WATER QUALITY SUMMARY REPORT NO. 31

1994 Beneficial Use Reconnaissance Project

POTLATCH RIVER WATERSHED

Latah, Clearwater, and Nez Perce Counties
North Central Idaho

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ABSTRACT

During the 1994 summer, the Idaho Division of Environmental Quality (DEQ) and the Latah Soil and Water Conservation District (SWCD) conducted a Beneficial Use Reconnaissance Project (BURP) survey in the Potlatch River watershed. Prior to this study, little information was available about the beneficial uses for the streams in the Potlatch River drainage. The BURP process was developed to determine the beneficial uses and the status of those uses.

The Potlatch River watershed is located in north central Idaho and is a major tributary to the Clearwater River. Historically, the Potlatch River provided spawning and rearing habitat for Snake River chinook salmon, *Oncorhynchus tshawytscha*, steelhead trout, *Oncorhynchus mykiss*, and resident fish species. Aquatic and terrestrial management activities have significantly altered the habitat, water quality, and water quantity within the Potlatch River system.

In the 1994 BURP field season, data were collected on the mainstem, East Fork and West Fork Potlatch River, Little Potlatch and Middle Potlatch Creeks, Big Bear and Little Bear Creeks, Pine Creek, Cedar Creek, and Ruby Creek. DEQ water quality protocols were utilized to collect the following data: flow, temperature, substrate composition, width/depth ratio, aquatic invertebrates, fish, canopy cover, pool complexity, large organic debris, aquatic habitat assessment, bank stability, and Rosgen channel type.

Industrial water supply, primary contact recreation, wildlife habitat, and aesthetics are automatically designated as beneficial uses for all water bodies in the state. However, if the physical characteristics of the water body prevent primary contact recreation then it is designated as secondary contact recreation. It was determined that cold water biota is an existing beneficial use in all of the surveyed streams. Salmonid spawning was determined to be an existing use in 10 of the 11 creeks surveyed. Agricultural water supply was determined to be an existing use in all the water bodies.

At this time, DEQ is unable to determine the support status of the beneficial uses for streams in the Potlatch River watershed. A Waterbody Assessment Guidance document is being developed and DEQ is conducting a review of this document. Once the assessment process is reviewed and approved, beneficial use support status determinations will be made.

The results of this project have determined most of the streams to be in various stages of degradation. It was difficult to adequately describe stream conditions at each site due to low water conditions encountered during the 1994 field season. The data collected represent stream conditions during a drought year, and may not reflect normal water year conditions.

ACKNOWLEDGMENTS

We thank all the landowners who granted us access to their property. Without their cooperation this project would not have been possible. We would also like to thank the U.S. Natural Resource Conservation Service (formerly the Soil Conservation Service), Palouse Ranger District (USFS), and Idaho Department of Fish and Game for their support. Thanks to Steve Chipps and Laura Garmann from the University of Idaho's Department of Fish and Wildlife Resources, and Michael Philbin of the U.S. Forest Service for providing editorial support to this document as well as Rena Amonson for her technical word processing assistance. Thank you to Daniel D. Stewart, Idaho Division of Environmental Quality, for his editorial comments and contribution to several tables in this document. Special thanks to the BURP crew members, John Kinney, Steve Lee, and Charlie Holderman who collected the data that made this report possible.

INTRODUCTION

Under guidance from the federal Clean Water Act, the State of Idaho developed its Water Quality Standards and Wastewater Treatment Requirements (IDHW Rules IDAPA 16, Title 01, Chapter 02). Water quality standards are legally established rules that specify and protect appropriate water uses (e.g., water supply, fish, recreation) and set specific numerical criteria where possible to attain these uses (Arbuckle et al. 1991). The state standards must attain the Clean Water Act's goal of fishable, swimmable waters wherever achievable, and, at a minimum must maintain the designated and existing beneficial uses for each water body (Arbuckle et al. 1991). The waters of Idaho are protected with different water quality criteria depending on their beneficial uses. Idaho designated beneficial uses are as follows:

Agricultural Water Supply	Salmonid Spawning
Domestic Water Supply	Primary Contact Recreation
Industrial Water Supply	Secondary Contact Recreation
Cold Water Biota	Wildlife Habitat
Warm Water Biota	Aesthetics

There are three general categories of beneficial uses: Designated (these are listed in the water quality standards), Existing (those uses have been supported on or after November 28, 1975 in the water body), and Attainable (those uses that with improvements to the water body can be supported in the future). Only a small portion of the water bodies in Idaho currently have designated beneficial uses listed in the Water Quality Standards. Those which are listed are typically the larger rivers and lakes in the state. The beneficial uses are unknown on most of the smaller water bodies in Idaho. In 1993, DEQ established the Beneficial Use Reconnaissance Project (BURP) as a process to survey streams with unknown beneficial uses and evaluate those streams with known uses (McIntyre 1994). The objectives of BURP were to:

1. Determine beneficial use attainability
2. Determine beneficial use support status, including characterizing reference stream conditions, wherever possible

During the 1994 field season, the BURP process was used to collect the data necessary to determine current and attainable beneficial uses of ten Potlatch River tributaries as well as the mainstem Potlatch River (Table 1 and Figure 1). The Latah Soil and Water Conservation District (SWCD) was contracted to conduct monitoring on the water bodies in the Potlatch River drainage. Alterations in water quality and quantity were the impetus for the selection of these streams, as well as most of them being listed on the Section 303(d) 1994 Water Quality Limited Segment list (US EPA 1994). This assessment established baseline biological, physical, and hydrological data for proposed long term monitoring. The beneficial uses identified through this project will be submitted for inclusion into the Idaho Water Quality Standards.

Table 1. Potlatch River basin tributaries assessed in 1994

Water Body	303(d) stream	# of sites	Stream Order	Legal Description
Potlatch River	yes	5	7	T36N, R3W, Sec 7
E.F. Potlatch River	yes	3	5	T40N, R1W, Sec 23
W.F. Potlatch River	yes	2	5	T41N, R1W, Sec 12
Big Bear Creek	no	2	6	T38N, R3W, Sec 24
Boulder Creek	no	2	4	T39N, R1W, Sec 16
Cedar Creek	yes	2	5	T40N, R3W, Sec 18
Little Bear Creek	yes	2	5	T37N, R3W, Sec 13
Little Potlatch Cr	yes	2	4	T37N, R3W, Sec 29
Middle Potlatch Cr	yes	2	4	T37N, R3W, Sec 3
Pine Creek	yes	2	5	T38N, R2W, Sec 11
Ruby Creek	yes	2	4	T40N, R1E, Sec 18

The location of the above mentioned streams can be found in Figure 1. The Potlatch River watershed is comprised of 377,776 acres and reflects over a century of different land and water management activities. The watershed has been converted from a timber and prairie dominated environment to an agricultural landscape. Current land use activities include timber harvest, road building, agriculture, grazing, recreation, residential development, and mining (Table 2). The Soil Conservation Service's Preliminary Investigation team reported that changes in the land from natural vegetation to an agriculturally dominated setting, as well as subsequent land management, has altered the natural hydrograph and delivery of sediment to the Potlatch and Clearwater Rivers (USDA-SCS 1993). These perturbations from the natural watershed conditions have affected the biological, hydrological, chemical, and physical characteristics of streams within the Potlatch River watershed.

1994 Beneficial Use Reconnaissance Project

Potlatch River and Tributaries

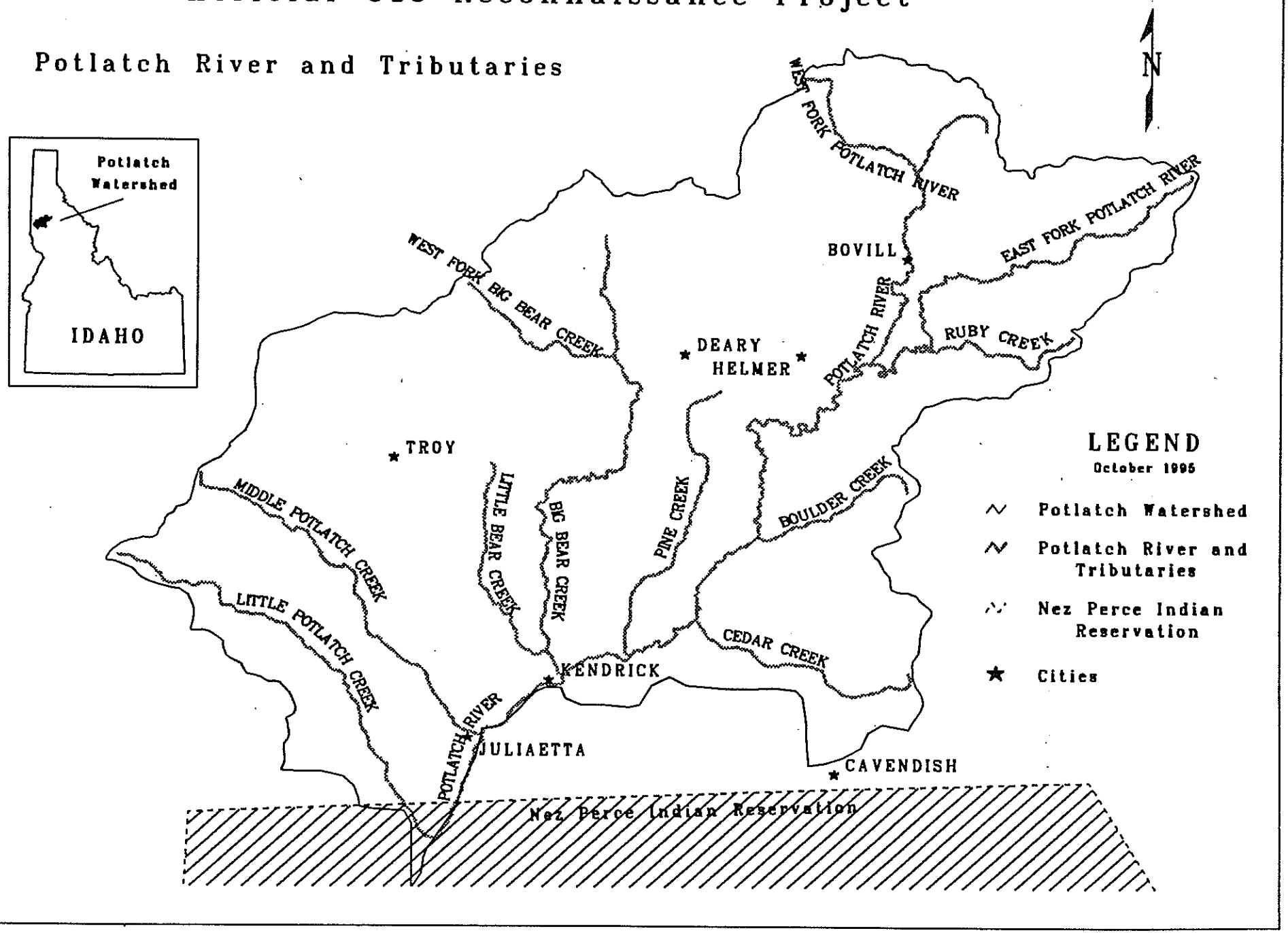

Table 2. Current land uses for the Potlatch River watershed, 1994

Land Use	Acres
Non-Irrigated Cropland	143,540
Non-Irrigated Pastureland	1,532
Rangeland	15,231
Forest Land	216,070
Urban Land	949
Recreational Land	385
Water	69
Total	**377,776**

There are numerous rural homes and farm sites scattered throughout the watershed as well as several small towns. The urban areas of Bovill, Kendrick, and Juliaetta are located on the mainstem Potlatch River. The towns of Troy, Helmer, Cameron, and several smaller communities are located in the upper elevations of the watershed. The river is the primary source of drinking water for the town of Juliaetta. In addition, several of these towns have permits to discharge their wastewater into the Potlatch River or its tributaries.

The Potlatch River watershed is under multiple management by federal, state, Bureau of Indian Affairs, and private entities (Table 3) (USDA-SCS 1994). The lower portion of the Potlatch River watershed is located on the Nez Perce Indian Reservation.

Table 3. Potlatch River Basin ownership, 1994

Ownership	Acreage
Federal	54,954
State	25,362
Bureau of Indian Affairs	1,051
Private/Industrial	296,340

STUDY AREA

Potlatch River

The Potlatch River (PNRS #1149) is a 7th order watershed encompassing approximately 377,776 acres within Latah, Clearwater and Nez Perce Counties, Idaho. The upper reaches of the Potlatch River are divided into two main tributaries, the East Fork and West Fork Potlatch Rivers. The East Fork originates in the northwest corner of Clearwater County, Idaho and flows in a southwesterly direction forming a confluence with the mainstem Potlatch River at T40N, R1W, Sec 23. The West Fork originates in the northeast corner of Latah County, Idaho flowing south and forming a confluence with the mainstem Potlatch River at T41N, R1W, Sec 12. The Potlatch River bisects Latah County in a southwesterly direction encountering numerous land and vegetation types before ultimately flowing into the Clearwater River at T36N, R3W, Sec 7.

The upper Potlatch River flows through timbered hills and high meadow terrain. Flow is generally stable with runoff events being laden with silt due to logging activities (Johnson 1985) Streams in the upper Potlatch River watershed historically supported fall chinook salmon, *Oncorhynchus tshawytscha*, and steelhead trout, *Oncorhynchus mykiss* (Johnson 1985). This river system also provided habitat for several resident salmonid species. However, spawning gravels have been covered by silt in recent history. Riparian habitat is generally well developed thereby providing streamside cover, stabilizing bank structure, and reducing high summer water temperatures.

The Potlatch River between Cedar Creek and the East Fork is relatively undisturbed and provides the best salmonid habitat in the drainage. Pool-riffle structure is good, gravels are suitable for spawning, riparian vegetation is relatively undisturbed, and there is little direct impact from land use activities.

The lower Potlatch River is characterized by high runoff in early spring and extreme low flows during the summer. The high spring flows scour the streambanks and preclude the establishment of suitable riparian habitat. The lower reaches were determined to be unsuitable for salmon production due to summer low flow conditions and high water temperatures (Parkhurst and Motor 1938 in Johnson 1985).

East Fork Potlatch River

There is multiple ownership with various land management activities throughout the East Fork Potlatch River drainage. The majority of the East Fork is in a forest setting. The headwater streams are primarily owned by private industry and have been heavily harvested over the last 75 to 100 years. This drainage historically provided spawning and rearing habitat for steelhead trout, *Oncorhynchus mykiss*, and fall chinook salmon, *Oncorhynchus tshawytscha*.

Big Bear Creek

Big Bear is a 6th order drainage originating in a timber dominated montane setting flowing south by southeast through prairie and canyonlands. The Big Bear drainage terminates immediately upstream of Kendrick, Idaho. Most field studies have occurred on federal timbered lands. Big Bear Creek is characterized by extreme flow variation, high summer water temperatures, and lack of riparian vegetation. Pool-riffle habitat is well developed, stream flow is adequate, and the reach receives little direct impact from land use activities. There is a fish migration barrier at stream mile 5.6 and the headwaters appear to provide some valuable rearing habitat as evidenced by the rainbow-steelhead population (Fuller et al. 1985).

Boulder Creek

Boulder Creek originates at approximately 3800 feet in elevation and flows in a southwesterly direction terminating at approximately 2000 feet in elevation. This drainage is located entirely in a forested environment.

Cedar Creek

Cedar Creek is a 5th order tributary to the Potlatch River. This stream originates in Clearwater County at approximately 4000 feet in elevation and flows northwest terminating at the Potlatch river at approximately 1600 feet elevation. Cedar Creek is characterized by high summer water temperatures, shallow mean depth, and cobble embeddedness (Fuller et al. 1985)

Little Bear Creek

Little Bear Creek is a 5th order tributary originating on the southeast slopes of Moscow Mountain and flows in a southeasterly direction through the town of Troy and joins Big Bear Creek approximately 1.25 miles northwest of Kendrick. There was a railroad system along the left bank lower reaches.

DEQ conducted a study on the West Fork of Little Bear Creek in 1985 (Moeller and Latham 1986). The results indicated that the city of Troy's waste water treatment plant was in non-compliance with its NPDES discharge permit on several occasions. The study concluded that Little Bear Creek was probably not a primary salmonid producing stream based upon the results of electrofishing operations conducted near the confluence of Little Bear and Big Bear Creeks.

Little Potlatch Creek

Little Potlatch Creek historically was a perennial stream and probably supported all Idaho designated beneficial uses. This stream is a 4th order drainage originating on the Palouse prairie and flows southeasterly forming a confluence with the mainstem Potlatch River downstream from Juliaetta, Idaho. It is characterized by extreme flow variation, high summer water temperatures, shallow mean depth, lack of in-stream cover, cobble embeddedness, lack of pool habitat, and lack of riparian vegetation (Fuller et al. 1985)

Little Potlatch Creek has been the focus of several watershed projects and was identified as heavily impacted by nonpoint source pollution in the 1993 Idaho Agricultural Pollution

Abatement Plan. Latham (1987) calculated 78% of Little Potlatch watershed to be under cultivation. The beneficial uses for Little Potlatch Creek, in 1987, were agricultural water supply, contact recreation, anadromous fish habitat, and cold water biota (Latham 1987).

Middle Potlatch Creek

Middle Potlatch Creek is a 4th order stream very similar to Little Potlatch Creek in topography and land use activities. This creek is affected by extreme flow variation, subsurface flow, high summer water temperature, cobble embeddedness, and lack of riparian habitat (Fuller et al. 1985). This tributary to the Potlatch River supported all aquatic beneficial uses in the past. The town of Juliaetta is located near the mouth of this creek.

Middle Potlatch Creek was listed in 1992 by Idaho Division of Environmental Quality as an "Idaho Impaired Stream Segment Requiring Further Assessment" and not fully supporting at least one beneficial use (USDA-SCS 1993).

Johnson (1985) found an "unusually high standing crop" of rainbow-steelhead trout at a 1984 Middle Potlatch Creek sampling station. The land owner where the lower BURP site is located indicated this reach historically was an excellent rainbow trout fishery (Carl Fliger of Kendrick, Idaho, personal communication).

Pine Creek

Pine Creek is a 5th order tributary to the Potlatch River originating east of Deary and flows south through open prairie and canyon land. The majority of this subwatershed was in canyon land. Land use activities include road systems, grazing, cropland, timber harvest, and home/farm sites.

Ruby Creek

Ruby Creek is a 4th order tributary to the East Fork Potlatch River. This stream originates in Clearwater County at approximately 4000 ft forming a confluence with the E.F. Potlatch River at 2800 feet elevation.

WATER QUALITY

Nine out of eleven streams surveyed in the Potlatch River watershed are listed as Section 303(d) 1994 Water Quality Limited Segments (WQLS) (US EPA 1994). Section 303 of the Clean Water Act requires states to inventory all waters within their jurisdiction that are not complying with the state water quality standards due to an excess of one or more pollutants (Arbuckle et al. 1991). A Total Maximum Daily Load (TMDL) analysis must be conducted on every WQLS for each pollutant violating the standards. Once an acceptable total loading value is determined through a TMDL analysis, the loading value is than allocated between point and nonpoint sources. This new loading value is achieved through various activities, such as modifications in permitted discharges and pollutant specific best management practices (BMPs). Pollutants that caused water bodies in the Potlatch River watershed to be a WQLS include: sediment, temperature, thermal modification, flow alteration, habitat alteration, pH, and pathogens.

Although there are several wastewater treatment plants (WWTP) discharging into the Potlatch River system, a 1978 study showed that the WWTPs did not significantly impact the receiving waters (IDHW-DOE 1978). The river was impacted by the FILTROL clay mining operation near Bovill, as well as various nonpoint source pollutants.

In 1989, the Potlatch River and its tributaries were reported to be potentially at risk or in non-support of the domestic water supply and primary contact recreation beneficial uses. Salmonid spawning, cold water biota, and secondary contact recreation were partially supported or potentially at risk (IDHW-DEQ 1989). Dryland crop production, rangeland, forest roads, timber harvests, and feedlots are responsible for nutrients, sediment, bacteria, temperature modifications, and flow and habitat alterations. Waters not supporting at least one beneficial use included: the Potlatch River, Little Potlatch Creek, Middle Potlatch Creek, Big Bear Creek, Pine Creek, Cedar Creek, EF Potlatch Creek, Ruby Creek, Moose Creek, and Little Bear Creek.

The Potlatch River, from Bovill to the confluence with the Clearwater River, was designated in the Idaho Agricultural Pollution Abatement Plan as a First Priority Stream Segment with a high potential for the enhancement of anadromous fish production (USDA-SCS 1994). The Potlatch River is listed in the Idaho Water Quality Standards as protected for the following beneficial uses: domestic and agricultural water supplies, cold water biota, salmonid spawning, primary and secondary contact recreation. It is listed as a special resource water upstream of Bovill (IDHW Rules IDAPA 16.01.02 1995).

Under the Idaho Antidegradation Agreement, there were three water bodies within the Potlatch River watershed designated as stream segments of concern (SSOC): Cedar Creek, 1989; Potlatch River, 1992; and the East Fork Potlatch River, 1992. The SSOC classification was eliminated in 1995 and was essentially replaced by the 303(d) WQLS list.

In 1995 a Beneficial Use Assessment was conducted for the Latah SWCD on Little Potlatch Creek (Gilmore and Rabe 1995). The study followed DEQ monitoring protocols and concluded that agricultural water supply was in full support, secondary contact recreation was in partial support, and cold water biota was in nonsupport.

METHODS AND MATERIALS

DEQ water quality monitoring protocols were utilized to accomplish the objectives of the Beneficial Use Reconnaissance Project (McIntyre 1994). DEQ water quality monitoring protocols 3 through 7, as well as other monitoring techniques were implemented (Table 4).

Table 4. Physical/Biological parameters and methods for 1994 surveys.

Parameter	Method	Author
Flow	Platts et al. 1983	
Width/Depth	Bauer and Burton 1993	
Shade	IDEQ Protocol 4-Evaluation and monitoring of stream/riparian habitats associated with aquatic communities in rangeland streams	Burton et al. 1991
Substrate Composition	Wolman 1954	
Pool Riffle Ratio	IDEQ Protocol 3- Monitoring Stream substrate, pool volume, and habitat diversity	Burton 1991
Pool Complexity	IDEQ Protocol 4-Evaluation and monitoring of stream/riparian habitats associated with aquatic communities in rangeland streams	Burton et al. 1991
Large Organic Debris	Platts et al. 1987	
Habitat Assessment	Robinson and Minshall 1992	
Rosgen Stream Classification	Rosgen 1985, 1993	
Macroinvertebrates	IDEQ Protocol 5- Assessment of biotic integrity (macroinvertebrates) in Idaho Streams	Clark and Maret 1993
Fish	IDEQ Protocol 6- Assessment of biotic integrity (fish) in Idaho streams	Chandler et al. 1993
Beneficial Use Attainability	IDEQ Protocol 7- Conducting use attainability assessments for determining beneficial uses to be designated on Idaho stream segments	Maret and Jensen 1991

Due to the low flow conditions encountered within most of the project's survey streams, it was necessary to modify stream flow measurement methodologies. The field crew moved debris and substrate within the channel (Gordon et al. 1992) to accommodate instream flow measurements.

Shade was determined using a concave densiometer. The densiometer was taped so that only 17 line intersections were visible. The number of shaded intersections was recorded. Measurements were taken at for locations in the riffle areas: Right bank, left bank, center facing upstream, and center facing downstream.

Large organic debris (LOD), also referred to as large woody debris, was counted within each reach. This organic debris component provides stability to the channel, dissipates the energy of flowing water, and provides habitat to aquatic biota.

