Secesh River,<sup>1,2</sup> Sheep Creek,<sup>1,2</sup> Silver Creek,<sup>1</sup> Sister Creek,<sup>1</sup> Six-Bit Creek,<sup>1,2</sup> South Fork Bear Creek,<sup>1</sup> South Fork Blackmare Creek,<sup>1,2</sup> South Fork Buckhorn Creek,<sup>1,2</sup> South Fork Cougar Creek,<sup>1</sup> South Fork Elk Creek,<sup>1</sup> South Fork Fitsum Creek,<sup>1</sup> South Fork Fourmile Creek,<sup>1</sup> South Fork Salmon River,<sup>1,2</sup> South Fork Threemile Creek,<sup>1</sup> Split Creek,<sup>1,2</sup> Steep Creek,<sup>1</sup> Sugar Creek,<sup>1,2</sup> Summit Creek,<sup>1,2</sup> Tamarack Creek,<sup>1,2</sup> Teepee Creek,<sup>1</sup> Threemile Creek,<sup>1</sup> Trail Creek,<sup>2</sup> Trapper Creek,<sup>1,2</sup> Trout Creek,<sup>1</sup> Tsum Creek,<sup>1</sup> Two-bit Creek,<sup>1</sup> Tyndall Creek,<sup>1,2</sup> Vein Creek,<sup>1</sup> Victor Creek,<sup>1,2</sup> Wardenhoff Creek,<sup>1</sup> Warm Lake,<sup>1,2</sup> Warm Lake Creek,<sup>1,2</sup> Warm Spring Creek,<sup>1</sup> West Fork Buckhorn Creek,<sup>1</sup> West Fork Elk Creek,<sup>1,2</sup> West Fork Enos Creek,<sup>1</sup> West Fork Zena Creek,<sup>1</sup> Whangdoodle Creek,<sup>1</sup>

Willow Basket Creek,<sup>1,2</sup> Willow Creek,<sup>1</sup> Zena Creek.<sup>1,2</sup>  
 (xxxiii) St. Joe Basin: Bacon Creek,<sup>1</sup> Bad Bear Creek,<sup>1</sup> Basin Creek,<sup>1</sup> Bean Creek,<sup>1,2</sup> Bear Creek,<sup>1</sup> Beaver Creek,<sup>1,2</sup> Bedrock Creek,<sup>1</sup> Benewah Creek,<sup>1</sup> Berge Creek,<sup>1</sup> Big Dick Creek,<sup>1</sup> Bird Creek,<sup>2</sup> Blue Grouse Creek,<sup>1</sup> Boulder Creek,<sup>2</sup> Broadaxe Creek,<sup>1</sup> Bruin Creek,<sup>1,2</sup> Burnt Fork,<sup>1</sup> California Creek,<sup>1,2</sup> Cherry Creek,<sup>2</sup> Clear Creek,<sup>2</sup> Color Creek,<sup>1</sup> Coon Creek,<sup>1</sup> Copper Creek,<sup>1</sup> Daveggio Creek,<sup>1</sup> Davis Creek,<sup>1</sup> Dolly Creek,<sup>1</sup> Dump Creek,<sup>1</sup> Eagle Creek,<sup>1,2</sup> East Fork Bluff Creek,<sup>2</sup> East Fork Emerald Creek,<sup>1</sup> East Fork Gold Creek,<sup>1,2</sup> East Fork Mica Creek,<sup>1</sup> Emerald Creek,<sup>1,2</sup> Engstrom Creek,<sup>1</sup> Fishhook Creek,<sup>2</sup> Flat Creek,<sup>1</sup> Float Creek,<sup>1</sup> Fly Creek,<sup>1,2</sup> Fortynine Gulch,<sup>1</sup> Fuzzy Creek,<sup>1</sup> Gold Creek,<sup>1,2</sup> Grouse Creek,<sup>1</sup> Hammond Creek,<sup>1</sup> Heller Creek,<sup>1</sup> Indian Creek,<sup>1</sup> Kelley Creek,<sup>1</sup> Kyle Creek,<sup>1</sup> Long Liz Creek,<sup>1</sup> Malin Creek,<sup>1</sup> Marble Creek,<sup>1,2</sup> Medicine Creek,<sup>1,2</sup> Mica Creek,<sup>1,2</sup> Mill Creek,<sup>1</sup> Mosquito Creek,<sup>1,2</sup> My Creek,<sup>1</sup> North Fork Bear Creek,<sup>1</sup> North Fork Eagle Creek,<sup>1</sup> North Fork Saint Joe River,<sup>1,2</sup> North Fork Simmons Creek,<sup>1</sup> North Fork Tyson Creek,<sup>1</sup> Nugget Creek,<sup>1</sup> Packsaddle Creek,<sup>1</sup> Pass Creek,<sup>1</sup> Periwinkle Creek,<sup>1</sup> Plummer Creek,<sup>1</sup> Pokey Creek,<sup>1</sup> Pole Creek,<sup>1</sup> Prospector Creek,<sup>1,2</sup> Quartz Creek,<sup>2</sup> Red Cross Creek,<sup>1</sup> Red Ives Creek,<sup>1,2</sup> Renfro Creek,<sup>1</sup> Ruby Creek,<sup>1,2</sup> Saint Joe River,<sup>1,2</sup> Saint Maries River,<sup>1,2</sup> Setzer Creek,<sup>1</sup> Sheep Creek,<sup>1</sup> Sherlock Creek,<sup>1,2</sup> Simmons Creek,<sup>1,2</sup> Siwash Creek,<sup>1,2</sup> Skookum Creek,<sup>1,2</sup> Soldier Creek,<sup>1</sup> Squaw Creek,<sup>1</sup> Thomas Creek,<sup>2</sup> Thorn Creek,<sup>2</sup> Three Lakes Creek,<sup>1</sup> Timber Creek,<sup>1,2</sup> Tinear Creek,<sup>1</sup> Trout Creek,<sup>1,2</sup> Tumbledown Creek,<sup>1,2</sup> Tyson Creek,<sup>1</sup> Wahoo Creek,<sup>1</sup> Washout Creek,<sup>1</sup> West Fork Emerald Creek,<sup>1</sup> West Fork Mica Creek,<sup>1</sup> Willow Creek,<sup>1</sup> Wilson Creek,<sup>1,2</sup> Yankee Bar Creek,<sup>1</sup>.  
 (xxxiv) Upper Coeur D'Alene Basin: Big Hank Creek,<sup>1</sup> Brett Creek,<sup>1</sup> Brown Creek,<sup>2</sup> Cinnamon Creek,<sup>1</sup> Coeur d'Alene River,<sup>1,2</sup> Debbs Creek,<sup>1</sup> Dry Creek,<sup>1</sup> Fall Creek,<sup>1</sup> Falls Creek,<sup>1,2</sup> Gold Creek,<sup>1</sup> Graham Creek,<sup>2</sup> Haystack Creek,<sup>1</sup> Hazendorf Gulch,<sup>1</sup> Lightner Draw,<sup>1</sup> McPhee Gulch,<sup>1</sup> Miners Creek,<sup>1</sup> North Fork Falls Creek,<sup>1</sup> Prado Creek,<sup>1</sup> Shoshone Creek,<sup>1</sup> South Fork Falls Creek,<sup>1</sup> Spion Kop Creek,<sup>1</sup> Thomas Creek,<sup>1</sup> Valitons Creek,<sup>1</sup>.  
 (xxxv) Upper Kootenai Basin: Halverson Creek,<sup>1</sup> North Callahan Creek,<sup>1,2</sup> South Callahan Creek,<sup>1,2</sup> West Fork Keeler Creek,<sup>1</sup>.  
 (xxxvi) Upper Middle Fork Salmon Basin: Asher Creek,<sup>1</sup> Automatic Creek,<sup>1</sup> Ayers Creek,<sup>1</sup> Baldwin Creek,<sup>1</sup> Banner Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Bear Valley Creek,<sup>1,2</sup> Bearskin Creek,<sup>1,2</sup> Beaver