Habitat assessment procedures were conducted on each reach to quantify several parameters indicative of stream health. Habitat parameters were divided into two categories, riffle/run prevalence in the reach or glide/pool prevalence. Riffle/run parameters included: substrate/instream cover, embeddedness, temperature, discharge, canopy cover, channel alteration, scouring/deposition, pool/riffle/run ratio, lower bank channel capacity, upper bank stability, vegetation/pressure, streamside cover, and riparian vegetation width. The glide/pool parameters included: substrate/instream cover, substrate characterization, pool variability, canopy cover, channel alteration, deposition, channel sinuosity, lower bank capacity, upper bank stability, vegetation/pressure, streamside cover, and riparian width. The cumulative habitat assessment score, 0 to 180, reflects the current status of the reach as judged by the field crew.

Channel type was determined using Rosgen channel typing methodologies (Rosgen 1994). The use of channel type methodologies allows for comparison between similar channel types and a better understanding of the physical characteristics within the reach. Substrate composition was accomplished using the Wolman pebble count technique (Wolman 1954). A minimum of 40 substrate particles was measured per riffle.

Aquatic macroinvertebrates were collected from three riffle sites using either a Hess or Surber sampler. The choice of the sampler was site specific and can be found in the respective stream file. The Hess sampler was the preferred method. Samples were sent to the Idaho Bureau of Laboratories for identification and are stored at the Orma J. Smith Museum of Natural History at Albertsons College in Caldwell, Idaho.

All streams were electrofished by an Idaho Fish and Game Fisheries Technician and Latah SWCD biologists. Streams were electrofished to establish either presence or absence and/or fish population data for salmonid and non-game fishes. Upon completion of first pass electrofishing the District team leader along with the Fish and Game representative decided whether further passes were needed. A minimum of 2 pass depletion was utilized, if warranted. Lengths and weights were taken for all salmonids age 1+. Lengths were collected on age 0 salmonids. All non-game species of fish were identified and measured for length within a range class. Fish mortalities were collected as voucher specimens, preserved in 10% Formalin solution and transferred to a 70% ETOH solution. The voucher samples were sent to DEQ for identification and are stored at the Orma J. Smith Museum of Natural History at Albertsons College in Caldwell, Idaho.

One water temperature recording device (HOBO XT) was installed at a designated site on each stream (Table 5). These sites were selected based upon projected water flows determined by the field team. The Palouse Ranger District, U.S. Forest Service, collected water temperature data on the West Fork Potlatch River. The surplus water temperature devices were deployed at a second site on Big Bear Creek and in East Fork Bear Creek. The East Fork Bear Creek was a potential "reference" stream site. These temperature devices were checked periodically for depth of water and security.

Two HOBO temperature recording devices were deployed in Big Bear Creek during the 1994 field season. One temperature recorder was installed immediately above the confluence of Little Bear Creek with Big Bear Creek with the second temperature recorder installed below the Highway 8 bridge.

Table 5. Thermograph (HOBO XT) locations for 1994 Potlatch River BURP

Tributary	HOBO Serial #	Date Deployed	Date Removed
Potlatch River	12915	6/29/94	Missing
E.F. Potlatch R	12921	6/30/94	9/15/94
W.F. Potlatch R		Not	Installed
Big Bear Cr (up)	12920	7/94	9/94
Big Bear Cr (down)	12918	6/28/94	7/27/94
Boulder Creek	12924	6/30/94	9/15/94
Cedar Creek	12925	6/28/94	9/15/94
Little Bear Creek	12916	6/28/94	7/27/94
Little Potlatch Cr	12917	6/24/94	7/27/94
Middle Potlatch Cr	12914	6/27/94	9/15/94
Pine Creek	12919	6/28/94	9/15/94
Ruby Creek	12922	6/30/94	9/94

USGS quads (7.5 minutes), aerial photos, and county ownership maps were analyzed to determine possible reach locations prior to field reconnaissance. At least two representative reaches were surveyed on each stream in accordance with DEQ water quality protocols. These reaches were established at an upper and lower site to better characterize the current stream conditions. The reaches should be representative of that particular segment of the stream. The reaches were permanently marked using an aluminum tag attached to a landmark with reference information inscribed. Reach locations were plotted on 7.5 minute USGS quadrangles along with legal descriptions.

Global positioning data were obtained for locations on some reaches. The uncorrected GPS data collected is on file with IDEQ NCIRO in Lewiston.

Stream ordination for the Potlatch River basin was determined utilizing USGS 7.5 minutes quadrangle maps (2.64 inches to the mile) and Strahler's (1952) refined Hortonian stream network methodologies.

The project's team leader summarized the progress and activities of the Beneficial Use Reconnaissance Project on a monthly interval. These reports were submitted to Latah SWCD and Idaho DEQ the first week of each month.

DEQ personnel determined existing beneficial uses of each survey stream based on data collected and field observations submitted by BURP team members. Attainable beneficial uses were determined using DEQ Protocol No. 7: Protocols for conducting use attainability assessments for determining beneficial uses to be designated on Idaho stream segments (Maret and Jensen 1991). The beneficial uses information will be submitted by DEQ for inclusion in Idaho Water Quality Standards as designated uses. Beneficial use status will be determined at a later date.

Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) is an important part of the BURP process. The quality of the field data can be expressed in terms of precision, accuracy, representativeness, comparability, and completeness. The BURP process has incorporated some basic procedures to assure that data meet all of these quality assurance measures (Idaho DEQ 1995).

Precision. The BURP process maximizes precision by double checking for errors and completeness on all field forms before they are sent to data entry. Training in the uses of equipment and sample collection/measurement decreases sampling error and increases precision. In 1994, DEQ also held a joint training of the Coeur d'Alene and Moscow BURP crews prior to the start of the field season, to assure that crews were using consistent techniques.

Accuracy. The BURP process enhances accuracy through replication of sampling reaches within streams and riffles within reaches. For example, macroinvertebrate samples are collected at three different riffle areas within the reach.

Representativeness. The BURP reach selection criteria are designed to assure that measurements are representative. Annual training of BURP crews is essential to control location and manner of data collection.

Comparability. The BURP process achieves comparability by working under a state work plan, standardized training of crews, and quality control visits by a Central Office Technical Team and Regional Coordinators.

Completeness. Completeness is a qualitative QA component that describes how well the data collection meets the objectives of the study. Completeness is continually evaluated by the BURP Technical Review Committee and by Work Plan review by interest groups outside DEQ.

RESULTS AND DISCUSSION

Fisheries

Electrofishing was conducted on all of the BURP surveyed streams. Fish results were used to determine the cold water biota, warm water biota, and salmonid spawning beneficial uses. Electrofishing results are presented in Table 6; an X in the column represents the presence of that species in the associated creek. The electrofishing data collected during the BURP field season was analyzed by Idaho Fish and Game for their Potlatch River database. Cold water fish species present within one or more of the streams were rainbow and brook trout, sculpin, speckled dace, reside shiner, and chiselmouth. Low densities of salmonids were found with the exceptions of upper Cedar Creek, lower Little Bear Creek, and the upper sites on the East Fork Potlatch River.

Table 6. Fish presence/absence results for the Potlatch River watershed, 1994.

Water Body	RbT	BrkT	Scul	RSS	SpD	ChM	SqF	SkR	SmB
Potlatch River	X		X	X	X			X	X
EF Potlatch River	X	X	X	X	X			X	
WF Potlatch River	X	X	X	X	X			X	
Big Bear Creek	X		X	X		X	X	X	
Boulder Creek		X							
Cedar Creek	X		X					X	
Little Bear Creek	X		X	X	X	X		X	
Little Potlatch Cr					X				
Middle Potlatch Cr					X				
Pine Creek	X		X		X			X	
Ruby Creek	X	X							

Cold Water Fish
BrkT = brook trout
ChM = chiselmouth
RbT = rainbow trout
RsS = redside shiner
Scul = sculpin
SpD = speckled dace

Warm Water Fish
SmB = smallmouth bass

Unknown
SkR = sucker
SqF = squawfish

Historically, the Potlatch River provided spawning and rearing habitat for Snake River chinook salmon, *Oncorhynchus tshawytscha*, steelhead trout, *Oncorhynchus mykiss*, and resident fish species. Habitat degradation occurred and by 1968 it was speculated that chinook salmon were no longer utilizing the area. Most of the spawning gravels in the upper watershed have been covered by silt laden runoff from logging operations. Spawning is also limited in the lower Potlatch River due to low flow conditions and extremely high water temperatures. At this time, the middle segment of the Potlatch River appears to offer the best spawning habitat.

Aquatic Macroinvertebrates

Macroinvertebrates are an essential part of the BURP process (Idaho DEQ 1995a). The biological community of a stream reflects overall ecological integrity. Because most streams are monitored infrequently, chemical monitoring is not always representative of the long term condition of the stream. Because the biologic community is exposed to the stream's conditions over a long period of time, it provides an integrated representation of water conditions and thereby allowing better classification of the stream's condition and support status.

The macroinvertebrate data collected during the BURP survey is used to determine the aquatic life beneficial use (ie: cold water or warm water biota). The macroinvertebrate data for the Potlatch River and tributaries is listed in Appendix C. The DEQ Monitoring and Technical Support Bureau have developed a preliminary index using quantitative aquatic macroinvertebrate analysis results. This index is referred to as the macroinvertebrate biotic index (MBI). Much of DEQ's analysis process depends on the value generated using the MBI (Idaho DEQ 1995b). The MBI is a multimetric index consisting of seven different metrics. Each individual metric value is calculated from the lab analysis data, normalized to a reference condition and then added to the other metrics. Each of the seven metrics has the same potential contribution to the MBI. The MBI is made up of the following metrics (Idaho DEQ 1995b):

Percent EPT - A measure of the proportion of Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies) to the rest of the insect sample. EPT are generally considered to inhabit higher quality water.

EPT Index - Summarizes the taxa richness within the EPT orders.

Percent Scrapers - The proportion of scrapers to the rest of the sample. The relative abundance of scrapers provides an indication of the riffle community food base. Scrapers increase with increased abundance of diatoms and decrease as filamentous algae and aquatic mosses increase. Scrapers also decrease in relative abundance following sedimentation and/or organic pollution.

Modified Hilsenhoff Biotic Index (HBI) - Determined by multiplying the number of individuals of each species (taxon) by its assigned pollution tolerance value, summing these products, and dividing by the total number of individuals. The result will be a value from 0 to 10, a value of 11 is used when the HBI is unknown for a particular organism. The lower the HBI value, the better the water quality.

Total Taxa Richness - This reflects the health of the community through a measurement of the variety of taxa (total number of distinct genera or species) present. Taxa richness generally increases with increasing water quality, habitat diversity, and/or habitat suitability.

Percent Dominance - The percent contribution of the numerically dominant taxon to the total number of organisms in the community. A community dominated by a relatively few species would indicate environmental stress.

Shannon's H' Diversity Index - Species diversity or the evenness of the distribution of individual in a community assemblage, has been widely used as a measure of stream community response to pollution.

Table 7. Preliminary Macroinvertebrate Biotic Index Scores

Water Body	Score	Water Body	Score
Potlatch River (1)	3.88	Boulder (upper)	3.31
Potlatch River (2)	3.88	Boulder (lower)	6.09
Potlatch River (3)	2.35	Cedar (upper)	3.23
Potlatch River (4)	4.03	Cedar (lower)	5.24
Potlatch River (5)	1.53	Little Bear (upper)	2.94
EF Potlatch River (upper)	3.65	Little Bear (lower)	4.05
EF Potlatch River (middle)	2.79	Little Potlatch (upper)	4.30
EF Potlatch River (lower)	5.25	Middle Potlatch (upper)	2.81
WF Potlatch River (upper)	2.39	Middle Potlatch (lower)	3.66
WF Potlatch River (lower)	2.06	Pine (lower)	3.82
Big Bear (upper)	3.40	Ruby (upper)	1.89
Big Bear (lower)	4.78	Ruby (lower)	3.79

The maximum MBI score is 7. The MBI scores can be used in a comparison between the upper and lower reaches of a water body and also other streams in the same watershed. Most of the streams had higher MBI scores at the lower sites.

At this time, DEQ is unable to determine the status of the cold and warm water biota beneficial use. A Waterbody Assessment Guidance has been developed and DEQ is awaiting review and approval of this process. Beneficial use status for the Potlatch River and tributaries will be made at a later date. Future status determinations will include habitat and other biologic assemblages.

Water Temperature

Water temperature is an important water quality criteria for both the cold water biota and salmonid spawning beneficial uses. The following are the water temperature criteria for both of these uses (IDHW Rules IDAPA 16.01.02):

Cold Water Biota - water temperature of 22°C or less with a maximum daily average of no greater than 19°C.

Salmonid Spawning - during the spawning and incubation period water temperatures of 13°C or less with a maximum daily average no greater than 9°C. The spawning and incubation time periods for species found in the Potlatch River drainage are as follows:

Rainbow Trout (January 15 - July 15) Brook Trout (October 1 - June 1)

HOBO temperature recording devices were placed in all of the streams except the West Fork Potlatch River. The temperature data for the WF Potlatch River were collected by the US Forest Service. Most of the devices were deployed at the end of June and removed by the middle of September. The devices in Big Bear Creek, Little Bear Creek, and Little Potlatch Creek were removed at the end of July due to lack of flow. The maximum, minimum, and average range of water temperatures for each creek is presented in Table 7. Water temperature HOBO graphs for each stream can be found in Appendix B. Some of the results on the graphs may be questionable due to the extreme low flow conditions. Several streams went dry and left the temperature recording devices exposed to ambient air temperature fluctuations.

Table 8. Temperature Data for Water Bodies in the Potlatch River Watershed, 1994

Water Body	Maximum Temp (°C)	Minimum Temp (°C)	Average Temp(°C)
Potlatch River	missing		
EF Potlatch River	30	9	12-25
WF Potlatch River	33	10.5	18-23
Big Bear Creek	38	13	17-28
Boulder Creek	23	6	14-19
Cedar Creek	28	9	17-22
Little Bear Creek	38	13	17-29
Little Potlatch Creek	30	9.5	15-23
Middle Potlatch Creek	24.5	10.5	13-19
Pine Creek	27	10.5	18-22
Ruby Creek	21	9.5	12-19

All of the streams, except Ruby Creek, exceeded the maximum water temperature standard for cold water biota. In addition, it appears that only three streams (Boulder, Middle Potlatch, and Ruby) met the daily average temperature for cold water biota. The HOBO meter was missing from the Potlatch River site, but the US Forest Service recorded that maximum water temperatures were 27.2°C above the West Fork Potlatch River and 29.6°C below Little Boulder Creek (Philbin pers. Comm). The data presented in this report most likely represents the extreme in water temperature because the 1994 field season was characterized by a low water year and hot ambient air temperatures.

A correlation usually exists between water temperature and canopy closure. Canopy closure data is listed in Appendix A. Boulder Creek and Ruby Creek were among the highest canopy closure measurements taken in the Potlatch River drainage. However, Middle Potlatch Creek had the lowest canopy closure of all the streams. This suggests that there is another explanation for the cool water temperatures in Middle Potlatch Creek; one possibility could be an influx of groundwater. From this 1994 water temperature data, it appears that during certain years water temperature may be a limiting factor for cold water biota in the Potlatch River watershed.

Reference Streams

Reference streams and reference conditions are an important part of the BURP data analysis. Reference streams need to be identified so that data from streams within the watershed, ecoregion, Rosgen stream classification, stream order, or having similar land use activities can be compared to these reference conditions. Ideally, reference streams should be in pristine condition. However, such streams may not exist in certain watersheds. In these cases, streams having the least amount of human impact should be considered for reference conditions.

During the 1994 BURP field season, data were not collected on any reference streams in the Potlatch River watershed. The East Fork of Big Bear Creek was considered for reference site designation. However, due to time constraints and low flow conditions BURP sites could not be established. This drainage should be studied for potential reference sites.

GENERAL RESULTS

Additional data for all of the streams listed below are located in Appendix A

Potlatch River

Five beneficial use reconnaissance sites were established on the mainstem Potlatch River.

Site 1

This site is located just downstream of Little Potlatch Creek. The riparian zone is wide and flat on the left bank and steeper and smaller on the right bank. Riparian vegetation is dominated by grasses, forbs, alders, and other shrubs. The upper banks are sparsely covered with ponderosa pine. This reach is affected by grazing and urban influences.

REACH LENGTH: 246 m
SINUOSITY: moderate
GRADIENT: 1.25%
ROSGEN CHANNEL TYPE: C3
WETTED WIDTH: >3 m
OF LOD: 3
FLOW: 0.12 cfs
HABITAT SCORE: 73
DOMINATE SUBSTRATE SIZE:

Transect 1: bimodally represented between 31-64 mm (very coarse pebble) and 1024 mm (large boulder/bedrock)
Transect 2: 1024+ mm with 64-128 mm (small cobble) also represented
Transect 3: 64-128 mm (small cobble)

There were no salmonids observed within this reach. Other fish species were present including smallmouth bass, *Micropterus dolomieui*. The fish present were concentrated within stagnant pools. These pool areas were generally of low quality.

Site 2

This reach was located immediately downstream of the Mill Street bridge in Kendrick, Idaho. The riparian zone is 10-12 meters wide on the right bank; vegetation includes locust trees, cottonwoods, willows, alders, grasses, and forbs. The factors affecting this reach were multiple urban influences, grazing, forestry, and roads.

REACH LENGTH: 282 m
SINUOSITY: low to moderate
GRADIENT: 1.4%
ROSGEN CHANNEL TYPE: C3
WETTED WIDTH: >3 m
OF LOD: 0
FLOW: 1.84 cfs
HABITAT SCORE: 89
DOMINATE SUBSTRATE SIZE:

Transect 1: 128-256 mm (large cobble), 31-64 mm (very coarse pebble), and 64-128 mm (small cobble)
Transect 2: 64-128 mm (small cobble)
Transect 3: 64-128 mm (small cobble)

There were young smallmouth bass observed within this reach but no salmonids. Electrofishing was not conducted due to low flow conditions.

Site 3

This reach was located approximately one mile upstream from Bovill, Idaho. It was in a pasture within a few hundred yards of a farm house. There were large quantities of garbage within this reach. This garbage included broken glass, cables, steel drums, tires, and other materials. Children were observed swimming in the river immediately upstream of the reach in a human constructed hole. The channel is deeply incised within this reach. The riparian zone is lacking trees and was comprised largely of grasses and forbs. The shrubs within this reach are heavily impacted. The factors affecting this reach were grazing, roads, and agriculture. Heavy livestock grazing occurs within the floodplain for several miles upstream and a horse was observed in the water.

REACH LENGTH: 100 m
SINUOSITY: moderate to high
GRADIENT: 1.5%
ROSGEN CHANNEL TYPE: F5
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: <3 m
OF LOD: 22
FLOW: 0.71 cfs
HABITAT SCORE: 82

Transect 1: 0-1 mm (silt/clay)
Transect 2: trimodal between 0-1 mm (silt/clay), 15-31 mm (coarse pebble), and 6-15 mm (pebble)
Transect 3: bimodal between 0-1 mm (silt/clay) and 31-64 mm (very coarse pebble)

There were no salmonids encountered within this reach. Numerous nongame fish species were encountered. Instream pool habitat was generally in poor condition.

Site 4

This reach was located approximately 0.25 miles upstream from Little Boulder campground. Riparian vegetation is dominated by alders, conifers, and grasses. The upper slopes of the valley are a dense coniferous forest. The factors affecting this reach were roads, forestry, recreation, and beaver activity.

REACH LENGTH: 366 m
SINUOSITY: low
GRADIENT: 0.75%
ROSGEN CHANNEL TYPE: NA
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: >3 m
OF LOD: 2
FLOW: 3.67 cfs
HABITAT SCORE: 96

Transect 1: 64-128 mm (small cobble)
Transect 2: 64-128 mm (small cobble)
Transect 3: 64-128 mm (small cobble)

There were only young-of-the-year rainbow trout, *Oncorhynchus mykiss*, encountered within this reach. Pool habitat within this reach was a limiting factor.

Site 5

This reach was located approximately 130 meters downstream from Cedar Creek along Cedar Ridge Road. Riparian vegetation is dominated by alders, shrubs, rosehips, wild plum trees, and grasses. Upper valley slopes have ponderosa pine, Douglass fir, and dry shrubby brush over loose rock and some exposed soil. Factors affecting this reach included road and road maintenance, recreation, and lack of riparian tree components. At the time of the survey, water conditions were very low flows confined to a small area of the channel with small pools and intergravel flows.

REACH LENGTH: 429 m
SINUOSITY: low
GRADIENT: 2.4%
ROSGEN CHANNEL TYPE: B3
WETTED WIDTH: >3 m
OF LOD: 0
FLOW: 2.61 cfs
HABITAT SCORE: 104
DOMINATE SUBSTRATE SIZE:

Transect 1: 64-128 mm (small cobble)
Transect 2: 64-128 mm (small cobble)
Transect 3: 64-128 mm (small cobble)

There were no salmonids sampled at this site. Numerous non-game fish and one smallmouth bass were encountered.

East Fork Potlatch River

Upper Site

The upper East Fork Potlatch River site is located 1.4 miles upstream from the Femerite Picnic Area. The riparian zone within this reach has been logged and is in poor condition. Future LOD recruitment will be nominal at best. Riparian vegetation is diverse and included young cedar, alders, thimbleberry, ferns, grasses, thistle, forbs, mosses, and lichens. Valley slopes are steep and dominated by spruce, cedar, and grand fir. Most coniferous tree species are either extremely young or snags. Braiding was present within this reach. This reach has numerous large debris jams which create a braided channel and influences the flow throughout the reach. Factors affecting this reach are forestry, grazing, roads, and beaver activity.

REACH LENGTH: 101 m
SINUOSITY: moderate
GRADIENT: 1.4%
ROSGEN CHANNEL TYPE: NA
WETTED WIDTH: >3 m
OF LOD: 70
FLOW: 2.33 cfs
HABITAT SCORE: 112
DOMINATE SUBSTRATE SIZE:

Transect 1: bimodal between 0-1 mm (silt/clay) and 31-64 mm (very coarse pebble)
Transect 2: 0-1 mm (silt/clay)
Transect 3: bimodal between 0-1 mm (silt/clay) and 6-15 mm (pebble)

There were high densities of salmonids present within this reach. Electrofishing was attempted but deemed ineffective due to the excellent cover provided by the debris jams. One Pacific Giant salamander, *Dicamptodon ensatus*, was captured during electrofishing operations and photographed before releasing.

Middle Site

This reach was immediately below Mallory Creek. Riparian vegetation is in good condition and dominated by grasses, shrubs, alders, and a few coniferous species. Future LOD recruitment will likely be provided by the right bank. Sedimentation is obvious and most of the cobbles are 50-85% embedded. Factors affecting this reach are forestry, grazing, and roads.

REACH LENGTH: 101 m
WETTED WIDTH: >3 m
SINUOSITY: moderate
OF LOD: 17
GRADIENT: 1.7%
FLOW:3.07 cfs
ROSGEN CHANNEL TYPE: C5
HABITAT SCORE: 99
DOMINATE SUBSTRATE SIZE:

Transect 1: 0-1 mm (silt/clay) and 31-64 mm (very coarse pebble)
Transect 2: 0-1 mm (silt/clay)
Transect 3: 0-1 mm (silt/clay)

High numbers of salmonids were encountered within this reach.

Lower Site

This site is located upstream of an old railroad bridge near the mouth. This lower reach appears to have been channelized in the past and railroad grades are located along both banks. Riparian vegetation is dominated by grasses and shrubs with sparsely stocked conifers. The tree component of the riparian zone appears to be restocking. The factors affecting this reach are cattle grazing, timber harvest, roads, recreation, and channelization.