Creek,<sup>1,2</sup> Bernard Creek,<sup>1</sup> Big Chief Creek,<sup>1</sup> Big Cottonwood Creek,<sup>1</sup> Birch Creek,<sup>1</sup> Blue Lake Creek,<sup>1</sup> Blue Moon Creek,<sup>1</sup> Boundary Creek,<sup>1,2</sup> Bridge Creek,<sup>1</sup> Browning Creek,<sup>1</sup> Buck Creek,<sup>1</sup> Burn Creek,<sup>1</sup> Cabin Creek,<sup>1</sup> Cache Creek,<sup>1,2</sup> Camp Creek,<sup>1</sup> Canyon Creek,<sup>1</sup> Cap Creek,<sup>1</sup> Cape Horn Creek,<sup>1,2</sup> Casner Creek,<sup>1</sup> Castle Fork,<sup>1</sup> Casto Creek,<sup>1</sup> Cat Creek,<sup>1</sup> Chokebore Creek,<sup>1</sup> Chuck Creek,<sup>1</sup> Cliff Creek,<sup>1</sup> Cold Creek,<sup>1,2</sup> Collie Creek,<sup>1</sup> Colt Creek,<sup>1</sup> Cook Creek,<sup>1</sup> Corley Creek,<sup>1</sup> Cornish Creek,<sup>1</sup> Cottonwood Creek,<sup>1</sup> Cougar Creek,<sup>1</sup> Crystal Creek,<sup>1</sup> Cub Creek,<sup>1,2</sup> Cultus Creek,<sup>1</sup> Dagger Creek,<sup>1,2</sup> Deer Creek,<sup>1</sup> Deer Horn Creek,<sup>1</sup> Doe Creek,<sup>1</sup> Dry Creek,<sup>1</sup> Duffield Creek,<sup>1</sup> Dynamite Creek,<sup>1</sup> Eagle Creek,<sup>1</sup> East Fork Elk Creek,<sup>1,2</sup> East Fork Indian Creek,<sup>1</sup> East Fork Mayfield Creek,<sup>1,2</sup> East Fork Thomas Creek,<sup>1</sup> Elk Creek,<sup>1,2</sup> Elkhorn Creek,<sup>1</sup> Endoah Creek,<sup>1</sup> Fall Creek,<sup>1</sup> Fawn Creek,<sup>1</sup> Feltham Creek,<sup>1</sup> Fir Creek,<sup>1,2</sup> Flat Creek,<sup>1</sup> Float Creek,<sup>1</sup> Foresight Creek,<sup>1</sup> Forty-five Creek,<sup>1</sup> Forty-four Creek,<sup>1</sup> Fox Creek,<sup>1</sup> Full Moon Creek,<sup>1,2</sup> Fuse Creek,<sup>1</sup> Grays Creek,<sup>1</sup> Grenade Creek,<sup>1</sup> Grouse Creek,<sup>1</sup> Gun Creek,<sup>1</sup> Half Moon Creek,<sup>1</sup> Hogback Creek,<sup>1</sup> Honeymoon Creek,<sup>1,2</sup> Hot Creek,<sup>1</sup> Ibex Creek,<sup>1</sup> Indian Creek,<sup>1,2</sup> Jose Creek,<sup>1</sup> Kelly Creek,<sup>1</sup> Kerr Creek,<sup>1</sup> Knapp Creek,<sup>1,2</sup> Kwiskwis Creek,<sup>1</sup> Lime Creek,<sup>1</sup> Lincoln Creek,<sup>1</sup> Little Beaver Creek,<sup>1,2</sup> Little Cottonwood Creek,<sup>1</sup> Little East Fork Elk Creek,<sup>1,2</sup> Little Indian Creek,<sup>1</sup> Little Loon Creek,<sup>1</sup> Little Pistol Creek,<sup>1,2</sup> Lola Creek,<sup>1</sup> Loon Creek,<sup>1,2</sup> Lucinda Creek,<sup>1</sup> Lucky Creek,<sup>1</sup> Luger Creek,<sup>1</sup> Mace Creek,<sup>1</sup> Mack Creek,<sup>1</sup> Marble Creek,<sup>1,2</sup> Marlin Creek,<sup>1</sup> Marsh Creek,<sup>1,2</sup> Mayfield Creek,<sup>1,2</sup> McHoney Creek,<sup>1</sup> McKee Creek,<sup>1</sup> Merino Creek,<sup>1</sup> Middle Fork Elkhorn Creek,<sup>1</sup> Middle Fork Indian Creek,<sup>1</sup> Middle Fork Salmon River,<sup>1,2</sup> Mine Creek,<sup>1</sup> Mink Creek,<sup>1</sup> Moonshine Creek,<sup>1</sup> Mowitch Creek,<sup>1</sup> Muskeg Creek,<sup>1</sup> Mystery Creek,<sup>1</sup> Nelson Creek,<sup>1</sup> New Creek,<sup>1</sup> No Name Creek,<sup>1</sup> North Fork Elk Creek,<sup>1,2</sup> North Fork Elkhorn Creek,<sup>1</sup> North Fork Sheep Creek,<sup>1</sup> North Fork Sulphur Creek,<sup>1,2</sup> Papoose Creek,<sup>1</sup> Parker Creek,<sup>1</sup> Patrol Creek,<sup>1</sup> Phillips Creek,<sup>1</sup> Pierson Creek,<sup>1</sup> Pinyon Creek,<sup>1</sup> Pioneer Creek,<sup>1,2</sup> Pistol Creek,<sup>1,2</sup> Placer Creek,<sup>1</sup> Poker Creek,<sup>1</sup> Pole Creek,<sup>1,2</sup> Popgun Creek,<sup>1</sup> Porter Creek,<sup>1,2</sup> Prospect Creek,<sup>1</sup> Rabbit Creek,<sup>1</sup> Rams Horn Creek,<sup>1</sup> Range Creek,<sup>1</sup> Rapid River,<sup>1,2</sup> Rat Creek,<sup>1</sup> Remington Creek,<sup>1</sup> Rock Creek,<sup>1</sup> Rush Creek,<sup>1</sup> Sack Creek,<sup>1,2</sup> Safety Creek,<sup>1</sup> Salt Creek,<sup>1</sup> Savage Creek,<sup>1</sup> Scratch Creek,<sup>1,2</sup> Seafoam Creek,<sup>1</sup> Shady Creek,<sup>1</sup> Shake Creek,<sup>1</sup> Sheep Creek,<sup>1</sup> Sheep Trail Creek,<sup>1,2</sup> Shell Creek,<sup>1</sup> Shrapnel Creek,<sup>1</sup> Siah Creek,<sup>1</sup>

Silver Creek,<sup>1</sup> Slide Creek,<sup>1</sup> Snowshoe Creek,<sup>1</sup> Soldier Creek,<sup>1</sup> South Fork Cottonwood Creek,<sup>1</sup> South Fork Sheep Creek,<sup>1</sup> Spike Creek,<sup>1</sup> Springfield Creek,<sup>1</sup> Squaw Creek,<sup>1</sup> Sulphur Creek,<sup>1,2</sup> Sunnyside Creek,<sup>1</sup> Swamp Creek,<sup>1</sup> Tennessee Creek,<sup>1</sup> Thatcher Creek,<sup>1</sup> Thicket Creek,<sup>1</sup> Thirty-two Creek,<sup>1</sup> Thomas Creek,<sup>1</sup> Tomahawk Creek,<sup>1</sup> Trail Creek,<sup>1</sup> Trapper Creek,<sup>1</sup> Trigger Creek,<sup>1</sup> Twenty-two Creek,<sup>1</sup> Vader Creek,<sup>1</sup> Vanity Creek,<sup>1</sup> Velvet Creek,<sup>1</sup> Walker Creek,<sup>1</sup> Wampum Creek,<sup>1</sup> Warm Spring Creek,<sup>1,2</sup> West Fork Elk Creek,<sup>1,2</sup> West Fork Little Loon Creek,<sup>1</sup> West Fork Mayfield Creek,<sup>1</sup> West Fork Thomas Creek,<sup>1</sup> White Creek,<sup>1</sup> Wickiup Creek,<sup>1</sup> Winchester Creek,<sup>1</sup> Winnemucca Creek,<sup>1</sup> Wyoming Creek,<sup>1,2</sup>.