REACH LENGTH: 236 m
WETTED WIDTH: >3 m
SINUOSITY: low
OF LOD: 4
GRADIENT: 1.3%
FLOW: 5.53 cfs
ROSGEN CHANNEL TYPE: C5
HABITAT SCORE: 93
DOMINATE SUBSTRATE SIZE:

Transect 1: 15-31 mm (coarse pebble)
Transect 2: bimodal between 15-31 mm (coarse pebble) and 0-1 mm (silt/clay)
Transect 3: 64-128 mm (small cobble)

Five salmonids were counted within this reach during electrofishing operations.

West Fork Potlatch River

Upper Site

This site was located approximately 0.2 miles upstream from the US Forest Service Road 377 crossing. This reach appears fairly stable with a well developed grass and forb riparian community. There is a sparse stocking of conifers within this reach indicating low potential for LOD recruitment. Pool habitat is diverse with undercut banks, LOD cover, depth, and overhead cover all adequately represented. There are numerous small organic debris forming debris jams. The main factor affecting this reach is grazing.

REACH LENGTH: 129 m
SINUOSITY: moderate
GRADIENT: 1.75%
ROSGEN CHANNEL TYPE: G6
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: <3 m
OF LOD: 54
FLOW: 0.01 cfs
HABITAT SCORE: 93

Transect 1: 0-1 mm (silt/clay)
Transect 2: bimodal between 0-1 mm (silt/clay) and 1-2.5 mm (sand)
Transect 3: 0-1 mm (silt/clay)

Several salmonids were encountered within this reach, most were Eastern brook trout, *Salvelinus fontinalis*. There appeared to be a lack of adequate spawning gravel within this reach.

Lower Site

The data for this site was collected at a preestablished US Forest Service stream inventory reach representative of the lower WF Potlatch river. This reach was part of a rehabilitation area and was fenced to keep cattle away from the river and to reestablish the riparian zone. There is considerable beaver activity within this reach. The riparian vegetation is dominated by grasses, forbs, willows and alders. There are very few coniferous trees near the water that are available for shade, bank stability, or future LOD recruitment. However, the upper slopes of the valley have ponderosa pine, lodgepole pine, grand fir, and Douglass fir. An old road crosses the river within this reach and gravel has been placed in this area. Other factors affecting the reach include forestry and grazing. This area of the river is characterized by low gradient and deep water.

REACH LENGTH: 360 m
SINUOSITY: high
GRADIENT: 1.1%
ROSGEN CHANNEL TYPE: F6
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: >3 m
OF LOD: 91
FLOW:0.139 cfs
HABITAT SCORE: 95

Transect 2: bimodal between 0-1 mm (silt/clay) and 2.5-6 mm (very fine pebble)
Transect 3: 0-1 mm (silt/clay)

Electrofishing operations were inefficient due to depth and vegetative cover. Salmonids were not encountered within this reach but their presence should not be excluded. The pools within this reach are very numerous and deep, providing excellent cover for fish.

Big Bear Creek

Upper Site

The upper site was located approximately one-quarter mile downstream from the Idaho Highway 8 crossing. This site is characterized by a meadow environment with shrubs and grasses dominating the riparian zone. There is no grazing within the reach area, however grazing occurs immediately upstream of the area. Other factors affecting the general area include forestry, roads, agriculture, and urban influences. Several homes and farms were present along the upper reaches of Big Bear Creek. Flow measurements were not taken.

REACH LENGTH: 104 m
SINUOSITY: low to straight
GRADIENT: 0.6%
ROSGEN CHANNEL TYPE: G3c
WETTED WIDTH: >3 m
OF LOD: 0
FLOW: NA
HABITAT SCORE: 112
DOMINATE SUBSTRATE SIZE:

Transect 1: bimodal between 0-1 mm (silt/clay) and 128-256 mm (large cobble)
Transect 2:bimodal between 0-1 mm (silt/clay) and 128-256 mm (large cobble)
Transect 3: bimodal between 0-1 mm (silt/clay) and 128-256 mm (large cobble)

Lower Site

The lower site was established upstream from the bridge on Little Bear Ridge Road. This site is representative of the lower canyon reaches. The channel is downcutting in some areas and migrating in others. There is evidence of old channels on the present floodplain. Riparian vegetation is sparse with trees and shrubs poorly represented. This area was grazed in the recent past. Beaver activity also affects this reach. The absence of large organic debris within the channel contributes to the lack of channel stability.

REACH LENGTH:193 m
SINUOSITY: low to moderate
GRADIENT:3.3%
ROSGEN CHANNEL TYPE:C3
WETTED WIDTH: >3 m
OF LOD: 0
FLOW: 1.33 cfs
HABITAT SCORE: 84
DOMINATE SUBSTRATE SIZE:

Transect 1: 64-128 mm class (small cobble)
Transect 2: 64-128 mm class (small cobble)
Transect 3: 64-128 mm class (small cobble)

Boulder Creek

Upper Site

The upper site is located near a gravel pit downstream of the Three Bear Road (off USFS Road 1963) crossing. The area is forested with cedar, larch, ponderosa pine, Douglass fir, and grand fir along the slopes and riparian area. The streambank is densely shaded with alder. The reach has been impacted by grazing, there are many areas where the bank has sloughed or soil has been exposed due to cattle crossings. Timber harvest, high road densities, agriculture and beaver activity affect this reach.

REACH LENGTH: 108 m
SINUOSITY: moderate
GRADIENT: 1.9%
ROSGEN CHANNEL TYPE: B5
DOMINATE SUBSTRATE SIZE:
Transect 1: 0-1 mm (silt/clay)
Transect 2: 1-2.5 mm (sand)
Transect 3: 0-1 mm (silt/clay)

WETTED WIDTH: <3 m
OF LOD: 53
FLOW:0.01 cfs
HABITAT SCORE: 77

There were fish, possibly salmonids, present in stagnant pools above the designated reach. This reach was not electrofished due to low flow conditions and the concentration of fish in the pools.

Lower Site

This reach is located approximately 200 meters upstream from the Linden Road crossing. This reach has a very well developed riparian zone with shrubs and conifers represented. Large organic debris is present and a debris jam has formed in midreach, altering the stream channel. There is good potential for future LOD recruitment. Land use activities include timber harvest, road systems, and active suction-dredge mining.

REACH LENGTH: 115 m
SINUOSITY: moderate
GRADIENT: 2.4%
ROSGEN CHANNEL TYPE: B3
DOMINATE SUBSTRATE SIZE:
Transect 1: 64-128 mm (small cobble)
Transect 2: 128-256 mm (large cobble)
Transect 3: bimodal between 0-1 mm (silt/clay) and 64-128 mm (small cobble)

WETTED WIDTH: <3 m
OF LOD: 20
FLOW:0.05 cfs
HABITAT SCORE: 120

Salmonids were well represented within this reach.

Cedar Creek

Upper Site

This reach is located one-eighth mile downstream of the first Mason Butte Road crossing in the upper part of Cedar Creek. The reach has been logged twice, most recently in the last year or two. Despite timber harvest, the canopy and riparian zone are still in good condition. There is good potential for LOD recruitment. The creek shows strong evidence of embeddedness and siltation, there are also debris jams and sand bars. This site is also affected by grazing and beaver in the recent past.

REACH LENGTH: 101 m
SINUOSITY: high
GRADIENT: 1.75%
ROSGEN CHANNEL TYPE: B5
WETTED WIDTH: <3 m
OF LOD: 27
FLOW: 0.01 cfs
HABITAT SCORE: 90
DOMINATE SUBSTRATE SIZE:

Transect 1: 0-1 mm (silt/clay) through 6-15 mm (pebble) classes
Transect 2: 0-1 mm (silt/clay) through 6-15 mm (pebble) classes
Transect 3: 0-1 mm (silt/clay) through 6-15 mm (pebble) classes

Moderately high numbers of salmonids were encountered within this reach during electrofishing operations; non-salmonid species were not observed. Pool habitat was generally poor.

Lower Site

This reach was located approximately 0.5 miles upstream of the confluence with the Potlatch River. The lower portion of this creek is characterized by large substrate, mostly large boulders and bedrock formations. There was an old road template along the right bank which had sloughed in small areas and contributed sediment to the channel. This road was mostly revegetated and currently has little impact to the stream. Timber had been harvested from the upper slopes, but there is good potential for LOD recruitment. Timber harvest, grazing, cropland, road systems, small communities, and scattered farm sites comprise the land use activities within this watershed.

REACH LENGTH: 181 m
SINUOSITY: low to moderate
GRADIENT: 2.6%
ROSGEN CHANNEL TYPE: B3c
WETTED WIDTH: >3 m
OF LOD: 5
FLOW: 0.33 cfs
HABITAT SCORE: 86
DOMINATE SUBSTRATE SIZE:

Transect 1: 256-512 mm (small boulder)
Transect 2: 64-128 mm (small cobble)
Transect 3: bimodal with 0-1 mm (silt/clay) and 64-128 mm (small cobble)

We encountered numerous non-game fish species and low densities of young-of-the-year (YOY) salmonids. There were no 1+ salmonids collected from this reach.

Little Bear Creek

Upper Site

This reach is located one-quarter mile from the ford crossing of Camp Canyon Road. A small meadow parallels the creek on the left side, then merges into timber. Alders are present along the streambank. The reach is affected by forestry and agriculture.

REACH LENGTH: 101 m
SINUOSITY: low
GRADIENT: 2.6%
ROSGEN CHANNEL TYPE: B3
DOMINATE SUBSTRATE SIZE:
Transect 1: 0-1 mm silt/clays
Transect 2: 256-512 mm (small boulder)
Transect 3: 64-128 mm (small cobbles)

WETTED WIDTH: <3 m
OF LOD: 4
FLOW: 1.33 cfs
HABITAT SCORE: 102

Lower Site

The lower site was established approximately one-third mile upstream from the confluence with Big Bear Creek. There is an old railroad grade along the left bank and pasture along the right bank. Grazing is the only activity affecting this reach and there appears to be minimal impact to the riparian zone from grazing activities.

REACH LENGTH: 100 m
SINUOSITY: low
GRADIENT: 4.0%
ROSGEN CHANNEL TYPE: B3a
DOMINATE SUBSTRATE SIZE:
Transect 1: bimodal 64-128 mm (small cobble) and 128-256 mm (large cobble)
Transect 2: bimodal 64-128 mm (small cobble) and 128-256 mm (large cobble)
Transect 3: bimodal 64-128 mm (small cobble) and 128-256 mm (large cobble)

WETTED WIDTH: <3 m
OF LOD: 2
FLOW: 0.33 cfs
HABITAT SCORE: 110

The BURP electrofishing site was established near Moeller and Latham's IDHW-DEQ 1985 electrofishing site. The 1994 electrofishing operation found multiple year class salmonids presumably steelhead trout, *O. mykiss*, well represented. These results may indicate spawning and rearing are occurring in the lower reaches of Little Bear Creek.

Little Potlatch Creek

Upper Site

The upper site is located near the bridge below Baumgertner Road. It is in a timbered reach within the transition zone from Palouse prairie to timbered canyon. The area is inundated with reed canarygrass, *Phalaris arundinacea L.* This site is relatively stable and has large amounts of fine sediments. Activities within this reach include grazing, timber harvest within the riparian zone, road building along one side of the upper reach. Motor oil was observed along the bank at the top of the reach.

REACH LENGTH: 218 m
SINUOSITY: low
GRADIENT: 1.4%
ROSGEN CHANNEL TYPE: B3
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: <3 m
OF LOD: 3
FLOW: 0.17
HABITAT SCORE: 78

Transect 1: between 31-64 mm (very coarse pebble) and 64-128 mm (sm. cobble)
Transect 2: bimodal with 0-1 mm (silt/clay) and 64-128 mm (small cobble)
Transect 3: bimodal with 0-1 mm (silt/clay) and 31-64 mm (very coarse pebble)

Speckled Dace, *Rhinichthys osculus*, was the only fish species found.

Lower Site

The lower site is located upstream of the State Route 3 bridge crossing, below the canyonland on the Potlatch River valley floor. The lower reaches of Little Potlatch Creek are destabilized due to riparian vegetation removal and channelization. Young cottonwood trees and grasses are found along the banks. There is active farming, grazing, home/farm site development, timber harvest, and road building/maintenance occurring within this watershed. This stream became ephemeral in the lower reaches and intermittent in the upper reaches during the summer of 1994. Limited data was collected at this site due to the channel being dry.

REACH LENGTH: 100 m
SINUOSITY: low to moderate
GRADIENT: 1.0%
ROSGEN CHANNEL TYPE: C3
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: dry
OF LOD: 0
FLOW: dry
HABITAT SCORE: NA

Transect 1: 31-64 mm (very coarse pebble)
Transect 2: 64-128 mm (small cobble)
Transect 3: 64-128 mm (small cobble)

Middle Potlatch Creek

Upper Site

This reach is located downstream of the Canyon Road crossing. It was established at the point of transition from the upper prairie dominated watershed to canyonland. This site appeared stable due to the presence of small to large boulders, although there is a road which headcuts and contributes sediment to the stream. The reach was short of the minimum due to a change in the Rosgen channel type. This reach was essentially dry except for some residual pool areas. The habitat assessment was given a score of with an estimate given for pool/riffle/run ratio. Current land use activities include road systems, timber harvest, and crop farming on the upper slopes.

REACH LENGTH: 62
SINUOSITY: low to moderate
GRADIENT: 3.5%
ROSGEN CHANNEL TYPE: B2
WETTED WIDTH: <3 m
OF LOD: 0
FLOW: dry
HABITAT SCORE: 94
DOMINATE SUBSTRATE SIZE:

Transect 1: 256 mm - 512 mm (small boulder)
Transect 2: 256 mm - 512 mm (small boulder)
Transect 3: Bimodal 0-1 mm (silt/clay) and 256-1024 mm (small/large boulder)

The residual pool areas were holding large concentrations of non-game fish, salmonids were not observed.

Lower Site

The lower site was established approximately 1.6 miles upstream from the Potlatch River. Local residents indicated this area was used as a dump in the past. Some human manufactured debris was observed, but very little on the surface to suggest this area was a dump site. The tree component of the riparian zone was extremely sparse due to recent logging activity. There were grasses and few shrubs present. This reach is unstable and exhibits recent lateral movement. Sections of this reach are degrading while others are aggrading. The factors affecting this reach are timber harvest, roads, grazing, and agriculture.

REACH LENGTH: 252 m
SINUOSITY: low to moderate
GRADIENT: 3.1%
ROSGEN CHANNEL TYPE: C3
WETTED WIDTH: <3 m
OF LOD: 0
FLOW: 0.05 cfs
HABITAT SCORE: 51
DOMINATE SUBSTRATE SIZE:

Transect 1: bimodal between 0-1mm (silt/clay) and 64-128 mm (small cobble)
Transect 2: bimodal between 0-1mm (silt/clay) and 64-128 mm (small cobble)
Transect 3:bimodal between 64-128 mm (small cobble) and 128-256 mm (large cobble)

Two dace were collected during electrofishing operations.

Pine Creek

Upper Site

This reach is located approximately 1 mile downstream of Highway 3. This site has a well developed coniferous and deciduous tree canopy and riparian zone. Factors affecting this reach are roads, agriculture, timber harvest, and grazing. This channel was dry at time of sampling.

REACH LENGTH: 100 m
SINUOSITY: low to moderate
GRADIENT: 2.5%
ROSGEN CHANNEL TYPE: B3
WETTED WIDTH: dry
OF LOD: 39
FLOW: dry
HABITAT SCORE: 94
DOMINATE SUBSTRATE SIZE:

Transect 1: between 0-1 mm (silt/clay) and 31-64 mm (coarse pebble)
Transect 2: normally distributed
Transect 3: bimodal between 0-1 mm (silt/clay) and 31-64 mm (coarse pebble)

Lower Site

The lower site is upstream from the road crossing and above the wet stream crossing within the lowest private land holding. The riparian zone is comprised of coniferous and deciduous trees, shrubs, and grasses. There was a farm road in close proximity to the stream along the right bank (looking upstream). Land use activities include road systems, grazing, cropland, timber harvest, and home/farm sites.

REACH LENGTH: 141 m
SINUOSITY: low
GRADIENT: 2.3%
ROSGEN CHANNEL TYPE:E3b
WETTED WIDTH: >3 m
OF LOD: 0
FLOW:0.045 cfs
HABITAT SCORE: 102
DOMINATE SUBSTRATE SIZE:

Transect 1: bimodal between 0-1 mm (silt/clay) and 64-128 mm (small cobble)
Transect 2: bimodal between 64-128 mm (small cobble) and 128-256 mm (large cobble)
Transect 3: bimodal between 31-64 mm (very coarse pebble) and 64-128 mm (sm. cobble)

This stream was intermittent in the lower reach and dry in the upper reach during the 1994 field season.

Ruby Creek

Upper Site

This reach begins at the Latah and Clearwater County line, south of Bovill. The reach is characterized by glide/pool prevalence with very short riffle habitats. Beaver activity is substantial within this reach. Riparian vegetation is well established and comprised of coniferous trees and shrubs along the right bank. The left bank has shrub species with sparsely established conifers. Large organic debris recruitment was limited to the right bank. Roads and forestry are the factors affecting this reach.

REACH LENGTH: 104 m
SINUOSITY: low
GRADIENT: 1.5%
ROSGEN CHANNEL TYPE: G5
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: <3 m
OF LOD: 42
FLOW:0.19 cfs
HABITAT SCORE: 94

Transect 1: 0-6 mm (silt to very fine pebble)
Transect 2: bimodal between 0-1 mm (silt/clay) and 2.5-6 mm (very fine pebble)
Transect 3: 0-1 mm (silt/clay)

Lower Site

This reach begins approximately 200 meters upstream from the East Fork Potlatch River. There are old railroad grades along both banks. The rail system had been removed and a seasonal limited use road still exists along the lower reaches of the left bank. Riparian vegetation is dominated by shrubs with conifer species recolonizing. There is a riparian restoration project along the lower reaches of Ruby Creek. This channel was channelized in the past but appears to be reaching dynamic equilibrium. Factors affecting this reach include forestry, grazing, and roads.

REACH LENGTH: 105 m
SINUOSITY: moderate
GRADIENT: 1.8%
ROSGEN CHANNEL TYPE: F5
DOMINATE SUBSTRATE SIZE:

WETTED WIDTH: >3 m
OF LOD: 18
FLOW:0.438 cfs
HABITAT SCORE: 104

Transect 1: 15-31 mm (coarse pebble)
Transect 2: 0-1 mm (silt/clay)
Transect 3: 0-1 mm (silt/clay)

Salmonids were present within both reaches.

CONCLUSION

Beneficial Uses

Only two water bodies within the Potlatch River watershed have designated beneficial uses listed in the Idaho Water Quality Standards and Wastewater Treatment Requirements (IDHW Rules IDAPA 16.01.02) (Table 9). Table 9 also lists existing beneficial uses as documented by BURP monitoring or personal communications with aquatic resource professionals. Attainable uses were determined using the DEQ Water Quality Monitoring Protocol, Report 7 (Maret, T.R. 1991), personal communications, and historical data.

Industrial water supply, primary contact recreation, wildlife habitat, and aesthetics are automatically designated as beneficial uses for all water bodies in the state. However, if the physical characteristics of the water body prevent primary contact recreation then it is designated as secondary contact recreation. In the Draft Water Body Assessment Guidance (Idaho DEQ 1995b), it is proposed that streams having flow of one cubic feet per second (cfs) or more be automatically designated for domestic and agricultural water supply beneficial uses. However, the methodology in this document has not yet been approved and for the purpose of this study, existing criteria will be used. Listed below are the additional beneficial uses for water bodies in the Potlatch River watershed.

Table 9. Beneficial uses for the Potlatch River and tributaries.

Water Body	Domestic Water Supply	Agricultural Water Supply	Cold Water Biota	Warm Water Biota	Salmonid Spawning	Primary Contact Rec	Secondary Contact Rec
Potlatch River	D	D, E	D, E	D, E	D, E	D, E	D
EF Potlatch River		E	E		E		D
WF Potlatch River		E	E		E		D
Big Bear Cr		E	E		E		D
Boulder Cr		E	E		E		D, E
Cedar Cr		E	E		E		D
Little Bear Cr		D, E	E		E		D
Little Potlatch Cr		E	E		A*		D, E
Middle Potlatch Cr		E	E		A*		D
Pine Cr		E	E		E		D
Ruby Cr		E	E		E		D

D = Designated Use E = Existing Use A = Attainable Use

Little Potlatch Creek and Middle Potlatch Creek were the only surveyed streams where salmonids were not found. DEQ consulted with Idaho Department of Fish and Game personnel concerning the attainability of the salmonid spawning beneficial use in the creeks. It was concluded that unless major land use changes are implemented, that Little Potlatch Creek would not annually support salmonid spawning and incubation. This is due to the frequent low flow conditions and high water temperatures in the creek. Fish and Game feels that there are other streams in the watershed that have a higher potential for fisheries enhancement. Middle Potlatch Creek has a similar situation, although 1994 data show that water was present in the lower portion of the creek and that the water temperature was in the accepted range for cold water biota.

The second goal of this project is to determine the status of the identified beneficial uses. At this time, DEQ is unable to determine the status of the beneficial uses in the Potlatch River watershed. A Waterbody Assessment Guidance has been developed and DEQ is seeking review and approval for this process. Once this process is approved, support status determinations will be made.

All sites surveyed within the study area are displaying various levels of degradation as a result of human land management activities. The most common consequences of changing watershed management activities were increased sediment loading, low flow conditions, excessive water temperatures, lack of large organic debris, and channel instability.

Most water temperature data collected, during the 1994 summer season, indicated water temperatures commonly exceed the maximum level for salmonids and cold water biota. High water temperatures appear to be a limiting factor for these uses. Efforts should be made to increase streamside canopy cover in the Potlatch River watershed.

The BURP data collected during the 1994 field season may not reflect normal stream conditions. The field season was characterized by a very low water year and hot ambient air temperatures. These two environmental conditions cumulatively affected water temperature and water quantity. This may affect beneficial use designations.

There are four additional creeks in the Potlatch River watershed that are on the 303(d) Water Quality Limited Segment list. Corral Creek, Feather Creek, Moose Creek, and Porcupine Creek will be surveyed using the BURP process in the summer of 1996. Reference streams will also be determined.

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Appendix A

Summary data for Potlatch River watershed BURP results for all survey sites.