(xxxvii) Upper North Fork Basin: Adams Creek,<sup>1</sup> Avalanche Creek,<sup>1</sup> Bacon Creek,<sup>1</sup> Ball Creek,<sup>1</sup> Bar Creek,<sup>1</sup> Barn Creek,<sup>1</sup> Barnard Creek,<sup>1,2</sup> Barren Creek,<sup>1</sup> Bates Creek,<sup>1</sup> Bear Creek,<sup>1,2</sup> Beaver Dam Creek,<sup>1</sup> Bedrock Creek,<sup>1</sup> Bennett Creek,<sup>1</sup> Bill Creek,<sup>1</sup> Birch Creek,<sup>1</sup> Bostonian Creek,<sup>1</sup> Boundary Creek,<sup>1</sup> Bradbury Creek,<sup>1</sup> Burn Creek,<sup>1</sup> Burst Creek,<sup>1</sup> Bush Creek,<sup>1</sup> Butter Creek,<sup>1</sup> Cabin Creek,<sup>1</sup> Camp George Creek,<sup>1</sup> Canyon Creek,<sup>1</sup> Cave Creek,<sup>1</sup> Cayuse Creek,<sup>1,2</sup> Chamberlain Creek,<sup>1</sup> Chateau Creek,<sup>1</sup> Clayton Creek,<sup>1</sup> Cliff Creek,<sup>1</sup> Coffee Creek,<sup>1</sup> Cold Springs Creek,<sup>1,2</sup> Collins Creek,<sup>1,2</sup> Colt Creek,<sup>1</sup> Cool Creek,<sup>1</sup> Copper Creek,<sup>1</sup> Corral Creek,<sup>1</sup> Cougar Creek,<sup>1</sup> Craig Creek,<sup>1</sup> Crater Creek,<sup>1</sup> Cub Creek,<sup>1,2</sup> Davis Creek,<sup>2</sup> Dead Mule Creek,<sup>1</sup> Deadhorse Creek,<sup>1</sup> Deadwood Creek,<sup>1,2</sup> Death Creek,<sup>1</sup> Deception Gulch,<sup>1</sup> Deer Creek,<sup>1</sup> Dill Creek,<sup>1</sup> Doris Creek,<sup>1</sup> Drift Creek,<sup>1</sup> Eagle Creek,<sup>1</sup> Elizabeth Creek,<sup>1,2</sup> Fall Creek,<sup>1</sup> Fawn Creek,<sup>1</sup> Field Creek,<sup>1</sup> Fire Creek,<sup>1</sup> Fisher Creek,<sup>1</sup> Fix Creek,<sup>1</sup> Flame Creek,<sup>1</sup> Flat Creek,<sup>1</sup> Fly Creek,<sup>1</sup> Fourth of July Creek,<sup>1,2</sup> Fro Creek,<sup>1</sup> Frog Creek,<sup>1,2</sup> Frost Creek,<sup>1</sup> Gilfillian Creek,<sup>1</sup> Goose Creek,<sup>1,2</sup> Grass Creek,<sup>1</sup> Grasshopper Creek,<sup>1</sup> Gravey Creek,<sup>1,2</sup> Grizzly Creek,<sup>1</sup> Hanson Creek,<sup>1</sup> Heather Creek,<sup>1</sup> Hemlock Creek,<sup>1</sup> Henry Creek,<sup>1</sup> Hidden Creek,<sup>1,2</sup> Howard Creek,<sup>1,2</sup> Independence Creek,<sup>1,2</sup> Jackknife Creek,<sup>1</sup> Jam Creek,<sup>1</sup> Japanese Creek,<sup>1</sup> Johnagan Creek,<sup>1,2</sup> Johnny Creek,<sup>2</sup> Junction Creek,<sup>1</sup> Kelly Creek,<sup>1,2</sup> Kid Lake Creek,<sup>1,2</sup> Kinney Creek,<sup>1</sup> Kodiak Creek,<sup>1,2</sup> Lake Creek,<sup>1,2</sup> Larch Creek,<sup>1</sup> Larson Creek,<sup>1</sup> Laundry Creek,<sup>2</sup> Lightning Creek,<sup>1,2</sup> Little Moose Creek,<sup>2</sup> Little Washington Creek,<sup>1</sup> Little Weitas Creek,<sup>1,2</sup> Liz Creek,<sup>1,2</sup> Lodge Creek,<sup>1</sup> Long Creek,<sup>1,2</sup> Lookout Creek,<sup>1</sup> Lost Pete Creek,<sup>1</sup> Lower Twin Creek,<sup>1</sup> Marten Creek,<sup>2</sup> Meadow Creek,<sup>1,2</sup> Middle Creek,<sup>1,2</sup> Middle North Fork Kelly Creek,<sup>1,2</sup> Middleton Creek,<sup>1</sup> Mill Creek,<sup>1</sup>