APPENDIX A: Summary BURP results for surveyed streams

Waterbodies	CHANNEL TYPE	SLOPE (%)	AVG WETTED WIDTH	WIDTH DEPTH RATIO	REACH LENGTH (m)	FLOW (CFS)	POOL HABITAT (%)	RIFFLE HABITAT (%)	HABITAT ASSESS.	MAX. H_2O TEMP °C	CANOPY CLOSURE
Potlatch River											
Site 001	C3	1.25	5.47	22.9	246	0.12	23	38	73		17
Site 002	C3	1.4	15.47	42.3	282	1.85	26	74	89		12.5
Site 003	F5	1.5	2.67	7.78	100	0.709	66	19	82	27.2	27.5
Site 004	B3c	0.75	11.77	35.35	366	3.67	40	23	96	29.6	11.5
Site 005	B3	2.4	14.43	38.2	429	2.61	22	77			9
EF Potlatch River										29	
Upper site	B3	1.4	3.8	9.4	101	2.332	46	54	112		7
Middle site	C5	1.7	5	15.62	101	3.072	35	51	99		26.5
Lower site	C4	1.3	7.9	25.2	236	5.526	20	17	93		23.5
WF Potlatch River										23.6	
Upper site	G6	1.75	0.933	4.3	129	0.009	47	21	93		12.5
Lower site	F6	1.1	2.125	12.01	360	0.139	83	0	95		32.25
Big Bear Creek											
Upper Site	G3c	0.6	2.1	10.52	104	*	54	35	112	36	56
Lower Site	C3	3.3	5.47	30	193	1.33	39	61	84	32	0.00
Boulder Creek										23	
Upper site	B5	1.9	1.35	6.96	108	0.005	48	52	77		84
Lower site	B3	2.4	2.72	17	115	0.049	40	60	120		53.5

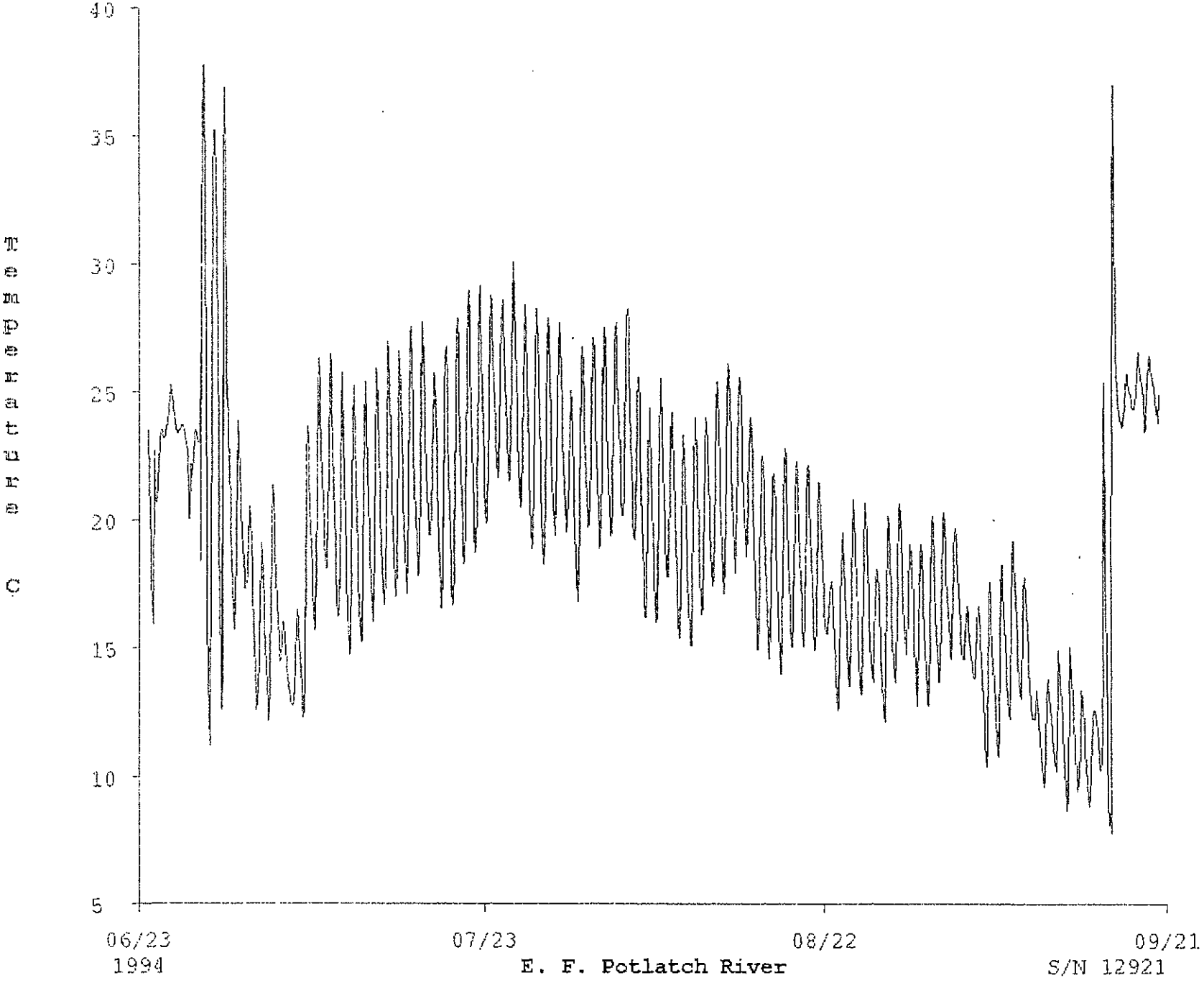
APPENDIX A: Cont.

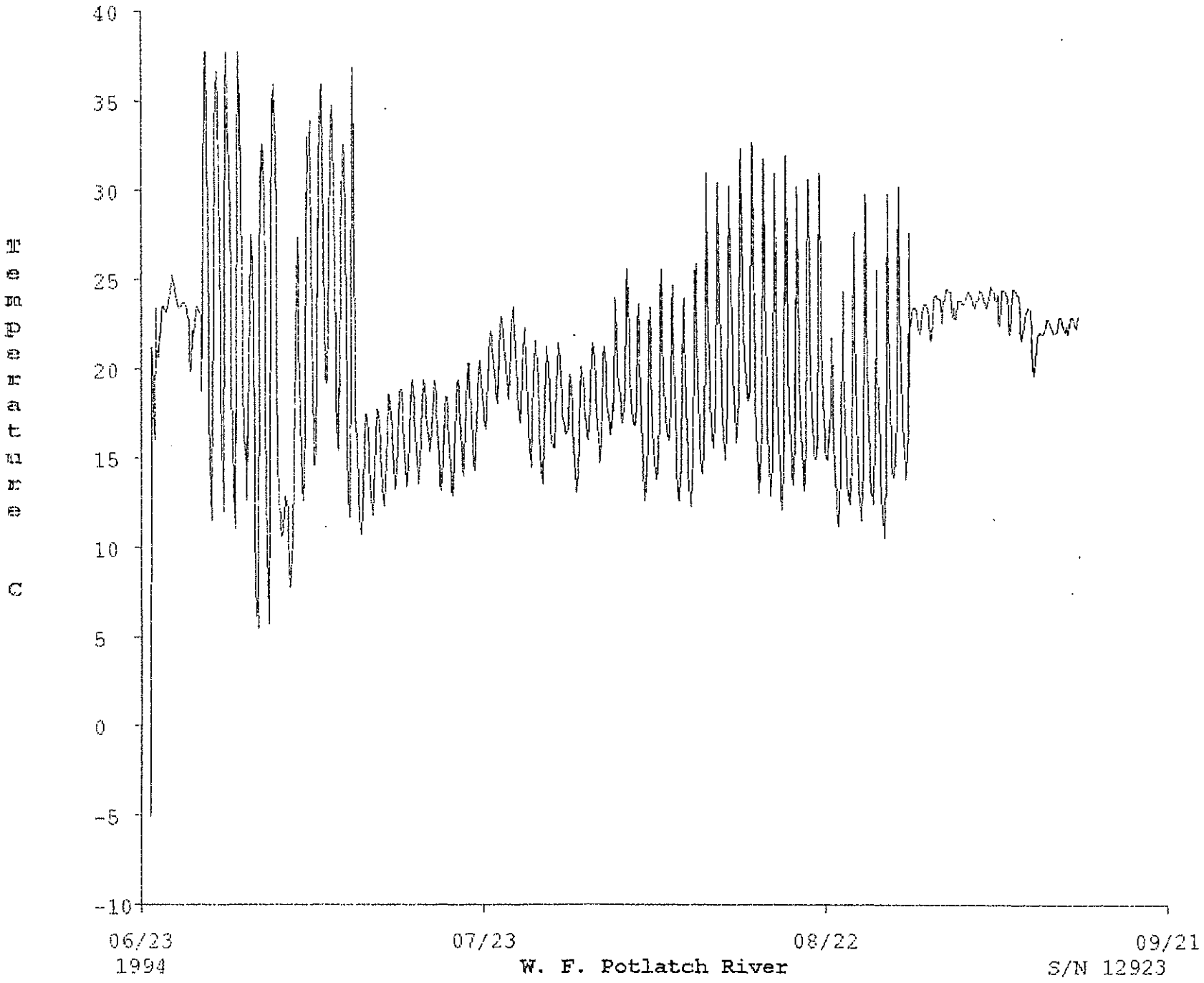
Waterbodies	CHANNEL TYPE	SLOPE (%)	AVG WETTED WIDTH	WIDTH DEPTH RATIO	REACH LENGTH	FLOW (CFS)	POOL HABITAT (%)	RIFFLE HABITAT (%)	HABITAT ASSESS.	MAX. H_2O TEMP °C	CANOPY CLOSURE
Cedar Creek											
Upper site	B5	1.75	0.70	13.5	101	0.012	46	54	90	28	78.5
Lower site	B3c	2.6	4.53	19.25	181	0.330	9	91	86		23
Little Bear Creek											
Upper site	B3	2.6	1.88	14.72	101	**	10	90	102	36	70.5
Lower site	B3a	4.0	3.5	20.0	86.3	0.332	20	80	110		30.5
Little Potlatch Cr											
Upper site	B3c	1.4	3.6	15.37	218	0.173	N/A	N/A	78		22
Lower site	C3	1.0	Dry	Dry	100	Dry	Dry	Dry	Dry		16.5
Middle Potlatch Cr											
Upper site	G2	3.5	Dry	10.1	62	Dry	Dry	Dry	94	24	9
Lower site	C3	3.1	2.92	11.7	252	0.048	N/A	92	51		0.00
Pine Creek											
Upper site	B3	2.5	Dry	11.4	100	Dry	Dry	Dry	94	27	57
Lower site	E3b	2.3	4.07	13.05	141	0.045	18	82	102		19.5
Ruby Creek											
Upper site	G5	1.5	1.2	6.5	104	0.185	44	42	94	21	57.5
Lower site	F5	1.8	2.3	10.6	105	0.438	74	21	104		38.5

* Flow meter inoperative ** Flow present, could not measure with meter.
? Measurements questionable due to flow conditions.

Appendix B

Figures of Potlatch River watershed stream temperature data collected by HOBO temperature recording devices during the 1994 BURP field season.


40
35
30
25
20
15
10
5
C
06/23
1994
07/23
08/22
09/21
E. F. Potlatch River
S/N 12921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35
30
25
20
15
10
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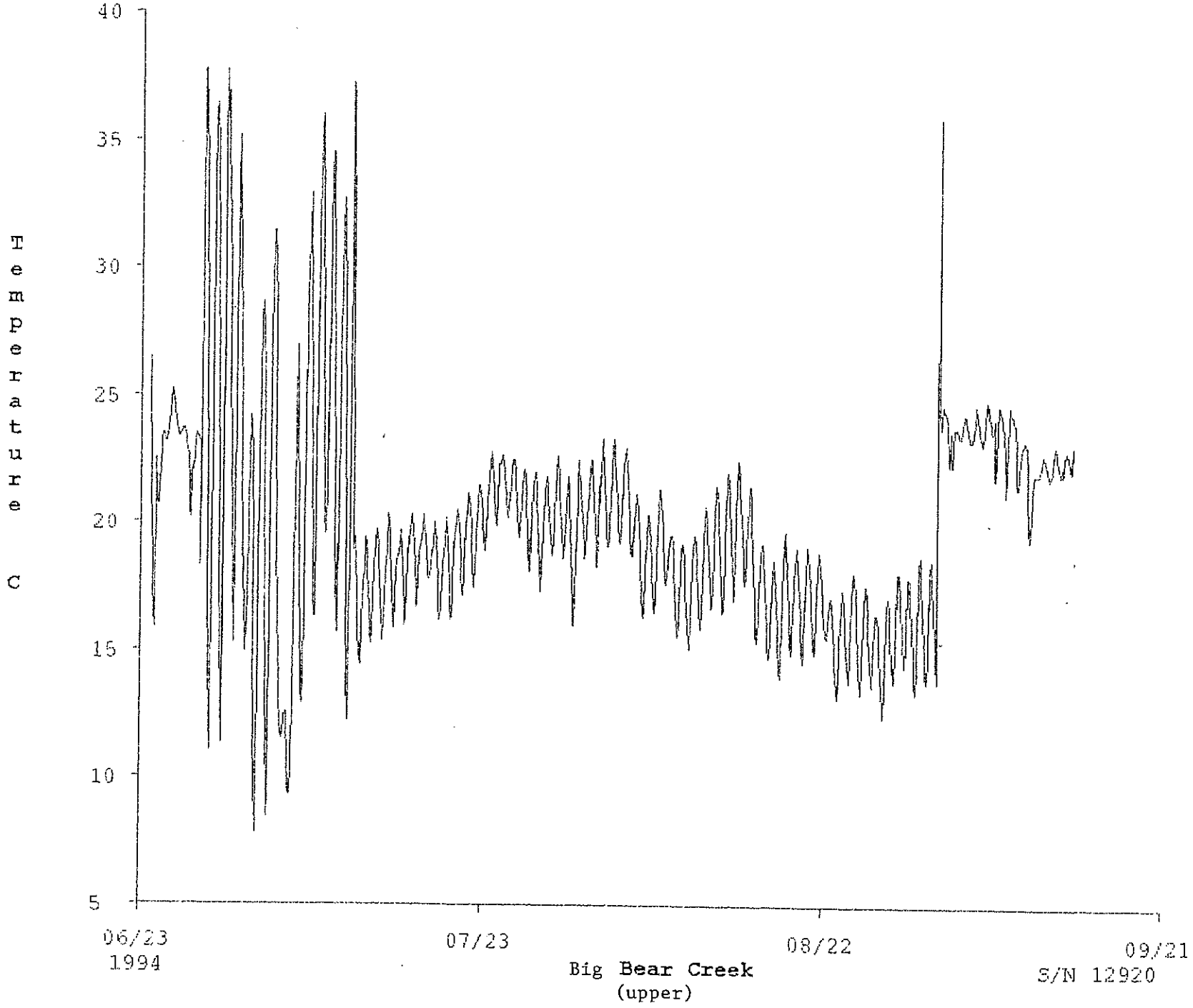
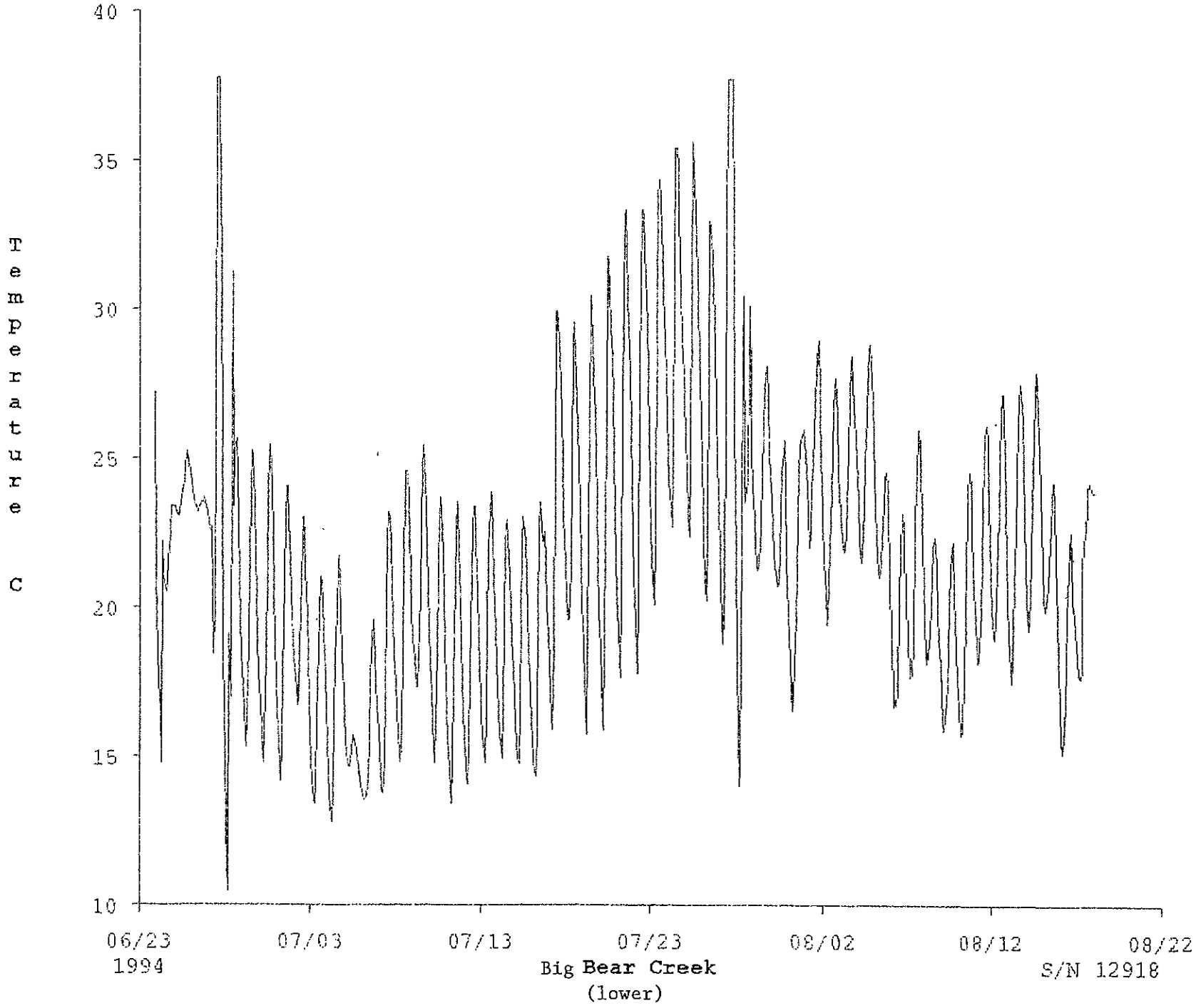
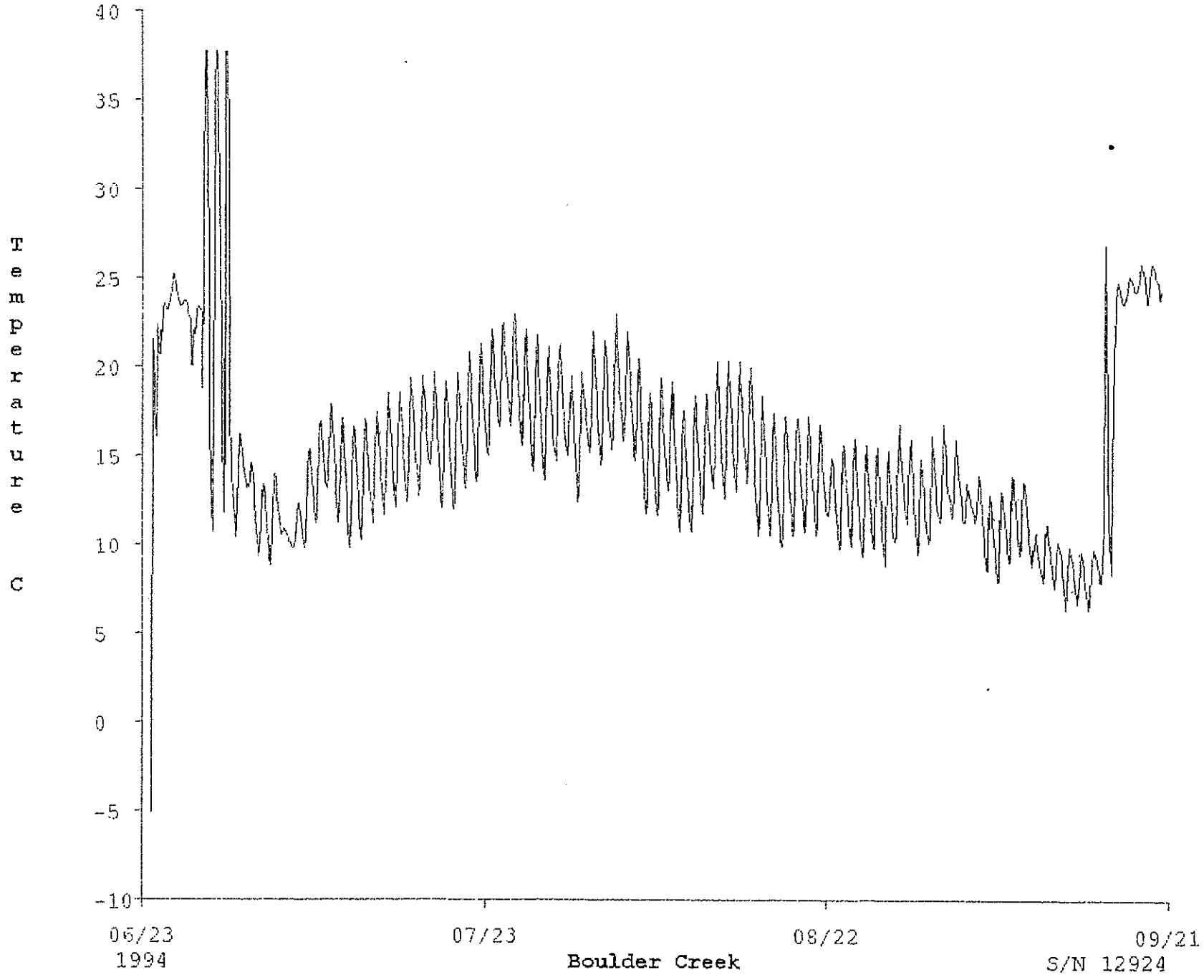
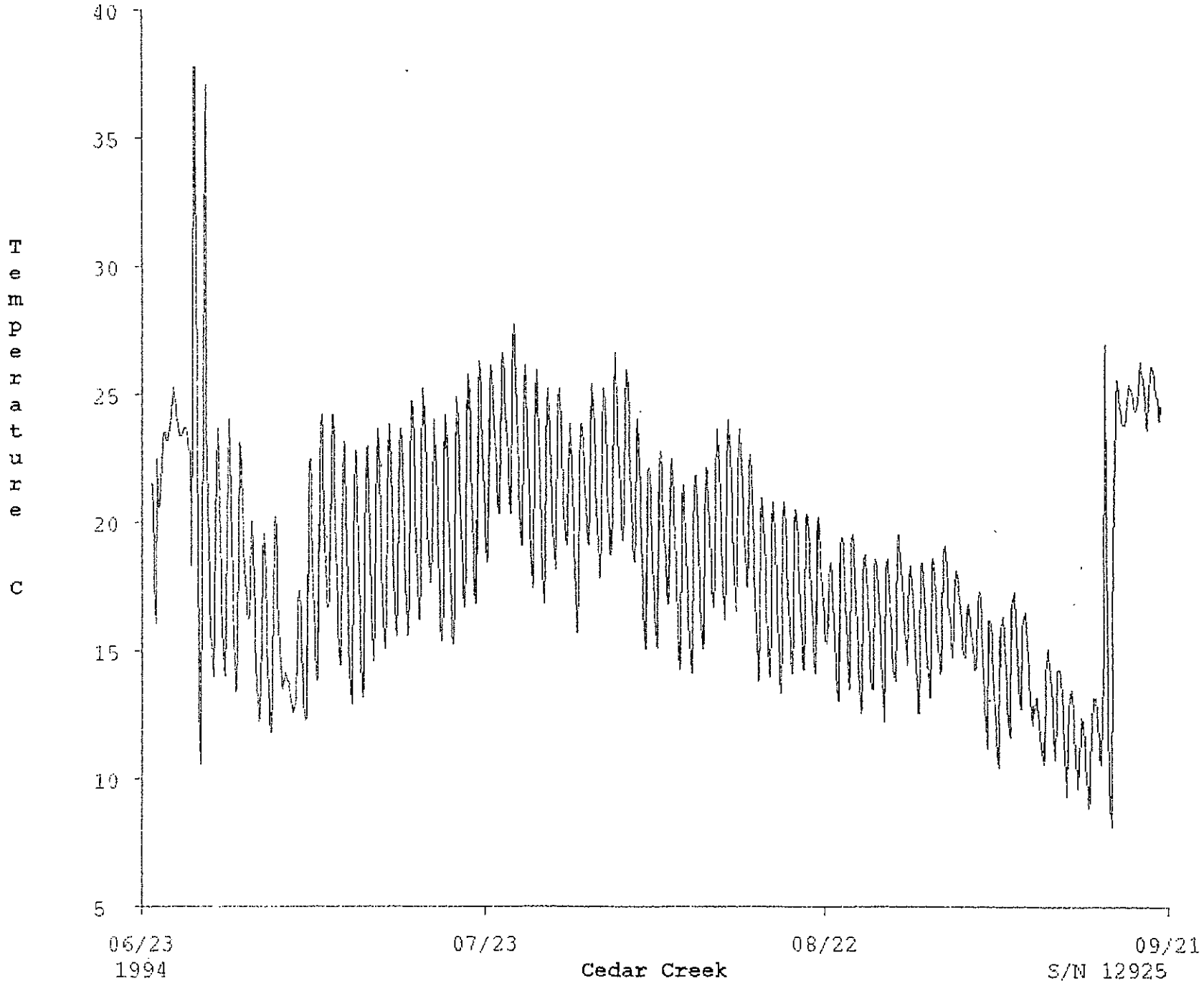
0
-5
-10
06/23
1994
07/23
08/22
09/21
W. F. Potlatch River
S/N 12923