Mink Creek,<sup>1</sup> Mire Creek,<sup>2</sup> Monroe Creek,<sup>1,2</sup> Moose Creek,<sup>1,2</sup> Morgans Gulch,<sup>1</sup> Negro Creek,<sup>1</sup> Nettle Creek,<sup>1</sup> Never Creek,<sup>1</sup> Niagra Gulch,<sup>1</sup> North Fork Clearwater River,<sup>1,2</sup> Nub Creek,<sup>1</sup> Osier Creek,<sup>2</sup> Otter Creek,<sup>1</sup> Owl Creek,<sup>1</sup> Pack Creek,<sup>1</sup> Perry Creek,<sup>1</sup> Pete Ott Creek,<sup>1,2</sup> Placer Creek,<sup>1</sup> Polar Creek,<sup>1,2</sup> Pony Creek,<sup>1</sup> Post Creek,<sup>1</sup> Potato Creek,<sup>1</sup> Quartz Creek,<sup>1,2</sup> Rapid Creek,<sup>1</sup> Raspberry Creek,<sup>1</sup> Rawhide Creek,<sup>1,2</sup> Rettig Creek,<sup>1</sup> Roaring Creek,<sup>1</sup> Rock Creek,<sup>1,2</sup> Rock Garden Creek,<sup>1</sup> Rocky Ridge Creek,<sup>1</sup> Ruby Creek,<sup>1,2</sup> Saddle Creek,<sup>1</sup> Salix Creek,<sup>1</sup> Sand Creek,<sup>1</sup> Scofield Creek,<sup>1</sup> Scurry Creek,<sup>1</sup> Seat Creek,<sup>1</sup> Sheep Creek,<sup>1</sup> Short Creek,<sup>1,2</sup> Shot Creek,<sup>1</sup> Siam Creek,<sup>1</sup> Silver Creek,<sup>1,2</sup> Skull Creek,<sup>1,2</sup> Slick Creek,<sup>1</sup> Slide Creek,<sup>1</sup> Smith Creek,<sup>1,2</sup> Sneak Creek,<sup>1</sup> Snow Creek,<sup>1</sup> South Fork Kelly Creek,<sup>1,2</sup> Sprague Creek,<sup>1</sup> Spruce Creek,<sup>1</sup> Spud Creek,<sup>1</sup> Spy Creek,<sup>1</sup> Squaw Creek,<sup>1</sup> Stolen Creek,<sup>1,2</sup> Stove Creek,<sup>1</sup> Sugar Creek,<sup>2</sup> Swamp Creek,<sup>2</sup> Swanson Creek,<sup>1</sup> Teepee Creek,<sup>1</sup> Tinear Creek,<sup>1</sup> Tinkle Creek,<sup>1</sup> Toboggan Creek,<sup>1,2</sup> Trail Creek,<sup>1</sup> Trap Creek,<sup>1</sup> Tumble Creek,<sup>1</sup> Upper Twin Creek,<sup>1</sup> Vanderbilt Gulch,<sup>1,2</sup> Wall Creek,<sup>1</sup> Washington Creek,<sup>1</sup> Weasel Creek,<sup>1</sup> Weitas Creek,<sup>1,2</sup> Williams Creek,<sup>1,2</sup> Windy Creek,<sup>1,2</sup> Wolf Creek,<sup>1</sup> Yokum Creek,<sup>1</sup> Young Creek,<sup>1</sup>.