Temperature C
40
35
30
25
20
15
10
5
06/23
1994
07/23
08/22
09/21
Big Bear Creek
(upper)
S/N 12920


Temperature C
40
35
30
25
20
15
10
06/23
1994
07/03
07/13
07/23
08/02
08/12
08/22
Big Bear Creek
(lower)
S/N 12918


Temperature C
40
35
30
25
20
15
10
5
0
-5
-10
06/23
1994
07/23
08/22
09/21
Boulder Creek
S/N 12924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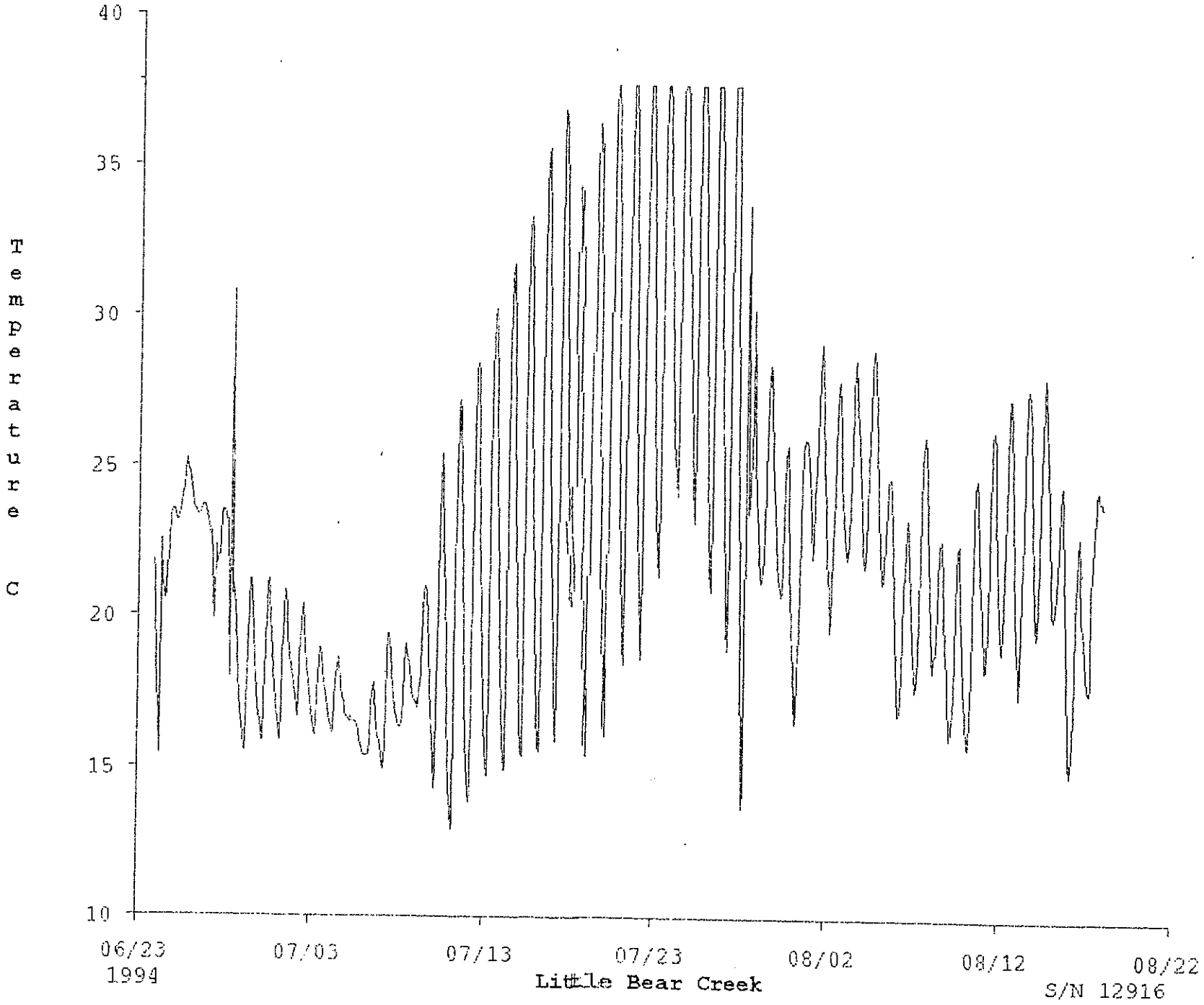
20
15
10
5
06/23
1994
07/23
08/22
09/21
Cedar Creek
S/N 12925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35
30
25
20
15
10
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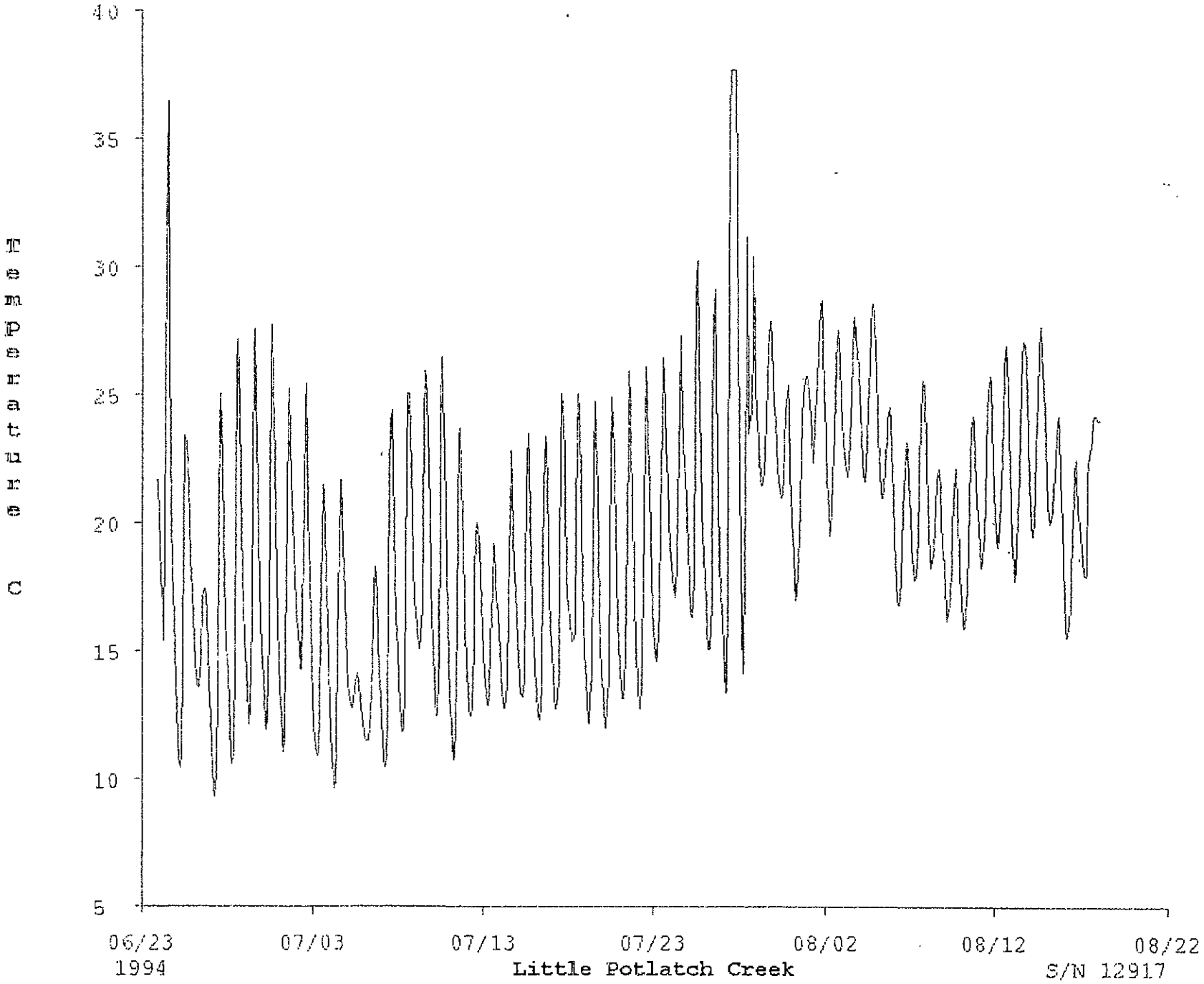
06/23
1994
07/03
07/13
07/23
08/02
08/12
08/22
Little Bear Creek
S/N 12916


40
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30
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15
10
5
C
06/23
1994
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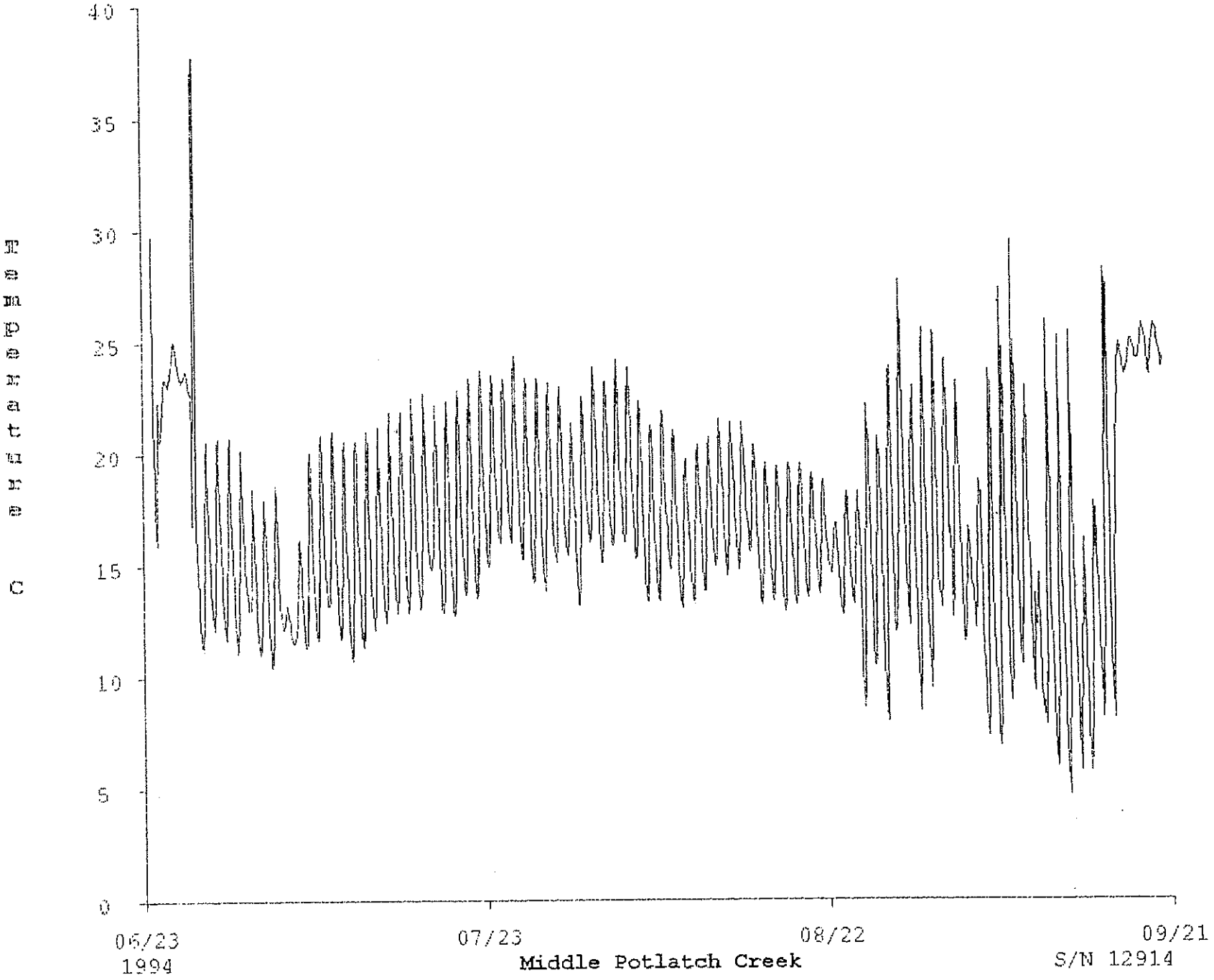
07/13
07/23
08/02
08/12
08/22
Little Potlatch Creek
S/N 12917


Celsius Temperature
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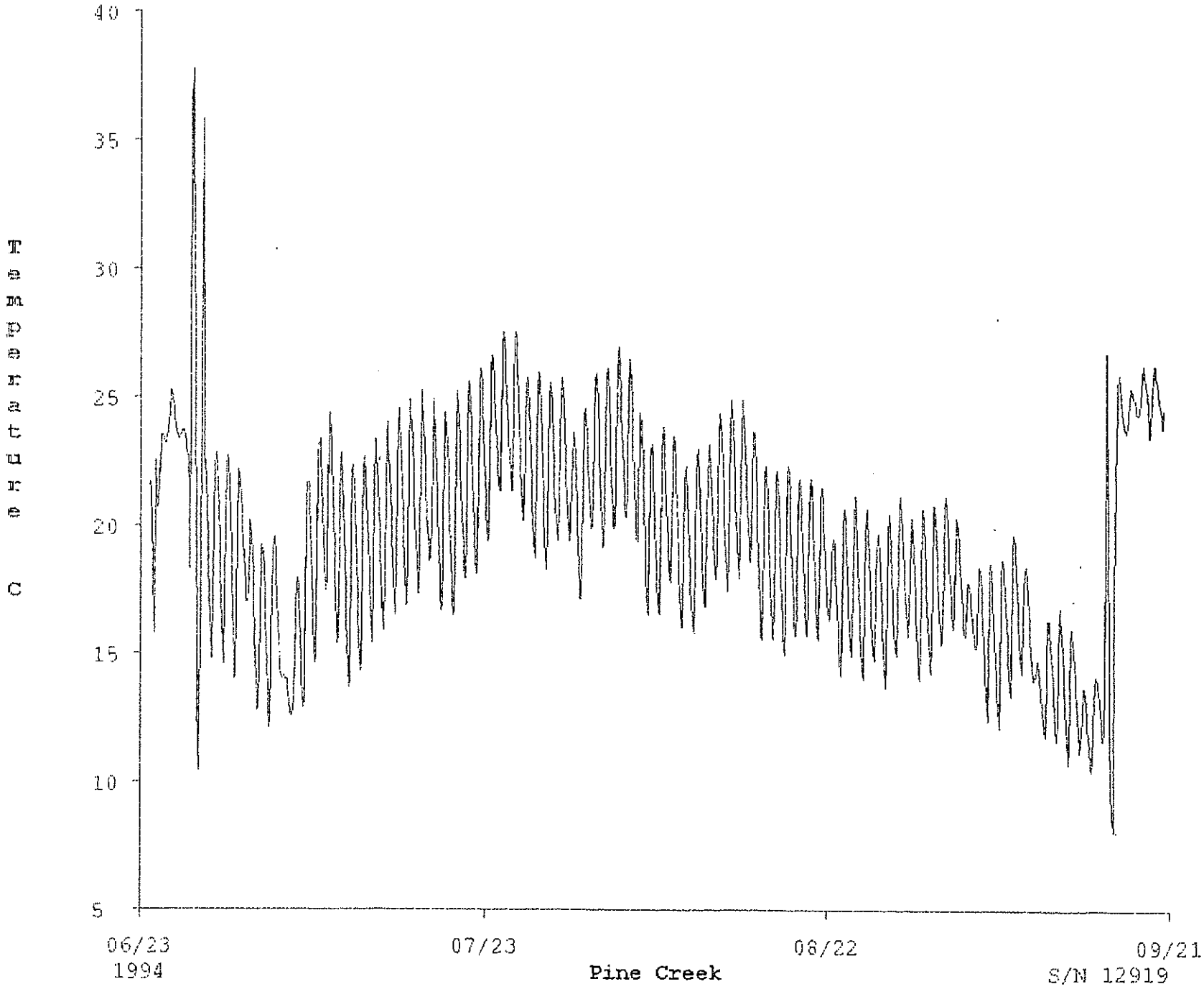
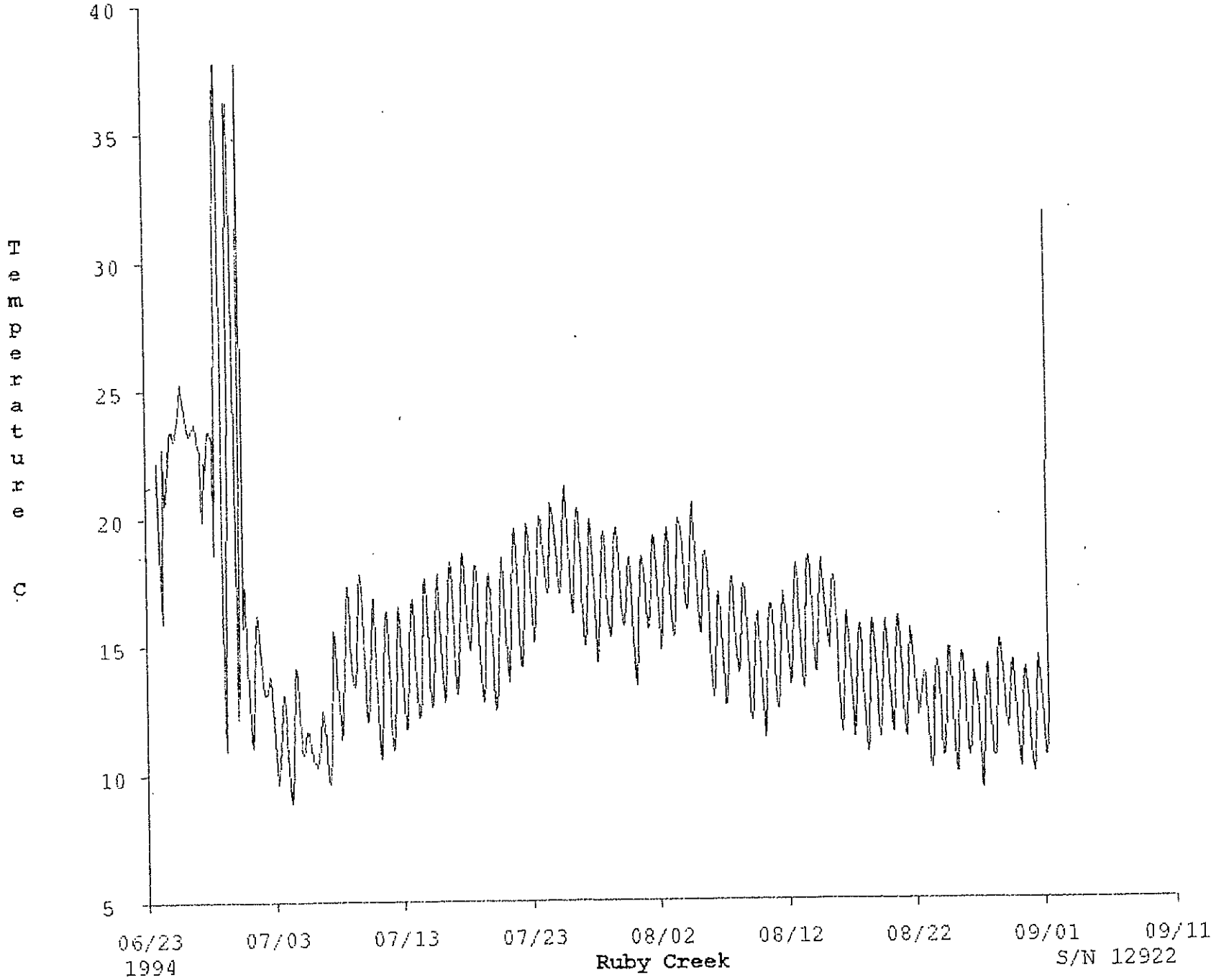
30
25
20
15
10
5
0
06/23
1994
07/23
08/22
09/21
Middle Potlatch Creek
S/N 12914


Temperature C
40
35
30
25
20
15
10
5
06/23
1994
07/23
08/22
09/21
Pine Creek
S/N 12919


Temperature C
40
35
30
25
20
15
10
5
06/23
1994
07/03
07/13
07/23
08/02
08/12
08/22
09/01
09/11
Ruby Creek
S/N 12922

Appendix C

Macroinvertebrate data listed by site location, sample date, time, scientific name, count, order, family, and sensitivity.