(xxxviii) Upper Salmon Basin: Alder Creek,<sup>1</sup> Alpine Creek,<sup>1,2</sup> Alta Creek,<sup>1</sup> Alturas Lake,<sup>1,2</sup> Alturas Lake Creek,<sup>1,2</sup> Anderson Creek,<sup>1</sup> Aspen Creek,<sup>1</sup> Basin Creek,<sup>1,2</sup> Bayhorse Creek,<sup>1</sup> Bear Creek,<sup>1</sup> Bear Lake Creek,<sup>1</sup> Beaver Creek,<sup>1,2</sup> Big Boulder Creek,<sup>1,2</sup> Block Creek,<sup>1</sup> Blowfly Creek,<sup>1</sup> Blue Creek,<sup>1</sup> Boundary Creek,<sup>1</sup> Bowery Creek,<sup>1,2</sup> Broken Ridge Creek,<sup>1</sup> Bruno Creek,<sup>1</sup> Buckskin Creek,<sup>1</sup> Cabin Creek,<sup>1</sup> Camp Creek,<sup>1</sup> Cash Creek,<sup>1</sup> Challis Creek,<sup>1,2</sup> Chamberlain Creek,<sup>1</sup> Champion Creek,<sup>1</sup> Cherry Creek,<sup>1</sup> Cinnabar Creek,<sup>1</sup> Cleveland Creek,<sup>1</sup> Coal Creek,<sup>1</sup> Crooked Creek,<sup>1</sup> Darling Creek,<sup>2</sup> Deadwood Creek,<sup>1</sup> Decker Creek,<sup>1</sup> Deer Creek,<sup>1</sup> Dry Creek,<sup>1</sup> Duffy Creek,<sup>1</sup> East Basin Creek,<sup>1</sup> East Fork Herd Creek,<sup>1</sup> East Fork Salmon River,<sup>1,2</sup> East Fork Valley Creek,<sup>1</sup> East Pass Creek,<sup>1,2</sup> Eddy Creek,<sup>1</sup> Eightmile Creek,<sup>1</sup> Elevenmile Creek,<sup>1</sup> Elk Creek,<sup>1</sup> Ellis Creek,<sup>1,2</sup> Estes Creek,<sup>1</sup> First Creek,<sup>1</sup> Fisher Creek,<sup>1</sup> Fishhook Creek,<sup>1,2</sup> Fivemile Creek,<sup>1</sup> Fourth of July Creek,<sup>1,2</sup> Frenchman Creek,<sup>1,2</sup> Garden Creek,<sup>2</sup> Germana Creek,<sup>1,2</sup> Goat Creek,<sup>1,2</sup> Gold Creek,<sup>1</sup> Gooseberry Creek,<sup>1</sup> Greylock Creek,<sup>1</sup> Hay Creek,<sup>1</sup> Hell Roaring Creek,<sup>1</sup> Herd Creek,<sup>1,2</sup> Huckleberry Creek,<sup>1,2</sup> Ibex Creek,<sup>1</sup> Iron Creek,<sup>1,2</sup> Job Creek,<sup>1</sup> Jordan Creek,<sup>1,2</sup> Juliette Creek,<sup>1</sup> Kelly Creek,<sup>1</sup> Kinnikinic Creek,<sup>1</sup> Lick Creek,<sup>1</sup> Lightning Creek,<sup>1</sup> Little Basin Creek,<sup>1</sup> Little Beaver Creek,<sup>1</sup> Little Boulder

Creek,<sup>1 2</sup> Little West Fork Morgan Creek,<sup>1</sup> Lodgepole Creek,<sup>1</sup> Lone Pine Creek,<sup>1</sup> Long Tom Creek,<sup>1</sup> Lost Creek,<sup>1</sup> MacRae Creek,<sup>1</sup> Martin Creek,<sup>1</sup> McKay Creek,<sup>1 2</sup> Meadow Creek,<sup>1</sup> Meridian Creek,<sup>1</sup> Mill Creek,<sup>1</sup> Morgan Creek,<sup>1 2</sup> Muley Creek,<sup>1</sup> Ninemile Creek,<sup>1</sup> Noho Creek,<sup>1</sup> North Fork Bowery Creek,<sup>1</sup> Pack Creek,<sup>1</sup> Park Creek,<sup>1</sup> Pat Hughes Creek,<sup>1</sup> Pats Creek,<sup>1</sup> Perkins Lake,<sup>1 2</sup> Pig Creek,<sup>1</sup> Pole Creek,<sup>1 2</sup> Pork Creek,<sup>1</sup> Prospect Creek,<sup>1</sup> Rainbow Creek,<sup>1</sup> Redfish Lake,<sup>1 2</sup> Redfish Lake Creek,<sup>1 2</sup> Road Creek,<sup>2</sup> Roaring Creek,<sup>1</sup> Rough Creek,<sup>1</sup> Sage Creek,<sup>1</sup> Sagebrush Creek,<sup>1</sup> Salmon River,<sup>1 2</sup> Sawmill Creek,<sup>1</sup> Second Creek,<sup>1</sup> Sevenmile Creek,<sup>1</sup> Sheep Creek,<sup>1</sup> Short Creek,<sup>1</sup> Sixmile Creek,<sup>1</sup> Slate Creek,<sup>2</sup> Smiley Creek,<sup>1</sup> South Fork East Fork Salmon River,<sup>1 2</sup> Squaw Creek,<sup>1 2</sup> Stanley Creek,<sup>1</sup> Stephens Creek,<sup>1</sup> Summit Creek,<sup>1</sup> Sunday Creek,<sup>1</sup> Swimm Creek,<sup>1</sup> Taylor Creek,<sup>1</sup> Tenmile Creek,<sup>1</sup> Tennel Creek,<sup>1</sup> Thompson Creek,<sup>1 2</sup> Three Cabins Creek,<sup>1</sup> Trail Creek,<sup>1</sup> Trap Creek,<sup>1</sup> Treavor Creek,<sup>1</sup> Twelvemile Creek,<sup>1</sup> Twin Creek,<sup>1</sup> Valley Creek,<sup>1 2</sup> Van Horn Creek,<sup>1</sup> Vat Creek,<sup>1</sup> Warm Spring Creek,<sup>1</sup> Warm Springs Creek,<sup>1 2</sup> Washington Creek,<sup>1</sup> West Beaver Creek,<sup>1</sup> West Fork Creek,<sup>1</sup> West Fork East Fork Salmon River,<sup>1 2</sup> West Fork Herd Creek,<sup>1 2</sup> West Fork Morgan Creek,<sup>1 2</sup> West Fork Yankee Fork,<sup>1 2</sup> West Pass Creek,<sup>1 2</sup> White Valley Creek,<sup>1</sup> Wickiup