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0001 BIG BEAR CREEK

Sample Date: 94/06/29 Sample Time: 12:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity
674	Psephenus	25	Coleoptera	Psephenidae	4 SC
262	Heterlimnius	5	Coleoptera	Elmidae	4 CG
267	Optioservus	5	Coleoptera	Elmidae	4 SC
271	Zaitzevia	8	Coleoptera	Elmidae	4 CG
628	Ordobrevia	2	Coleoptera	Elmidae	4 UN
483	Nixe criddlei	34	Ephemeroptera	Heptagenilidae	2 SH
63	Paraleptophlebia	8	Ephemeroptera	Leptophlebiidae	1 CG
17	Baetis	3	Ephemeroptera	Baetidae	5 CG
27	Epeorus	8	Ephemeroptera	Heptagenilidae	0 SC
455	Homoptera	1	Hemiptera		8 MH
149	Sialis	1	Megaloptera	Sialidae	4 PR
6	Coenagrionidae	1	Odonata	Coenagrionidae	9 PR
203	Dicosmoecus	11	Trichoptera	Limnephilidae	1 SH
198	Hydropsyche	6	Trichoptera	Hydropsychidae	4 CF
		Sum of Count: 116			

Sample Date: 94/06/29 Sample Time: 12:30 BIG BEAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
674	Psephenus	82	Coleoptera	Psephenidae	4 SC
267	Optioservus	3	Coleoptera	Elmidae	4 SC
318	Chironomidae	16	Diptera	Chironomidae	6 CG
63	Paraleptophlebia	64	Ephemeroptera	Leptophlebiidae	1 CG
24	Heptagenilidae	97	Ephemeroptera	Heptagenilidae	4 SC
61	Leptophlebiidae	6	Ephemeroptera	Leptophlebiidae	2 CG
455	Homoptera	1	Hemiptera		8 MH
149	Sialis	7	Megaloptera	Sialidae	4 PR
8	Argia	2	Odonata	Coenagrionidae	7 PR
104	Perlidae	1	Plecoptera	Perlidae	1 PR
203	Dicosmoecus	29	Trichoptera	Limnephilidae	1 SH
197	Cheumatopsyche	1	Trichoptera	Hydropsychidae	6 CF
196	Hydropsychidae	1	Trichoptera	Hydropsychidae	4 CF
		Sum of Count: 290			

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0002 BIG BEAR CREEK

Sample Date: 94/08/30 Sample Time: 09:30

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligocheeta	376			5	CG
446	Hyalella azteca	4	Amphipoda	Talitridae	8	CG
268	Optioservus quadrimaculatus	4	Coleoptera	Elmidae	4	SC
742	Ochthebius sculptus	4	Coleoptera	Hydraenidae	5	PR
319	Chironomidae	240	Diptera	Chironomidae	6	CG
542	Bezzia	4	Diptera	Ceratopogonidae	6	CG
60	Caenis	4	Ephemeroptera	Caenidae	7	CG
64	Paraleptophlebia bicornuta	44	Ephemeroptera	Leptophlebiidae	4	CG
63	Paraleptophlebia	168	Ephemeroptera	Leptophlebiidae	1	CG
486	Paraleptophlebia heteronea	80	Ephemeroptera	Leptophlebiidae	2	CG
34	Heptagenia	16	Ephemeroptera	Heptageniidae	4	SC
456	Hydracarina	20	Hydracarina		8	PR
149	Sialis	16	Megaloptera	Sialidae	4	PR
11	Calopteryx	4	Odonata	Calopterygidae	6	PR
7	Amphiagrion	4	Odonata	Protoneuridae	5	PR
567	Sphaeriidae	8	Pelecypodae	Sphaeriidae	8	CF
127	Isoperla	8	Plecoptera	Perlodidae	2	PR
606	Psychomyia	4	Trichoptera	Psychomyiidae	2	SC
	Sum of Count:	1,008				

Sample Date: 94/08/30 Sample Time: 10:15 BIG BEAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligocheeta	19			5	CG
268	Optioservus quadrimaculatus	13	Coleoptera	Elmidae	4	SC
273	Zaitzevia parvula	20	Coleoptera	Elmidae	4	CG
452	Pacifastacus leniusculus	1	Decapoda	Astacidae	6	SH
319	Chironomidae	25	Diptera	Chironomidae	6	CG
64	Paraleptophlebia bicornuta	2	Ephemeroptera	Leptophlebiidae	4	CG
63	Paraleptophlebia	16	Ephemeroptera	Leptophlebiidae	1	CG
486	Paraleptophlebia heteronea	101	Ephemeroptera	Leptophlebiidae	2	CG
483	Nixe criddlei	5	Ephemeroptera	Heptageniidae	2	SH
60	Caenis	6	Ephemeroptera	Caenidae	7	CG
34	Heptagenia	2	Ephemeroptera	Heptageniidae	4	SC
149	Sialis	1	Megaloptera	Sialidae	4	PR
6	Coenagrionidae	1	Odonata	Coenagrionidae	9	PR
567	Sphaeriidae	8	Pelecypodae	Sphaeriidae	8	CF
195	Polycentropus	1	Trichoptera	Polycentropodidae	6	PR
197	Cheumatopsyche	7	Trichoptera	Hydropsychidae	5	CF
198	Hydropsyche	1	Trichoptera	Hydropsychidae	4	CF
	Sum of Count:	229				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0003 BOULDER CREEK

Sample Date: 94/07/29 Sample Time: 12:30

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
		16			5	CG	
418	Oligocheeta	13	Coleoptera	Elmidae	4	SC	
288	Optioservus quadrimaculatus	7	Coleoptera	Elmidae	4	CG	
260	Cleptelmis ornata	1	Coleoptera	Elmidae	4	CG	
266	Narpus concolor	7	Collembola	Entomobryidae	11	CG	
687	Entomobryidae	1	Decapoda	Astacidae	6	SH	
452	Pacifastacus leniusculus	1	Diptera	Sciaridae	11		
782	Sciaridae	1	Diptera	Dolochopodidae	4	PR	
698	Dolochopodidae	1	Diptera	Ceratopogonidae	6	CG	
542	Bezzia	1	Diptera	Empididae	6	PR	
305	Empididae	2	Diptera	Psychodidae	4	CG	
289	Pericoma	1	Diptera	Tipulidae	3	PR	
285	Dicranota	1	Diptera	Ephydridae	6	CG	
314	Ephydridae	1	Diptera	Dixidae	1	CG	
295	Dixidae	11	Diptera	Chironomidae	6	CG	
319	Chironomidae	1	Diptera	Chironomidae	6	CG	
319	Chironomidae	2	Ephemeroptera	Baetidae	5	CG	
679	Diphetor hageni	5	Ephemeroptera	Baetidae	5	CG	
20	Baetis tricaudatus Dodds	12	Ephemeroptera	Leptophlebiidae	2	CG	
486	Paraleptophlebia heteronea	5	Ephemeroptera	Ephemerellidae	0	PR	Cold
48	Drunella spinifera Needham	7	Ephemeroptera	Heptageniidae	2	SH	
483	Nixe criddlei	7	Ephemeroptera	Heptageniidae	4	SC	
26	Cinygmula	1	Ephemeroptera	Heptageniidae	0	CG	
625	Rhithrogena robusta Dodds	13	Ephemeroptera	Heptageniidae	0	SC	
28	Epeorus albertae	1	Ephemeroptera	Siphlonuridae	0	CG	
13	Ameletus	1	Ephemeroptera	Ephemerellidae	1	CG	
49	Ephemerella	1	Hydracarina		8	PR	
456	Hydracarina	9	Plecoptera	Perlidae	1	PR	
108	Calineuria californica	8	Plecoptera	Perlodidae	2	PR	
126	Skwala	1	Plecoptera	Chloroperlidae	1	PR	
134	Sweltsa	1	Plecoptera	Chloroperlidae	1	PR	
133	Paraperla	2	Plectoptera	Nemouridae	2	SH	
89	Zapada cinctipes	13	Trichoptera	Rhyacophilidae	0	PR	
166	Rhyacophila narvae Navas	4	Trichoptera	Rhyacophilidae	0	PR	
613	Rhyacophila vaccua Milne	1	Trichoptera	Rhyacophilidae	0	PR	
153	Rhyacophila	16	Trichoptera	Glossosomatidae	0	SC	
173	Glossosoma						
	Sum of Count:	176					

Sample Date: 94/07/29 Sample Time: 13:00 BOULDER CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
		1			5	CG	
418	Oligocheeta	71	Coleoptera	Elmidae	4	CG	
260	Cleptelmis ornata	1	Coleoptera	Hydraenidae	5	PR	
723	Hydraenidae	1	Coleoptera	Elmidae	4	CG	
266	Narpus concolor	3	Diptera	Tipulidae	3	PR	
285	Dicranota	2	Diptera	Empididae	6	PR	
308	Hemerodromia	5	Diptera	Psychodidae	4	CG	
289	Pericoma	43	Diptera	Chironomidae	6	CG	
319	Chironomidae	1	Diptera	Dixidae	1	CG	
295	Dixidae	2	Ephemeroptera	Heptageniidae	0	SC	
28	Epeorus albertae	1	Ephemeroptera	Heptageniidae	2	SH	
483	Nixe criddlei	3	Ephemeroptera	Heptageniidae	0	CG	
625	Rhithrogena robusta Dodds	2	Ephemeroptera	Heptageniidae	4	SC	
26	Cinygmula	11	Ephemeroptera	Heptageniidae	1	CG	
63	Paraleptophlebia	5	Ephemeroptera	Leptophlebiidae	11	CG	
645	Serratella teresa Traver	5	Ephemeroptera	Ephemerellidae	5	CG	
679	Diphetor hageni	2	Ephemeroptera	Baetidae	2	CG	Cold
18	Baetis bicaudatus Dodds	1	Plecoptera	Baetidae	1	PR	
133	Paraperla	35	Plecoptera	Chloroperlidae	2	PR	
127	Isoperla	7	Plecoptera	Perlodidae	0	SH	
70	Pteronarcys californica	3	Plecoptera	Pteronarcydae	0	SH	
67	Pteronarcella badia	2	Plecoptera	Pteronarcydae	2	PR	
126	Skwala	2	Plecoptera	Perlodidae	1	PR	
109	Calineuria californica	9	Plecoptera	Perlidae	2	SH	
92	Amphinemura	52	Plectoptera	Nemouridae	2	SH	
89	Zapada cinctipes	1	Trichoptera	Nemouridae	1	SH	
237	Lepidostoma	1	Trichoptera	Lepidostomatidae	0	PR	
613	Rhyacophila vaccua Milne	21	Trichoptera	Rhyacophilidae	0	SC	
173	Glossosoma	5	Trichoptera	Glossosomatidae	4	CF	
198	Hydropsyche	2	Trichoptera	Hydropsychidae	1	PR	
154	Rhyacophila acropedes Banks			Rhyacophilidae			
	Sum of Count:	300					

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0004 BOULDER CREEK

Sample Date: 94/08/01 Sample Time: 11:30

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligochaeta	2			5	CG	
319	Chironomidae	5	Diptera	Chironomidae	6	CG	
651	Ptychoptera	1	Diptera	Ptychopteridae	7	CG	
633	Paraleptophlebia debilis (Walker)	6	Ephemeroptera	Leptophlebia	11	CG	
486	Paraleptophlebia heteronea	30	Ephemeroptera	Leptophlebiidae	2	CG	
26	Cinygmula	15	Ephemeroptera	Heptageniidae	4	SC	
483	Nixe criddlei	1	Ephemeroptera	Heptageniidae	2	SH	
127	Isoperla	2	Plecoptera	Perlodidae	2	PR	
	Sum of Count:	62					

Sample Date: 94/08/01 Sample Time: 11:45 BOULDER CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligochaeta	6			5	CG	
259	Cleptelmis	2	Coleoptera	Elmidae	4	CG	
319	Chironomidae	38	Diptera	Chironomidae	6	CG	
776	Palpomyia	1	Diptera	Ceratopogonidae	6	PR	
651	Ptychoptera	1	Diptera	Ptychopteridae	7	CG	
52	Ephemerella inermis Eaton	3	Ephemeroptera	Ephemerellidae	1	SH	
633	Paraleptophlebia debilis (Walker)	4	Ephemeroptera	Leptophlebia	11	CG	
26	Cinygma	1	Ephemeroptera	Heptageniidae	4	SC	COLD
435	Pisidium	2	Pelecypoda	Sphaeriidae	8	CF	
	Sum of Count:	58					

Sample Data: 94/08/01 Sample Time: 12:00 BOULDER CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligochaeta	3			5	CG	
259	Cleptelmis	5	Coleoptera	Elmidae	4	CG	
319	Chironomidae	23	Diptera	Chironomidae	6	CG	
651	Ptychoptera	10	Diptera	Ptychopteridae	7	CG	
633	Paraleptophlebia debilis (Walker)	33	Ephemeroptera	Leptophlebia	11	CG	
52	Ephemerella inermis Eaton	1	Ephemeroptera	Ephemerellidae	1	SH	
26	Cinygma	13	Ephemeroptera	Heptageniidae	4	SC	COLD
483	Nixe criddlei	2	Ephemeroptera	Heptageniidae	2	SH	
149	Sialis	5	Megaloptera	Sialidae	4	PR	
127	Isoperla	1	Plecoptera	Perlodidae	2	PR	
	Sum of Count:	96					

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0005 POTLATCH RIVER (CEDAR CR. SITE)

Sample Date: 94/08/23 Sample Time: 12:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	1			11	UN
685	600 Porifera	9			11	UN
418	Oligochaeta	8			5	CG
641	Psephenus falli	10	Coleoptera	Psephenidae	4	SC
268	Optioservus quadrimaculatus	21	Coleoptera	Elmidae	4	SC
273	Zaitzevia parvula	7	Coleoptera	Elmidae	4	CG
452	Pacifastacus leniusculus	1	Decapoda	Astacidae	6	SH
286	Hexatoma	4	Diptera	Tipulidae	2	PR
283	Limnophila	1	Diptera	Tipulidae	4	PR
308	Hemerodromia	1	Diptera	Empididae	6	PR
319	Chironomidae	111	Diptera	Chironomidae	6	CG
64	Paraleptophlebia bicornuta	2	Ephemeroptera	Leptophlebiidae	4	CG
485	Rhithrogena hageni Eaton	5	Ephemeroptera	Heptageniidae	0	CG
483	Nixe criddlei	6	Ephemeroptera	Heptageniidae	2	SH
28	Epeorus albertae	8	Ephemeroptera	Heptageniidae	0	SC
58	Tricorythodes minutus	7	Ephemeroptera	Tricorythidae	4	CG
22	Centroptilum	2	Ephemeroptera	Baetidae	2	CG
456	Hydracarina	4	Hydracarina		8	PR
248	Petrophila	1	Lepidoptera	Pyralidae	5	SC
7	Amphicosmion	3	Odonata	Protoneuridae	5	PR
3	Ophiogomphus	2	Odonata	Gomphidae	1	PR
126	Skwala	3	Plecoptera	Perlodidae	2	PR
109	Calineuria californica	2	Plecoptera	Perlidae	1	PR
239	Helicopsyche borealis	6	Trichoptera	Helicopsychidae	3	SC
206	Dicosmoecus gilvipes	5	Trichoptera	Limnephilidae	2	SC
197	Cheumatopsyche	92	Trichoptera	Hydropsychidae	5	CF
	Sum of Count:	320				

Sample Date: 94/08/23 Sample Time: 12:40 CEDAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligochaeta	1			5	CG
674	Psephenus	3	Coleoptera	Psephenidae	4	SC
267	Optioservus	25	Coleoptera	Elmidae	4	SC
319	Chironomidae	10	Diptera	Chironomidae	6	CG
284	Antocha	4	Diptera	Tipulidae	3	CG
311	Atherix	1	Diptera	Athericidae	2	PR
483	Nixe criddlei	27	Ephemeroptera	Heptageniidae	2	SH
27	Epeorus	1	Ephemeroptera	Heptageniidae	0	SC
63	Paraleptophlebia	6	Ephemeroptera	Leptophlebiidae	1	CG
106	Calineuria	2	Plecoptera	Perlidae	3	PR
673	Perlinodes	8	Plecoptera	Perlodidae	11	PR
197	Cheumatopsyche	3	Trichoptera	Hydropsychidae	5	CF
196	Hydropsychidae	1	Trichoptera	Hydropsychidae	4	CF
203	Dicosmoecus	10	Trichoptera	Limnephilidae	1	SH
225	Neophylax	35	Trichoptera	Limnephilidae	3	SC
173	Glossosoma	5	Trichoptera	Glossosomatidae	0	SC
	Sum of Count:	142				

Sample Date: 94/07/14 Sample Time: 13:05 CEDAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
685	600 Porifera	1			11	UN	
674	Psephenus	3	Coleoptera	Psephenidae	4	SC	
628	Ordobrevia	9	Coleoptera	Elmidae	4	UN	
262	Heterlimnius	6	Coleoptera	Elmidae	4	CG	
267	Optioservus	19	Coleoptera	Elmidae	4	SC	
284	Antocha	4	Diptera	Tipulidae	3	CG	
319	Chironomidae	7	Diptera	Chironomidae	6	CG	
283	Limnophila	11	Diptera	Tipulidae	4	PR	
27	Epeorus	1	Ephemeroptera	Heptageniidae	0	SC	
63	Paraleptophlebia	2	Ephemeroptera	Leptophlebiidae	1	CG	
64	Paraleptophlebia bicornuta	1	Ephemeroptera	Leptophlebiidae	4	CG	
673	Perlinodes	24	Plecoptera	Perlodidae	11	PR	
97	Paraleuctra	1	Plecoptera	Leuctridae	0	SH	Cold
198	Hydropsyche	1	Trichoptera	Hydropsychidae	4	CF	
197	Cheumatopsyche	1	Trichoptera	Hydropsychidae	5	CF	
613	Rhyacophila vaccua Milne	1	Trichoptera	Rhyacophilidae	0	PR	
225	Neophylax	27	Trichoptera	Limnephilidae	3	SC	
203	Dicosmoecus	12	Trichoptera	Limnephilidae	1	SH	
	Sum of Count:	131					

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0006 CEDAR CREEK

Sample Date: 94/08/08 Sample Time: 09:38

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
442	Ostracoda	29			8	CG	
266	Narpus concolor	41	Coleoptera	Elmidae	4	CG	
273	Zaitzevia parvula	88	Coleoptera	Elmidae	4	CG	
268	Optioservus quadrimaculatus	23	Coleoptera	Elmidae	4	SC	
723	Hydraenidae	23	Coleoptera	Hydraenidae	6	PR	
251	Dytiscidae	6	Coleoptera	Dytiscidae	5	PR	
252	Oreodytes	18	Coleoptera	Dytiscidae	5	PR	
319	Chironomidae	176	Diptera	Chironomidae	6	CG	
295	Dicranota	8	Diptera	Tipulidae	3	PR	
483	Nixe criddlei	41	Ephemeroptera	Heptageniidae	2	SH	
679	Diphetor hageni	68	Ephemeroptera	Baetidae	5	CG	
486	Paraleptophlebia heteronea	793	Ephemeroptera	Leptophlebiidae	2	CG	
456	Hydracarina	18	Hydracarina		8	PR	
97	Paraleuctra	6	Plecoptera	Leuctridae	0	SH	Cold
126	Skwala	12	Plecoptera	Perlodidae	2	PR	
127	Isoperla	111	Plecoptera	Perlodidae	2	PR	
82	Amphinemura	187	Plecoptera	Nemouridae	2	SH	
89	Zapada cinctipes	53	Plectoptera	Nemouridae	2	SH	
194	Parapsyche almota	6	Trichoptera	Hydropsychidae	3	PR	
237	Lepidostoma	6	Trichoptera	Lepidostomatidae	1	SH	
173	Glossosoma	123	Trichoptera	Glossosomatidae	0	SC	
166	Rhyacophila narvae Navas	6	Trichoptera	Rhyacophilidae	0	PR	
197	Cheumatopsyche	36	Trichoptera	Hydropsychidae	5	CF	
	Sum of Count:	1,864					

Sample Date: 94/08/08 Sample Time: 10:55 CEDAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligocheeta	2			5	CG	
273	Zaitzevia parvula	17	Coleoptera	Elmidae	4	CG	
268	Optioservus quadrimaculatus	1	Coleoptera	Elmidae	4	SC	
266	Narpus concolor	2	Coleoptera	Elmidae	4	CG	
295	Dicranota	3	Diptera	Tipulidae	3	PR	
319	Chironomidae	16	Diptera	Chironomidae	6	CG	
291	Ceratopogonidae	1	Diptera	Ceratopogonidae	8	PR	
300	Ptychopteridae	1	Diptera	Ptychopterydae	7	CG	
25	Cinygma	3	Ephemeroptera	Heptageniidae	4	SC	COLO
679	Diphetor hageni	1	Ephemeroptera	Baetidae	5	CG	
486	Paraleptophlebia heteronea	15	Ephemeroptera	Leptophlebiidae	2	CG	
148	Gerris remigis	1	Hemiptera	Gerridae	5	PR	
127	Isoperla	7	Plecoptera	Perlodidae	2	PR	
82	Amphinemura	6	Plecoptera	Nemouridae	2	SH	
126	Skwala	1	Plecoptera	Perlodidae	2	PR	
194	Parapsyche almota	4	Trichoptera	Hydropsychidae	3	PR	
197	Cheumatopsyche	1	Trichoptera	Hydropsychidae	5	CF	
166	Rhyacophila narvae Navas	7	Trichoptera	Rhyacophilidae	0	PR	
154	Rhyacophila acropedes Banks	1	Trichoptera	Rhyacophilidae	1	PR	
153	Rhyacophila	1	Trichoptera	Rhyacophilidae	0	PR	
173	Glossosoma	12	Trichoptera	Glossosomatidae	0	SC	
189	Wormaldia	1	Trichoptera	Philopotamidae	3	CF	
198	Hydropsyche	1	Trichoptera	Hydropsychidae	4	CF	
	Sum of Count:	105					

Sample Date: 94/08/08 Sample Time: 11:50 CEDAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligocheeta	23			5	CG	
417	Nematoda	4			5	PA	
266	Narpus concolor	16	Coleoptera	Elmidae	4	CG	
273	Zaitzevia parvula	31	Coleoptera	Elmidae	4	CG	
268	Optioservus quadrimaculatus	1	Coleoptera	Elmidae	4	SC	
276	Hydrophilidae	1	Coleoptera	Hydrophilidae	5	PR	
260	Cleptelmis ornata	1	Coleoptera	Elmidae	4	CG	
452	Pacifastacus leniusculus	1	Decapoda	Astacidae	6	SH	
319	Chironomidae	24	Diptera	Chironomidae	6	CG	
295	Dicranota	7	Diptera	Tipulidae	3	PR	
290	Tipula	3	Diptera	Tipulidae	4	SH	
306	Chelifera	1	Diptera	Empididae	6	CG	
283	Limnophila	2	Diptera	Tipulidae	4	PR	
486	Paraleptophlebia heteronea	46	Ephemeroptera	Leptophlebiidae	2	CG	
679	Diphetor hageni	3	Ephemeroptera	Baetidae	5	CG	
18	Baetis bicaudatus Dodds	1	Ephemeroptera	Baetidae	2	CG	Cold
483	Nixe criddlei	1	Ephemeroptera	Heptageniidae	2	SH	
25	Cinygma	19	Ephemeroptera	Heptageniidae	4	SC	COLD
82	Amphinemura	18	Plecoptera	Nemouridae	2	SH	
127	Isoperla	42	Plecoptera	Perlodidae	2	PR	
87	Pteronarcella badia	1	Plecoptera	Pteronarcydae	0	SH	
89	Zapada cinctipes	15	Plectoptera	Nemouridae	2	SH	
189	Wormaldia	1	Trichoptera	Philopotamidae	3	CF	
154	Rhyacophila acropedes Banks	1	Trichoptera	Rhyacophilidae	1	PR	
173	Glossosoma	14	Trichoptera	Glossosomatidae	0	SC	
237	Lepidostoma	6	Trichoptera	Lepidostomatidae	1	SH	

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0006 CEDAR CREEK

220	Psychoglypha		1	Trichoptera	Limnephilidae	1	CG	Cold

Sum of Count: 284

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO007 E.F. POTLATCH CREEK

Sample Date: 94/07/12 Sample Time: 10:50

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligochaeta	1			6	CG
267	Optioservus	39	Coleoptera	Elmidae	4	SC
561	Pacifastacus	3	Decapoda	Cambaridae	6	OM
319	Chironomidae	7	Diptera	Chironomidae	6	CG
286	Hexatoma	7	Diptera	Tipulidae	2	PR
284	Antocha	9	Diptera	Tipulidae	3	CG
316	Glutops	1	Diptera	Pelecorhynchidae	3	PR
17	Baetis	36	Ephemeroptera	Baetidae	5	CG
36	Ephemerellidae	4	Ephemeroptera	Ephemerellidae	1	CG
27	Epeorus	14	Ephemeroptera	Heptageniidae	0	SC
24	Heptageniidae	16	Ephemeroptera	Heptageniidae	4	SC
455	Homoptera	1	Hemiptera		8	MH
3	Ophiogomphus	4	Odonata	Gomphidae	1	PR
69	Pteronarcys	1	Plecoptera	Pteronarcydae	0	SH
106	Calineuria	4	Plecoptera	Perlidae	3	PR
673	Perlinodes	4	Plecoptera	Perlodidae	11	PR
130	Chloroperlidae	10	Plecoptera	Chloroperlidae	1	PR
104	Perlidae	4	Plecoptera	Perlidae	1	PR
114	Perlodidae	26	Plecoptera	Perlodidae	2	PR
492	Plecoptera	13	Plecoptera		11	PR
191	Arctopsyche	1	Trichoptera	Hydropsychidae	1	CF
197	Cheumatopsyche	10	Trichoptera	Hydropsychidae	5	CF
173	Glossosoma	1	Trichoptera	Glossosomatidae	0	SC
179	Protoptila	4	Trichoptera	Glossosomatidae	1	SC
744	Trichoptera	5	Trichoptera			
426	Margaritifera	1	Unionida	Unionidae	4	CF
	Sum of Count:	226				