Creek,<sup>1</sup> Williams Creek,<sup>1</sup> Willow Creek,<sup>1</sup> Yankee Fork,<sup>1 2</sup>.  
(xxxix) Upper Selway Basin: Bad Luck Creek,<sup>1</sup> Baldy Creek,<sup>1</sup> Barefoot Creek,<sup>1</sup> Basin Creek,<sup>1</sup> Bear Creek,<sup>1 2</sup> Big Creek,<sup>1</sup> Boxcar Creek,<sup>1</sup> Brave Creek,<sup>1</sup> Burn Creek,<sup>1</sup> Burnt Knob Creek,<sup>1</sup> Cactus Creek,<sup>1</sup> Camp Creek,<sup>1</sup> Canyon Creek,<sup>1 2</sup> Cayuse Creek,<sup>1</sup> Cedar Creek,<sup>1</sup> Cliff Creek,<sup>1</sup> Comb Creek,<sup>1</sup> Cooper Creek,<sup>1</sup> Crooked Creek,<sup>1</sup> Cub Creek,<sup>2</sup> Deep Creek,<sup>1 2</sup> Ditch Creek,<sup>1</sup> Eagle Creek,<sup>2</sup> East Fork Magruder Creek,<sup>1</sup> Eben Creek,<sup>1</sup> Echo Creek,<sup>1</sup> Elk Creek,<sup>1 2</sup> Fall Creek,<sup>1</sup> Fire Creek,<sup>1</sup> Flat Creek,<sup>1</sup> Fox Creek,<sup>1</sup> French Creek,<sup>1</sup> Fritz Creek,<sup>1</sup> Gabe Creek,<sup>1</sup> Gardner Creek,<sup>1</sup> Goat Creek,<sup>1 2</sup> Gold Pan Creek,<sup>1</sup> Granite Creek,<sup>1 2</sup> Grass Gulch,<sup>1</sup> Halfway Creek,<sup>1</sup> Haystack Creek,<sup>1</sup> Hells Half Acre Creek,<sup>1</sup> Indian Creek,<sup>1 2</sup> Kim Creek,<sup>1</sup> Lake Creek,<sup>1</sup> Langdon Gulch,<sup>1</sup> Lazy Creek,<sup>1</sup> Line Creek,<sup>1</sup> Little Clearwater River,<sup>1 2</sup> Little Creek,<sup>1</sup> Lodge Creek,<sup>1</sup> Lonely Creek,<sup>1</sup> Lonesome Creek,<sup>1</sup> Long Prairie Creek,<sup>1</sup> Lookout Creek,<sup>1</sup> Lunch Creek,<sup>1</sup> MacGregor Creek,<sup>1</sup> Magruder Creek,<sup>1</sup> Mist Creek,<sup>1</sup> Nick Creek,<sup>1</sup> North Fork Goat Creek,<sup>1</sup> North Star Creek,<sup>1</sup> Paloma Creek,<sup>1</sup> Paradise Creek,<sup>1 2</sup> Peach Creek,<sup>1</sup> Pete Creek,<sup>1</sup> Pettibone Creek,<sup>1 2</sup> Raven Creek,<sup>1</sup> Running Creek,<sup>2</sup> Saddle Gulch,<sup>1</sup> Salamander Creek,<sup>1</sup> Schofield Creek,<sup>1</sup> Scimitar Creek,<sup>1</sup> Selway River,<sup>1 2</sup> Short Creek,<sup>1</sup> Slow Gulch

Creek,<sup>1</sup> Snake Creek,<sup>1</sup> South Fork Goat Creek,<sup>1</sup> South Fork Lookout Creek,<sup>1</sup> South Fork Running Creek,<sup>2</sup> South Fork Saddle Gulch,<sup>1</sup> South Fork Surprise Creek,<sup>1</sup> Spire Creek,<sup>1</sup> Spruce Creek,<sup>1 2</sup> Squaw Creek,<sup>2</sup> Steep Gulch,<sup>1</sup> Storm Creek,<sup>1</sup> Stripe Creek,<sup>1</sup> Surprise Creek,<sup>1</sup> Swet Creek,<sup>1</sup> Tepee Creek,<sup>1</sup> Test Creek,<sup>1</sup> Thirteen Creek,<sup>1</sup> Three Lakes Creek,<sup>1</sup> Throng Creek,<sup>1</sup> Triple Creek,<sup>1</sup> Vance Creek,<sup>1</sup> Wahoo Creek,<sup>1 2</sup> Wapiti Creek,<sup>1</sup> Washout Creek,<sup>1</sup> West Fork Crooked Creek,<sup>1</sup> White Cap Creek,<sup>1 2</sup> Wilkerson Creek,<sup>1</sup> Witter Creek,<sup>1</sup> Wynn Creek.<sup>1</sup>

(xxxx) Weiser Basin: Anderson Creek,<sup>1 2</sup> Boulder Creek,<sup>1</sup> Bull Corral Creek,<sup>1</sup> Cabin Creek,<sup>1</sup> Cold Spring Creek,<sup>1</sup> Dewey Creek,<sup>1 2</sup> East Fork Weiser River,<sup>1 2</sup> Fall Creek,<sup>1</sup> Little Fall Creek,<sup>1</sup> Little Weiser River,<sup>1 2</sup> Mica Creek,<sup>1</sup> Middle Fork Weiser River,<sup>1</sup> Sheep Creek,<sup>1</sup> Warm Spring Creek,<sup>1</sup> Wolf Creek.<sup>1</sup>

(d) Temperature Criteria for Kootenai River White Sturgeon.

(1) The following seasonal temperature requirements and maximum and minimum weekly average temperature criteria apply to that part of PB20K, Kootenai River, from Bonners Ferry to Deep Creek; That part of PB 30K, Kootenai River, from Deep Creek to downstream end of Shorty's Island:

Date	Minimum weekly average temperature (°C)	Maximum weekly average temperature (°C)
By May 21 .....	8	.....
up through 8 weeks post-achievement of 8 °C temperature .....	.....	14
9 through 10 weeks post-achievement of 8 °C temperature .....	.....	16

(e) *Temperature Criteria for Snails.* (1) The waterbody segments identified in paragraph (e)(2) of this section shall not exceed a maximum daily average of 18 degrees C.

(2) USB 50—Snake River—American Falls Dam to Minidoka Dam; USB60A—Snake River—Minidoka Dam to Heyburn/Burley Bridge; USB 70—Snake River—Milner Dam to Buhl; USB 80—Snake River—Buhl to King Hill; that part of SWB 10—Snake River—from King Hill to the headwaters of C.J Strike Reservoir at river mile 518.

(f) *Mixing Zones.* Water quality within a mixing zone is subject to the narrative surface water quality criteria contained in Idaho's water quality standards at 16.01.02.200.01.—03.

(g) *Antidegradation Policy.* (1) Outstanding Resource waters. Where Idaho identifies high quality waters as an outstanding national resource, such

as waters of national and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected from the impacts of point and nonpoint source activities.

(2) [Reserved]

(h) *Excluded Waters.* Lakes, ponds, pools, streams, and springs outside public lands but located wholly and entirely upon a person's land are not protected specifically or generally for any beneficial use, unless such waters are designated in Idaho 16.01.02.110. through 160., or are unclassified waters of the United States as defined at 40 CFR 122.2.

(i) *Water Quality Standard Variances.*

(1) The Regional Administrator, EPA Region X, is authorized to grant variances from the water quality standards in paragraphs (a) and (b) of

this section where the requirements of this subsection are met. A water quality standard variance applies only to the permittee requesting the variance and only to the pollutant or pollutants specified in the variance; the underlying water quality standard otherwise remains in effect.

(2) A water quality standard variance shall not be granted if:

(i) Standards will be attained by implementing effluent limitations required under sections 301(b) and 306 of the CWA and by the permittee implementing reasonable best management practices for nonpoint source control; or

(ii) The variance would likely jeopardize the continued existence of any threatened or endangered species listed under section 4 of the Endangered Species Act or result in the destruction

or adverse modification of such species' critical habitat.

(3) A water quality standards variance may be granted if the applicant demonstrates to EPA that attaining the water quality standard is not feasible because:

(i) Naturally occurring pollutant concentrations prevent the attainment of the use; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(iv) Dams, diversions or other types of hydrologic modifications preclude the

attainment of the use, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way which would result in the attainment of the use; or

(v) Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like unrelated to water quality, preclude attainment of aquatic life protection uses; or

(vi) Controls more stringent than those required by sections 301(b) and (306) of the CWA would result in substantial and widespread economic and social impact.

(4) Procedures. An applicant for a water quality standards variance shall submit a request to the Regional Administrator not later than the date the applicant applies for an NPDES permit which would implement the variance. The application shall include all relevant information showing that the requirements for a variance have been

satisfied. The burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for one of the reasons specified in paragraph (i)(3) of this section. If the Regional Administrator preliminarily determines that grounds exist for granting a variance, he shall publish notice of the proposed variance. Notice of a final decision to grant a variance shall also be published. EPA will incorporate into the permittee's NPDES permit all conditions needed to implement the variance.

(5) A variance may not exceed 5 years or the term of the NPDES permit, whichever is less. A variance may be renewed if the applicant reapplies and demonstrates that the use in question is still not attainable. Renewal of the variance may be denied if the applicant did not comply with the conditions of the original variance.

[FR Doc. 97-10723 Filed 4-25-97; 8:45 am]

BILLING CODE 6560-50-P