Sample Date: 94/07/12 Sample Time: 13:00 E.F. POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
267	Optioservus	15	Coleoptera	Elmidae	4	SC
319	Chironomidae	15	Diptera	Chironomidae	6	CG
286	Hexatoma	17	Diptera	Tipulidae	2	PR
284	Antocha	10	Diptera	Tipulidae	3	CG
36	Ephemerellidae	1	Ephemeroptera	Ephemerellidae	1	CG
17	Baetis	12	Ephemeroptera	Baetidae	5	CG
27	Epeorus	4	Ephemeroptera	Heptageniidae	0	SC
24	Heptageniidae	8	Ephemeroptera	Heptageniidae	4	SC
455	Homoptera	1	Hemiptera		8	MH
673	Perlinodes	28	Plecoptera	Perlodidae	11	PR
114	Perlodidae	34	Plecoptera	Perlodidae	2	PR
106	Calineuria	1	Plecoptera	Perlidae	3	PR
492	Plecoptera	20	Plecoptera		11	PR
130	Chloroperlidae	10	Plecoptera	Chloroperlidae	1	PR
179	Protoptila	2	Trichoptera	Glossosomatidae	1	SC
197	Cheumatopsyche	32	Trichoptera	Hydropsychidae	5	CF
	Sum of Count:	210				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0008 E.F.POTLATCH CREEK

Sample Date: 94/07/19 Sample Time: 20:30

Taxon	Scientific Name	Count	Order	Family	Sensitivity
685	600 Porifera	44			11 UN
453	Acari	1	Acari		11 PR
267	Optioservus	15	Coleoptera	Elmidae	4 SC
286	Hexatoma	11	Diptera	Tipulidae	2 PR
284	Antocha	4	Diptera	Tipulidae	3 CG
319	Chironomidae	14	Diptera	Chironomidae	6 CG
36	Ephemerellidae	2	Ephemeroptera	Ephemerellidae	1 CG
61	Leptophlebiidae	2	Ephemeroptera	Leptophlebiidae	2 CG
483	Nixe criddlei	12	Ephemeroptera	Heptageniidae	2 SH
35	Rhithrogena	1	Ephemeroptera	Heptageniidae	0 SC
754	Lanx	12	Gastropoda	Lymnaeidae	6 CG
567	Sphaeriidae	1	Pelecypoda	Sphaeriidae	8 CF
114	Perlodidae	81	Plecoptera	Perlodidae	2 PR
130	Chloroperlidae	21	Plecoptera	Chloroperlidae	1 PR
104	Perlidae	6	Plecoptera	Perlidae	1 PR
673	Perlinodes	40	Plecoptera	Perlodidae	11 PR
191	Arctopsyche	3	Trichoptera	Hydropsychidae	1 CF
196	Hydropsychidae	4	Trichoptera	Hydropsychidae	4 CF
426	Margaritifera	9	Unionida	Unionidae	4 CF
		Sum of Count: 283			

Sample Date: 94/07/19 Sample Time: 20:40 E.F. POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
685	600 Porifera	3			11 UN
561	Pacifastacus	2	Decapoda	Cambaridae	6 OM
286	Hexatoma	1	Diptera	Tipulidae	2 PR
284	Antocha	1	Diptera	Tipulidae	3 CG
319	Chironomidae	4	Diptera	Chironomidae	6 CG
27	Epeorus	1	Ephemeroptera	Heptageniidae	0 SC
57	Tricorythodes	1	Ephemeroptera	Tricorythidae	5 CG
36	Ephemerellidae	1	Ephemeroptera	Ephemerellidae	1 CG
114	Perlodidae	2	Plecoptera	Perlodidae	2 PR
426	Margaritifera	1	Unionida	Unionidae	4 CF
		Sum of Count: 17			

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0009 E.F. POTLATCH CREEK

Sample Date: 94/07/25 Sample Time: 09:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligochaeta	1			5	CG	
417	Nematoda	1			5	PA	
260	Cleptelmis ornata	2	Coleoptera	Elmidae	4	CG	
266	Narpus concolor	1	Coleoptera	Elmidae	4	CG	
263	Heterlimnius corpulentus	4	Coleoptera	Elmidae	4	CG	
303	Simulium	6	Diptera	Simuliidae	6	CF	
286	Hexatoma	1	Diptera	Tipulidae	2	PR	
319	Chironomidae	16	Diptera	Chironomidae	6	CG	
28	Cinygmula	1	Ephemeroptera	Heptageniidae	4	SC	
486	Paraleptophlebia heterosa	1	Ephemeroptera	Leptophlebiidae	2	CG	
54	Serratella tibialis McDunnough	8	Ephemeroptera	Ephemerellidae	2	CG	
25	Cinygma	9	Ephemeroptera	Heptageniidae	4	SC	COLD
625	Rhithrogena robusta Dodds	3	Ephemeroptera	Heptageniidae	0	CG	
20	Baetis tricaudatus Dodds	19	Ephemeroptera	Baetidae	5	CG	
87	Pteronarcella badia	1	Plecoptera	Pteronarcydae	0	SH	
119	Kogotus	2	Plecoptera	Perlodidae	2	PR	
127	Isoperla	1	Plecoptera	Perlodidae	2	PR	
578	Despaxia	1	Plecoptera	Leuctridae	0	SH	
126	Skwala	1	Plecoptera	Perlodidae	2	PR	
121	Megarcys	3	Plecoptera	Perlodidae	2	PR	Cold
134	Sweltsa	45	Plecoptera	Chloroperlidae	1	PR	
89	Zapada cinctipes	3	Plectoptera	Nemouridae	2	SH	
227	Neophylax rickeri	1	Trichoptera	Limnephilidae	3	SC	
194	Parapsyche almota	7	Trichoptera	Hydropsychidae	3	PR	
154	Rhyacophila acropedes Banks	2	Trichoptera	Rhyacophilidae	1	PR	
188	Dolophilodes	1	Trichoptera	Philopotamidae	1	CG	Cold
238	Micrasema	15	Trichoptera	Brachycentridae	1	MH	
744	Trichoptera	2	Trichoptera				
189	Wormaldia	9	Trichoptera	Philopotamidae	3	CF	
686	Eocosmoecus schmidi (Wiggins)	1	Trichoptera	Limnephilidae	11	SH	cold
	Sum of Count:	168					

Sample Date: 94/07/25 Sample Time: 12:00 E.F. POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligochaeta	33			5	CG	
536	Brychius	1	Coleoptera	Haliplidae	11	SC	
266	Narpus concolor	1	Coleoptera	Elmidae	4	CG	
263	Heterlimnius corpulentus	14	Coleoptera	Elmidae	4	CG	
286	Dicranota	4	Diptera	Tipulidae	3	PR	
319	Chironomidae	24	Diptera	Chironomidae	6	CG	
51	Drunella grandis Eaton	1	Ephemeroptera	Ephemerellidae	1	CG	
49	Ephemerella	2	Ephemeroptera	Ephemerellidae	1	CG	
679	Diphetor hageni	1	Ephemeroptera	Baetidae	5	CG	
20	Baetis tricaudatus Dodds	13	Ephemeroptera	Baetidae	5	CG	
126	Skwala	2	Plecoptera	Perlodidae	2	PR	
121	Megarcys	1	Plecoptera	Perlodidae	2	PR	Cold
134	Sweltsa	15	Plecoptera	Chloroperlidae	1	PR	
166	Rhyacophila narvae Navas	1	Trichoptera	Rhyacophilidae	0	PR	
189	Wormaldia	1	Trichoptera	Philopotamidae	3	CF	
	Sum of Count:	114					

Sample Date: 94/07/25 Sample Time: 12:30 E.F. POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity		
418	Oligochaeta	8			5	CG	
266	Narpus concolor	7	Coleoptera	Elmidae	4	CG	
263	Heterlimnius corpulentus	15	Coleoptera	Elmidae	4	CG	
303	Simulium	2	Diptera	Simuliidae	6	CF	
615	Rhabdomastix	2	Diptera	Tipulidae	6	PR	
318	Glutops	1	Diptera	Pelecorhynchidae	3	PR	
319	Chironomidae	73	Diptera	Chironomidae	6	CG	
286	Hexatoma	3	Diptera	Tipulidae	2	PR	
285	Dicranota	2	Diptera	Tipulidae	3	PR	
283	Limnophila	2	Diptera	Tipulidae	4	PR	
642	Bezzia	1	Diptera	Ceratopogonidae	6	CG	
49	Ephemerella	3	Ephemeroptera	Ephemerellidae	1	CG	
51	Drunella grandis Eaton	14	Ephemeroptera	Ephemerellidae	1	CG	
20	Baetis tricaudatus Dodds	28	Ephemeroptera	Baetidae	5	CG	
54	Serratella tibialis McDunnough	3	Ephemeroptera	Ephemerellidae	2	CG	
126	Skwala	17	Plecoptera	Perlodidae	2	PR	
119	Kogotus	3	Plecoptera	Perlodidae	2	PR	
134	Sweltsa	19	Plecoptera	Chloroperlidae	1	PR	
89	Zapada cinctipes	1	Plectoptera	Nemouridae	2	SH	
189	Wormaldia	1	Trichoptera	Philopotamidae	3	CF	
166	Rhyacophila narvae Navas	3	Trichoptera	Rhyacophilidae	0	PR	
	Sum of Count:	209					

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO010 LITTLE BEAR CREEK

Sample Date: 94/07/06 Sample Time: 12:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	7			11	UN
674	Psephenus	2	Coleoptera	Psephenidae	4	SC
261	Dubiraphia	40	Coleoptera	Elmidae	4	CG
267	Optioservus	22	Coleoptera	Elmidae	4	SC
262	Heterlimnius	7	Coleoptera	Elmidae	4	CG
284	Antocha	8	Diptera	Tipulidae	3	CG
319	Chironomidae	29	Diptera	Chironomidae	6	CG
61	Leptophlebiidae	10	Ephemeroptera	Leptophlebiidae	2	CG
64	Paraleptophlebia bicornuta	3	Ephemeroptera	Leptophlebiidae	4	CG
483	Nixe criddlei	20	Ephemeroptera	Heptageniidae	2	SH
27	Epeorus	3	Ephemeroptera	Heptageniidae	0	SC
106	Calineuria	3	Plecoptera	Perlidae	3	PR
114	Perlodidae	13	Plecoptera	Perlodidae	2	PR
203	Dicosmoecus	10	Trichoptera	Limnephilidae	1	SH
198	Hydropsyche	45	Trichoptera	Hydropsychidae	4	CF
197	Cheumatopsyche	7	Trichoptera	Hydropsychidae	5	CF
196	Hydropsychidae	1	Trichoptera	Hydropsychidae	4	CF
	Sum of Count:	230				

Sample Date: 94/07/06 Sample Time: 12:30 LITTLE BEAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	2			11	UN
674	Psephenus	2	Coleoptera	Psephenidae	4	SC
628	Ordobrevia	1	Coleoptera	Elmidae	4	UN
284	Antocha	1	Diptera	Tipulidae	3	CG
319	Chironomidae	10	Diptera	Chironomidae	6	CG
283	Limnophila	3	Diptera	Tipulidae	4	PR
138	Corixidae	2	Hemiptera	Corixidae	10	UN
203	Dicosmoecus	3	Trichoptera	Limnephilidae	1	SH
197	Cheumatopsyche	3	Trichoptera	Hydropsychidae	5	CF
199	Hydropsyche	7	Trichoptera	Hydropsychidae	4	CF
196	Hydropsychidae	1	Trichoptera	Hydropsychidae	4	CF
	Sum of Count:	35				

Sample Date: 94/07/06 Sample Time: 13:00 LITTLE BEAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	21			11	UN
674	Psephenus	3	Coleoptera	Psephenidae	4	SC
629	Ordobrevia	8	Coleoptera	Elmidae	4	UN
267	Optioservus	4	Coleoptera	Elmidae	4	SC
262	Heterlimnius	7	Coleoptera	Elmidae	4	CG
284	Antocha	1	Diptera	Tipulidae	3	CG
319	Chironomidae	7	Diptera	Chironomidae	6	CG
483	Nixe criddlei	9	Ephemeroptera	Heptageniidae	2	SH
63	Paraleptophlebia	2	Ephemeroptera	Leptophlebiidae	1	CG
106	Calineuria	2	Plecoptera	Perlidae	3	PR
114	Perlodidae	2	Plecoptera	Perlodidae	2	PR
203	Dicosmoecus	7	Trichoptera	Limnephilidae	1	SH
198	Hydropsyche	30	Trichoptera	Hydropsychidae	4	CF
196	Hydropsychidae	5	Trichoptera	Hydropsychidae	4	CF
	Sum of Count:	108				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO011

Sample Date: 94/08/04 Sample Time: 10:40 LITTLE BEAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligochaeta	3			5	CG
434	Physella	1	Basommatophora	Physidae	8	SC
319	Chironomidae	9	Diptera	Chironomidae	6	CG
300	Ptychopteridae	1	Diptera	Ptychopterydae	7	CG
776	Eucorethra	1	Diptera	Chaoboridae	7	PR
483	Nixe criddlei	2	Ephemeroptera	Heptageniidae	2	SH
63	Paraleptophlebia	1	Ephemeroptera	Leptophlebiidae	1	CG
149	Sialis	3	Megaloptera	Sialidae	4	PR
	Sum of Count:	21				

Sample Date: 94/08/04 Sample Time: 11:40 LITTLE BEAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
774	Hydraena	1	Coleoptera	Hydraenidae	5	PR
319	Chironomidae	1	Diptera	Chironomidae	6	CG
483	Nixe criddlei	29	Ephemeroptera	Heptageniidae	2	SH
63	Paraleptophlebia	32	Ephemeroptera	Leptophlebiidae	1	CG
146	Gerris remigis	1	Hemiptera	Gerridae	5	PR
149	Sialis	6	Megaloptera	Sialidae	4	PR
127	Isoperla	1	Plecoptera	Perlodidae	2	PR
206	Dicosmoecus gilvipes	1	Trichoptera	Limnephilidae	2	SC
	Sum of Count:	72				

Sample Date: 94/08/04 Sample Time: 12:00 LITTLE BEAR CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
434	Physella	1	Basommatophora	Physidae	8	SC
483	Nixe criddlei	1	Ephemeroptera	Heptageniidae	2	SH
149	Sialis	7	Megaloptera	Sialidae	4	PR
	Sum of Count:	9				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO012

Sample Date: 94/06/15 Sample Time: 11:00 LITTLE POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
267	Optioservus	1	Coleoptera	Elmidae	4 SC
319	Chironomidae	2	Diptera	Chironomidae	6 CG
63	Paraleptophlebia	4	Ephemeroptera	Leptophlebiidae	1 CG
27	Epeorus	4	Ephemeroptera	Heptageniidae	0 SC
483	Nixe criddlei	9	Ephemeroptera	Heptageniidae	2 SH
24	Heptageniidae	15	Ephemeroptera	Heptageniidae	4 SC
745	Limnoporus	1	Hemiptera	Gerridae	11 PR
81	Nemouridae	1	Plecoptera	Nemouridae	2 SH
		Sum of Count: 37			

Sample Date: 94/06/15 Sample Time: 12:00 LITTLE POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
685	600 Porifera	3			11 UN
252	Oreodytes	1	Coleoptera	Dytiscidae	5 PR
267	Optioservus	8	Coleoptera	Elmidae	4 SC
671	Collembola	2	Collembola		10 CG
319	Chironomidae	2	Diptera	Chironomidae	6 CG
27	Epeorus	20	Ephemeroptera	Heptageniidae	0 SC
483	Nixe criddlei	68	Ephemeroptera	Heptageniidae	2 SH
24	Heptageniidae	71	Ephemeroptera	Heptageniidae	4 SC
63	Paraleptophlebia	29	Ephemeroptera	Leptophlebiidae	1 CG
745	Limnoporus	1	Hemiptera	Gerridae	11 PR
149	Sialis	5	Megaloptera	Sialidae	4 PR
81	Nemouridae	6	Plecoptera	Nemouridae	2 SH
114	Perlodidae	1	Plecoptera	Perlodidae	2 PR
209	Onocosmoecus	1	Trichoptera	Limnephilidae	1 SH
		Sum of Count: 208			

Sample Date: 94/06/15 Sample Time: 12:30 LITTLE POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
685	600 Porifera	6			11 UN
418	Oligochaeta	1			5 CG
267	Optioservus	9	Coleoptera	Elmidae	4 SC
746	Tropisternus	1	Coleoptera	Hydrophilidae	5 PR
319	Chironomidae	7	Diptera	Chironomidae	6 CG
483	Nixe criddlei	49	Ephemeroptera	Heptageniidae	2 SH
24	Heptageniidae	81	Ephemeroptera	Heptageniidae	4 SC
27	Epeorus	35	Ephemeroptera	Heptageniidae	0 SC
63	Paraleptophlebia	19	Ephemeroptera	Leptophlebiidae	1 CG
745	Limnoporus	11	Hemiptera	Gerridae	11 PR
149	Sialis	1	Megaloptera	Sialidae	4 PR
81	Nemouridae	5	Plecoptera	Nemouridae	2 SH
209	Onocosmoecus	1	Trichoptera	Limnephilidae	1 SH
		Sum of Count: 226			

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO013 POTLATCH R. (LITTLE POTLATCH)

Sample Date: 94/08/24 Sample Time: 11:30

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
441	Copepoda	1			8	CG
442	Ostracoda	1			8	CG
418	Oligochaeta	9			5	CG
446	Hyalella azteca	1	Amphipoda	Talitridae	8	CG
429	Ferrissia	2	Basommatophora	Ancylidae	6	SC
431	Gyraulus	1	Basommatophora	Planorbidae	8	SC
268	Optioservus quadrimaculatus	26	Coleoptera	Elmidae	4	SC
541	Psephenus falli	15	Coleoptera	Psephenidae	4	SC
312	Atherix variegata	2	Diptera	Athericidae	2	PR
319	Chironomidae	76	Diptera	Chironomidae	6	CG
776	Eucorethra	1	Diptera	Chaoboridae	7	PR
625	Rhithrogena robusta Dodds	8	Ephemeroptera	Heptageniidae	0	CG
68	Tricorythodes minutus	3	Ephemeroptera	Tricorythidae	4	CG
483	Nixe criddlei	1	Ephemeroptera	Heptageniidae	2	SH
34	Heptagenia	18	Ephemeroptera	Heptageniidae	4	SC
64	Paraleptophlebia bicornuta	3	Ephemeroptera	Leptophlebiidae	4	CG
486	Paraleptophlebia heteronea	1	Ephemeroptera	Leptophlebiidae	2	CG
24	Heptageniidae	19	Ephemeroptera	Heptageniidae	4	SC
456	Hydracarina	2	Hydracarina		8	PR
248	Petrophila	18	Lepidoptera	Pyralidae	5	SC
7	Amphiagrion	26	Odonata	Protoneuridae	5	PR
198	Hydropsyche	24	Trichoptera	Hydropsychidae	4	CF
197	Cheumatopsyche	55	Trichoptera	Hydropsychidae	5	CF
182	Hydroptila	1	Trichoptera	Hydroptilidae	6	SC
	Sum of Count:	314				

Sample Date: 94/08/24 Sample Time: 12:00 POTLATCH R. (LITTLE POTLATCH)

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
268	Optioservus quadrimaculatus	2	Coleoptera	Elmidae	4	SC
541	Psephenus falli	4	Coleoptera	Psephenidae	4	SC
319	Chironomidae	6	Diptera	Chironomidae	6	CG
625	Rhithrogena robusta Dodds	2	Ephemeroptera	Heptageniidae	0	CG
24	Heptageniidae	1	Ephemeroptera	Heptageniidae	4	SC
185	Polycentropus	1	Trichoptera	Polycentropodidae	6	PR
197	Cheumatopsyche	3	Trichoptera	Hydropsychidae	5	CF
462	Planariidae	1	Tricladida	Planariidae	1	OM
	Sum of Count:	20				

Sample Date: 94/08/24 Sample Time: 12:30 POTLATCH R. (LITTLE POTLATCH)

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
441	Copepoda	1			8	CG
418	Oligochaeta	18			5	CG
268	Optioservus quadrimaculatus	17	Coleoptera	Elmidae	4	SC
273	Zaitzevia parvula	6	Coleoptera	Elmidae	4	CG
541	Psephenus falli	14	Coleoptera	Psephenidae	4	SC
319	Chironomidae	252	Diptera	Chironomidae	6	CG
679	Diphetor hageni	1	Ephemeroptera	Baetidae	5	CG
68	Tricorythodes minutus	22	Ephemeroptera	Tricorythidae	4	CG
24	Heptageniidae	1	Ephemeroptera	Heptageniidae	4	SC
625	Rhithrogena robusta Dodds	5	Ephemeroptera	Heptageniidae	0	CG
456	Hydracarina	5	Hydracarina		8	PR
248	Petrophila	12	Lepidoptera	Pyralidae	5	SC
7	Amphiagrion	5	Odonata	Protoneuridae	5	PR
109	Calineuria californica	2	Plecoptera	Perlidae	1	PR
197	Cheumatopsyche	51	Trichoptera	Hydropsychidae	5	CF
239	Helicopsyche borealis	1	Trichoptera	Helicopsychidae	3	SC
198	Hydropsyche	23	Trichoptera	Hydropsychidae	4	CF
235	Brachycentrus occidentalis	1	Trichoptera	Brachycentridae	1	CF
462	Planariidae	5	Tricladida	Planariidae	1	OM
	Sum of Count:	440				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0014

Sample Date: 94/06/27 Sample Time: 10:00 MIDDLE POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
436	Planorbidae	4	Basommatophora	Planorbidae	7	SC
674	Psephenus	6	Coleoptera	Psephenidae	4	SC
253	Elmidae	2	Coleoptera	Elmidae	4	CG
267	Optioservus	33	Coleoptera	Elmidae	4	SC
252	Oreodytes	1	Coleoptera	Dytiscidae	5	PR
319	Chironomidae	6	Diptera	Chironomidae	6	CG
303	Simulium	1	Diptera	Simulidae	6	CF
430	Lymnaeidae	14	Limnophila	Lymnaeidae	6	SC
8	Argia	1	Odonata	Coenagrionidae	7	PR
237	Lepidostoma	1	Trichoptera	Lepidostomatidae	1	SH
192	Hydroptila	1	Trichoptera	Hydroptilidae	6	SC
196	Hydropsychidae	12	Trichoptera	Hydropsychidae	4	CF
197	Cheumatopsyche	12	Trichoptera	Hydropsychidae	5	CF
198	Hydropsyche	68	Trichoptera	Hydropsychidae	4	CF
	Sum of Count:	182				

Sample Date: 94/06/27 Sample Time: 10:15 MIDDLE POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
436	Planorbidae	11	Basommatophora	Planorbidae	7	SC
674	Psephenus	7	Coleoptera	Psephenidae	4	SC
267	Optioservus	13	Coleoptera	Elmidae	4	SC
253	Elmidae	1	Coleoptera	Elmidae	4	CG
252	Oreodytes	2	Coleoptera	Dytiscidae	5	PR
294	Antocha	1	Diptera	Tipulidae	3	CG
319	Chironomidae	19	Diptera	Chironomidae	6	CG
24	Heptageniidae	2	Ephemeroptera	Heptageniidae	4	SC
136	Corixidae	1	Hemiptera	Corixidae	10	UN
247	Pyralidae	3	Lepidoptera	Pyralidae	5	SH
430	Lymnaeidae	23	Limnophila	Lymnaeidae	6	SC
433	Physa	3	Limnophila	Physidae	9	SC
237	Lepidostoma	1	Trichoptera	Lepidostomatidae	1	SH
238	Helicopsyche	1	Trichoptera	Helicopsychidae	3	SC
196	Hydropsychidae	4	Trichoptera	Hydropsychidae	4	CF
198	Hydropsyche	33	Trichoptera	Hydropsychidae	4	CF
507	Helicopsychidae	2	Trichoptera	Helicopsychidae	3	SC
	Sum of Count:	127				

Sample Date: 94/06/27 Sample Time: 10:30 MIDDLE POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	1			11	UN
436	Planorbidae	4	Basommatophora	Planorbidae	7	SC
674	Psephenus	3	Coleoptera	Psephenidae	4	SC
319	Chironomidae	8	Diptera	Chironomidae	6	CG
294	Antocha	1	Diptera	Tipulidae	3	CG
303	Simulium	1	Diptera	Simulidae	6	CF
27	Epeorus	1	Ephemeroptera	Heptageniidae	0	SC
483	Nixe criddlei	1	Ephemeroptera	Heptageniidae	2	SH
136	Corixidae	1	Hemiptera	Corixidae	10	UN
430	Lymnaeidae	17	Limnophila	Lymnaeidae	6	SC
8	Argia	10	Odonata	Coenagrionidae	7	PR
192	Hydroptila	1	Trichoptera	Hydroptilidae	6	SC
198	Hydropsyche	132	Trichoptera	Hydropsychidae	4	CF
197	Cheumatopsyche	24	Trichoptera	Hydropsychidae	5	CF
198	Hydropsychidae	10	Trichoptera	Hydropsychidae	4	CF
196	Hydropsychidae	2	Trichoptera	Hydropsychidae	4	CF
237	Lepidostoma	48	Trichoptera	Lepidostomatidae	1	SH
	Sum of Count:	265				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0015 MIDDLE POTLATCH CREEK

Sample Date: 94/08/03 Sample Time: 11:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity
536	Brychius	1	Coleoptera	Haliplidae	11 SC
276	Hydrophilidae	3	Coleoptera	Hydrophilidae	5 PR
452	Pacifastacus leniusculus	1	Decapoda	Astacidae	6 SH
319	Chironomidae	2	Diptera	Chironomidae	6 CG
291	Ceratopogonidae	1	Diptera	Ceratopogonidae	5 PR
64	Paraleptophlebia bicornuta	5	Ephemeroptera	Leptophlebiidae	4 CG
63	Paraleptophlebia	19	Ephemeroptera	Leptophlebiidae	1 CG
146	Gerris remigis	2	Hemiptera	Gerridae	5 PR
149	Sialis	3	Megaloptera	Sialidae	4 PR
205	Dicosmoecus gilvipes	3	Trichoptera	Limnephilidae	2 SC
	Sum of Count:	40			

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0016 POTLATCH RIVER

Sample Date: 94/08/22 Sample Time: 13:30

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
421	Hirudinea	12			10	PR
418	Oligocheeta	1,196			5	CG
446	Hyallela azteca	68	Amphipoda	Talitridae	8	CG
251	Dytiscidae	12	Coleoptera	Dytiscidae	5	PR
276	Hydrophilidae	12	Coleoptera	Hydrophilidae	5	PR
542	Bezzia	8	Diptera	Ceratopogonidae	6	CG
319	Chironomidae	148	Diptera	Chironomidae	6	CG
748	Haemopsis marmorata (Say)	12	Hirudinea	Hirudinidae	10	PR
149	Sialis	4	Megaloptera	Sialidae	4	PR
7	Amphiagrion	80	Odonata	Protoneuridae	6	PR
467	Erpobdellidae	20	Pharyngodellida	Erpobdellidae	8	PR
	Sum of Count:	1,572				

Sample Date: 94/08/22 Sample Time: 14:00 POTLATCH RIVER

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligocheeta	12			5	CG
446	Hyallela azteca	42	Amphipoda	Talitridae	8	CG
275	Haliplidae	3	Coleoptera	Haliplidae	7	MH
251	Dytiscidae	1	Coleoptera	Dytiscidae	5	PR
319	Chironomidae	52	Diptera	Chironomidae	6	CG
283	Limnophila	1	Diptera	Tipulidae	4	PR
748	Haemopsis marmorata (Say)	4	Hirudinea	Hirudinidae	10	PR
7	Amphiagrion	6	Odonata	Protoneuridae	5	PR
467	Erpobdellidae	7	Pharyngodellida	Erpobdellidae	8	PR
	Sum of Count:	128				

Sample Date: 94/08/22 Sample Time: 15:00 POTLATCH RIVER

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligocheeta	950			5	CG
446	Hyallela azteca	2,500	Amphipoda	Talitridae	8	CG
268	Optioservus quadrimaculatus	10	Coleoptera	Elmidae	4	SC
542	Bezzia	10	Diptera	Ceratopogonidae	8	CG
319	Chironomidae	240	Diptera	Chironomidae	6	CG
21	Callibaetis	10	Ephemeroptera	Baetidae	9	CG
748	Haemopsis marmorata (Say)	20	Hirudinea	Hirudinidae	10	PR
7	Amphiagrion	20	Odonata	Protoneuridae	5	PR
467	Erpobdellidae	30	Pharyngodellida	Erpobdellidae	8	PR
	Sum of Count:	3,790				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO017 PINE CREEK

Sample Date: 94/07/07 Sample Time: 12:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity
685	600 Porifera	3			11 UN
319	Chironomidae	1	Diptera	Chironomidae	6 CG
61	Leptophlebiidae	2	Ephemeroptera	Leptophlebiidae	2 CG
64	Paraleptophlebia bicornuta	1	Ephemeroptera	Leptophlebiidae	4 CG
483	Nixe criddlei	11	Ephemeroptera	Heptageniidae	2 SH
24	Heptageniidae	14	Ephemeroptera	Heptageniidae	4 SC
149	Sialis	1	Megaloptera	Sialidae	4 PR
199	Hydropsyche	1	Trichoptera	Hydropsychidae	4 CF
	Sum of Count:	34			

Sample Date: 94/07/07 Sample Time: 12:15 PINE CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
685	600 Porifera	10			11 UN
674	Psephenus	3	Coleoptera	Psephenidae	4 SC
561	Pacifastacus	1	Decapoda	Camberidae	8 OM
319	Chironomidae	23	Diptera	Chironomidae	6 CG
63	Paraleptophlebia	28	Ephemeroptera	Leptophlebiidae	1 CG
64	Paraleptophlebia bicornuta	11	Ephemeroptera	Leptophlebiidae	4 CG
24	Heptageniidae	10	Ephemeroptera	Heptageniidae	4 SC
483	Nixe criddlei	23	Ephemeroptera	Heptageniidae	2 SH
149	Sialis	2	Megaloptera	Sialidae	4 PR
	Sum of Count:	109			

Sample Date: 94/07/07 Sample Time: 12:30 PINE CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
262	Heterlimnius	1	Coleoptera	Elmidae	4 CG
483	Nixe criddlei	4	Ephemeroptera	Heptageniidae	2 SH
203	Dicosmoecus	6	Trichoptera	Limnephilidae	1 SH
	Sum of Count:	11			

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0020 POTLATCH RIVER (KENDRICK)

Sample Date: 94/08/25 Sample Time: 11:45

Taxon	Scientific Name	Count	Order	Family	Sensitivity
267	Optioservus	1	Coleoptera	Elmidae	4 SC
541	Psephenus falli	25	Coleoptera	Psephenidae	4 SC
319	Chironomidae	51	Diptera	Chironomidae	6 CG
64	Paraleptophlebia bicornuta	1	Ephemeroptera	Leptophlebiidae	4 CG
20	Baetis tricaudatus Dodds	2	Ephemeroptera	Baetidae	5 CG
248	Petrophila	77	Lepidoptera	Pyralidae	5 SC
3	Ophiogomphus	1	Odonata	Gomphidae	1 PR
8	Argia	1	Odonata	Coenagrionidae	7 PR
198	Hydropsyche	1	Trichoptera	Hydropsychidae	4 CF
197	Cheumatopsyche	25	Trichoptera	Hydropsychidae	5 CF
	Sum of Count:	186			

Sample Date: 94/08/25 Sample Time: 12:30 POTLATCH RIVER (KENDRICK)

Taxon	Scientific Name	Count	Order	Family	Sensitivity
442	Ostracoda	1			8 CG
418	Oligochaeta	42			5 CG
417	Nematoda	1			5 PA
429	Ferrissia	1	Basommatophora	Ancylidae	6 SC
541	Psephenus falli	1	Coleoptera	Psephenidae	4 SC
267	Optioservus	1	Coleoptera	Elmidae	4 SC
746	Tropisternus	1	Coleoptera	Hydrophilidae	5 PR
268	Optioservus quadrimaculatus	4	Coleoptera	Elmidae	4 SC
452	Pacifastacus leniusculus	1	Decapoda	Astacidae	6 SH
319	Chironomidae	32	Diptera	Chironomidae	6 CG
485	Rhithrogena hageni Eaton	7	Ephemeroptera	Heptageniidae	0 CG
22	Centroptilum	2	Ephemeroptera	Baetidae	2 CG
28	Epeorus albertae	1	Ephemeroptera	Heptageniidae	0 SC
676	Heptagenia criddlei McDunnough	1	Ephemeroptera	Heptageniidae	4 SC
34	Heptagenia	8	Ephemeroptera	Heptageniidae	4 SC
456	Hydracarina	4	Hydracarina		8 PR
248	Petrophila	64	Lepidoptera	Pyralidae	5 SC
248	Petrophila	6	Lepidoptera	Pyralidae	5 SC
8	Argia	7	Odonata	Coenagrionidae	7 PR
6	Coenagrionidae	2	Odonata	Coenagrionidae	9 PR
3	Ophiogomphus	3	Odonata	Gomphidae	1 PR
198	Hydropsyche	3	Trichoptera	Hydropsychidae	4 CF
198	Hydropsyche	5	Trichoptera	Hydropsychidae	4 CF
197	Cheumatopsyche	45	Trichoptera	Hydropsychidae	5 CF
	Sum of Count:	243			

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0022 POTLATCH R. (LITTLE BOULDER)

Sample Date: 94/08/16 Sample Time: 13:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligochaeta	11			5	CG
428	Ferrissia	2	Basommatophora	Ancylidae	6	SC
266	Narpus concolor	1	Coleoptera	Elmidae	4	CG
268	Optioservus quadrimaculatus	12	Coleoptera	Elmidae	4	SC
284	Antocha	2	Diptera	Tipulidae	3	CG
319	Chironomidae	32	Diptera	Chironomidae	6	CG
58	Tricorythodes minutus	9	Ephemeroptera	Tricorythidae	4	CG
679	Diphetor hageni	3	Ephemeroptera	Baetidae	5	CG
486	Paraleptophlebia heteronea	66	Ephemeroptera	Leptophlebiidae	2	CG
13	Ameletus	3	Ephemeroptera	Siphlonuridae	0	CG
28	Epeorus albertae	3	Ephemeroptera	Heptageniidae	0	SC
486	Rhithrogena hageni Eaton	18	Ephemeroptera	Heptageniidae	0	CG
743	Rhagovelia distincta	4	Hemiptera	Veliidae	11	PR
456	Hydracarina	4	Hydracarina		8	PR
248	Petrophila	7	Lepidoptera	Pyralidae	5	SC
3	Ophiogomphus	5	Odonata	Gomphidae	1	PR
6	Coenagrionidae	1	Odonata	Coenagrionidae	9	PR
134	Swaltsa	2	Plecoptera	Chloroperlidae	1	PR
577	Suwallia	1	Plecoptera	Chloroperlidae	1	PR
109	Calineuria californica	4	Plecoptera	Perlidae	1	PR
126	Skwala	1	Plecoptera	Perlodidae	2	PR
123	Perlinodes aurea	5	Plecoptera	Perlodidae	2	PR
127	Isoperla	2	Plecoptera	Perlodidae	2	PR
608	Psychomyia	1	Trichoptera	Psychomyiidae	2	SC
197	Cheumatopsyche	81	Trichoptera	Hydropsychidae	5	CF
	Sum of Count:	280				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0023 POTLATCH RIVER (BOVILL)

Sample Date: 94/07/26 Sample Time: 11:15

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligocheeta	13			5	CG
429	Ferrissia	2	Basommatophora	Ancylidae	6	SC
431	Gyraulus	2	Basommatophora	Planorbidae	8	SC
536	Brychius	3	Coleoptera	Haliplidae	11	SC
268	Optioservus quadrimaculatus	100	Coleoptera	Elmidae	4	SC
273	Zaitzevia parvula	3	Coleoptera	Elmidae	4	CG
319	Chironomidae	103	Diptera	Chironomidae	6	CG
308	Hemerodromia	1	Diptera	Empididae	6	PR
285	Dicranota	3	Diptera	Tipulidae	3	PR
284	Antocha	1	Diptera	Tipulidae	3	CG
286	Hexatoma	3	Diptera	Tipulidae	2	PR
290	Tipula	1	Diptera	Tipulidae	4	SH
679	Diphetor hageni	12	Ephemeroptera	Baetidae	5	CG
486	Paraleptophlebia heteronea	8	Ephemeroptera	Leptophlebiidae	2	CG
456	Hydracarina	6	Hydracarina		8	PR
3	Ophiogomphus	1	Odonata	Gomphidae	1	PR
126	Skwala	14	Plecoptera	Perlodidae	2	PR
197	Cheumatopsyche	7	Trichoptera	Hydropsychidae	5	CF
237	Lepidostoma	1	Trichoptera	Lepidostomatidae	1	SH
	Sum of Count:	284				

Sample Date: 94/07/26 Sample Time: 11:30 POTLATCH RIVER (BOVILL)

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligocheeta	35			5	CG
431	Gyraulus	18	Basommatophora	Planorbidae	8	SC
536	Brychius	7	Coleoptera	Haliplidae	11	SC
268	Optioservus quadrimaculatus	161	Coleoptera	Elmidae	4	SC
260	Cleptelmis ornata	4	Coleoptera	Elmidae	4	CG
286	Hexatoma	46	Diptera	Tipulidae	2	PR
319	Chironomidae	523	Diptera	Chironomidae	6	CG
308	Hemerodromia	4	Diptera	Empididae	6	PR
679	Diphetor hageni	11	Ephemeroptera	Baetidae	5	CG
49	Ephemerella	4	Ephemeroptera	Ephemerellidae	1	CG
58	Tricorythodes minutus	49	Ephemeroptera	Tricorythidae	4	CG
456	Hydracarina	7	Hydracarina		8	PR
567	Sphaeriidae	53	Pelecypodea	Sphaeriidae	8	CF
197	Cheumatopsyche	67	Trichoptera	Hydropsychidae	5	CF
	Sum of Count:	1,089				

Sample Date: 94/07/26 Sample Time: 11:45 POTLATCH RIVER (BOVILL)

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligocheeta	21			5	CG
536	Brychius	25	Coleoptera	Haliplidae	11	SC
268	Optioservus quadrimaculatus	123	Coleoptera	Elmidae	4	SC
260	Cleptelmis ornata	4	Coleoptera	Elmidae	4	CG
273	Zaitzevia parvula	2	Coleoptera	Elmidae	4	CG
261	Dubiraphia	2	Coleoptera	Elmidae	4	CG
319	Chironomidae	348	Diptera	Chironomidae	6	CG
308	Hemerodromia	8	Diptera	Empididae	6	PR
285	Dicranota	8	Diptera	Tipulidae	3	PR
284	Antocha	2	Diptera	Tipulidae	3	CG
286	Hexatoma	2	Diptera	Tipulidae	2	PR
303	Simulium	2	Diptera	Simuliidae	8	CF
679	Diphetor hageni	6	Ephemeroptera	Baetidae	5	CG
486	Paraleptophlebia heteronea	4	Ephemeroptera	Leptophlebiidae	2	CG
456	Hydracarina	6	Hydracarina		8	PR
126	Skwala	4	Plecoptera	Perlodidae	2	PR
127	Isoperla	2	Plecoptera	Perlodidae	2	PR
197	Cheumatopsyche	37	Trichoptera	Hydropsychidae	5	CF
	Sum of Count:	606				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO024

ample Date: 94/07/19 Sample Time: 08:30 RUBY CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	52			11	UN
418	Oligochaeta	5			5	CG
453	Acari	1	Acari		11	PR
253	Elmidae	7	Coleoptera	Elmidae	4	CG
271	Zaitzevia	6	Coleoptera	Elmidae	4	CG
267	Optioservus	41	Coleoptera	Elmidae	4	SC
319	Chironomidae	10	Diptera	Chironomidae	6	CG
316	Glutops	1	Diptera	Pelecorhynchidae	3	PR
284	Antocha	3	Diptera	Tipulidae	3	CG
285	Dicranota	3	Diptera	Tipulidae	3	PR
299	Pericoma	3	Diptera	Psychodidae	4	CG
36	Ephemerellidae	1	Ephemeroptera	Ephemerellidae	1	CG
27	Epeorus	6	Ephemeroptera	Heptageniidae	0	SC
130	Chloroperlidae	15	Plecoptera	Chloroperlidae	1	PR
673	Perlinodes	1	Plecoptera	Perlodidae	11	PR
114	Perlodidae	4	Plecoptera	Perlodidae	2	PR
81	Nemouridae	18	Plecoptera	Nemouridae	2	SH
83	Malenka	36	Plecoptera	Nemouridae	2	SH
198	Hydropsyche	5	Trichoptera	Hydropsychidae	4	CF
196	Hydropsychidae	3	Trichoptera	Hydropsychidae	4	CF
162	Rhyacophilidae	2	Trichoptera	Rhyacophilidae	0	PR
158	Rhyacophila brunnea Banks	4	Trichoptera	Rhyacophilidae	0	PR
613	Rhyacophila vaccua Milne	2	Trichoptera	Rhyacophilidae	0	PR
173	Glossosoma	1	Trichoptera	Glossosomatidae	0	SC
170	Glossosomatidae	1	Trichoptera	Glossosomatidae	0	SC
	Sum of Count:	230				

ample Date: 94/07/19 Sample Time: 10:00 RUBY CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	9			11	UN
418	Oligochaeta	2			5	CG
267	Optioservus	24	Coleoptera	Elmidae	4	SC
253	Elmidae	8	Coleoptera	Elmidae	4	CG
271	Zaitzevia	1	Coleoptera	Elmidae	4	CG
319	Chironomidae	3	Diptera	Chironomidae	6	CG
27	Epeorus	1	Ephemeroptera	Heptageniidae	0	SC
61	Leptophlebiidae	3	Ephemeroptera	Leptophlebiidae	2	CG
114	Perlodidae	19	Plecoptera	Perlodidae	2	PR
81	Nemouridae	15	Plecoptera	Nemouridae	2	SH
130	Chloroperlidae	9	Plecoptera	Chloroperlidae	1	PR
198	Hydropsyche	1	Trichoptera	Hydropsychidae	4	CF
173	Glossosoma	3	Trichoptera	Glossosomatidae	0	SC
158	Rhyacophila brunnea Banks	1	Trichoptera	Rhyacophilidae	0	PR
170	Glossosomatidae	1	Trichoptera	Glossosomatidae	0	SC
426	Margaritifera	1	Unionida	Unionidae	4	CF
	Sum of Count:	101				

imple Date: 94/07/19 Sample Time: 10:30 RUBY CREEK

axon	Scientific Name	Count	Order	Family	Sensitivity	
685	600 Porifera	11			11	UN
252	Oreodytes	1	Coleoptera	Dytiscidae	5	PR
271	Zaitzevia	1	Coleoptera	Elmidae	4	CG
267	Optioservus	6	Coleoptera	Elmidae	4	SC
253	Elmidae	3	Coleoptera	Elmidae	4	CG
661	Pacifastacus	2	Decapoda	Cambaridae	8	OM
319	Chironomidae	13	Diptera	Chironomidae	6	CG
284	Antocha	3	Diptera	Tipulidae	3	CG
285	Dicranota	1	Diptera	Tipulidae	3	PR
291	Ceratopogonidae	1	Diptera	Ceratopogonidae	6	PR
53	Serratella	1	Ephemeroptera	Ephemerellidae	2	CG
27	Epeorus	6	Ephemeroptera	Heptageniidae	0	SC
63	Paraleptophlebia	3	Ephemeroptera	Leptophlebiidae	1	CG
61	Leptophlebiidae	1	Ephemeroptera	Leptophlebiidae	2	CG
24	Heptageniidae	3	Ephemeroptera	Heptageniidae	4	SC
455	Homoptera	1	Hemiptera		8	MH
673	Perlinodes	3	Plecoptera	Perlodidae	11	PR
130	Chloroperlidae	2	Plecoptera	Chloroperlidae	1	PR
114	Perlodidae	5	Plecoptera	Perlodidae	2	PR
126	Skwala	5	Plecoptera	Perlodidae	2	PR
83	Malenka	7	Plecoptera	Nemouridae	2	SH
81	Nemouridae	5	Plecoptera	Nemouridae	2	SH
158	Rhyacophila brunnea Banks	5	Trichoptera	Rhyacophilidae	0	PR
198	Hydropsyche	3	Trichoptera	Hydropsychidae	4	CF
	Sum of Count:	92				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIRO025

Sample Date: 94/09/01 Sample Time: 09:00 RUBY CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligochaeta	3			5	CG
265	Narpus	3	Coleoptera	Elmidae	4	CG
259	Cleptelmis	56	Coleoptera	Elmidae	4	CG
260	Cleptelmis ornata	1	Coleoptera	Elmidae	4	SC
268	Optioservus quadrimaculatus	29	Diptera	Elmidae	6	CG
319	Chironomidae	2	Ephemeroptera	Chironomidae	0	CG
50	Ephemerella eurivilli (Bengtsson)	2	Ephemeroptera	Ephemerellidae	5	CG
20	Baetis tricaudatus Dodds	1	Ephemeroptera	Baetidae	1	SH
52	Ephemerella inermis Eaton	3	Hydracarina	Ephemerellidae	3	PR
456	Hydracarina	1	Hydracarina		3	PR
456	Hydracarina	4	Plecoptera		0	SH
67	Pteronarcella badia	7	Plecoptera	Pteronarcydae	2	PR
127	Isoperla	8	Plecoptera	Perlodidae	2	PR
124	Pictetiella expansa	5	Plectoptera	Perlodidae	2	SH
89	Zapada cinctipes			Nemouridae		
	Sum of Count:	128				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0026 W.F. POTLATCH RIVER

Sample Date: 94/08/11 Sample Time: 11:00

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligochaeta	18			5	CG
446	Hyalella azteca	98	Amphipoda	Talitridae	8	CG
429	Ferrissia	16	Basommatophora	Ancylidae	6	SC
268	Optioservus quadrimaculatus	16	Coleoptera	Elmidae	4	SC
260	Cleptelmis ornata	16	Coleoptera	Elmidae	4	CG
261	Dubiraphia	32	Coleoptera	Elmidae	4	CG
749	Daphnia	16	Crustacea	Daphnidae	8	CF
319	Chironomidae	480	Diptera	Chironomidae	6	CG
63	Paraleptophlebia	672	Ephemeroptera	Leptophlebiidae	1	CG
149	Sialis	16	Megaloptera	Sialidae	4	PR
	Sum of Count:	1,376				

Sample Date: 94/08/11 Sample Time: 11:15 W.F. POTLATCH RIVER

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
441	Copepoda	1			8	CG
442	Ostracoda	43			8	CG
418	Oligochaeta	19			5	CG
446	Hyalella azteca	21	Amphipoda	Talitridae	8	CG
429	Ferrissia	18	Basommatophora	Ancylidae	6	SC
536	Brychius	2	Coeoptera	Haliplidae	11	SC
261	Dubiraphia	4	Colsoptera	Elmidae	4	CG
260	Cleptelmis ornata	1	Colsoptera	Elmidae	4	CG
268	Optioservus quadrimaculatus	1	Colsoptera	Elmidae	4	SC
749	Daphnia	2	Crustacea	Daphnidae	8	CF
286	Hexatoma	25	Diptera	Tipulidae	2	PR
319	Chironomidae	219	Diptera	Chironomidae	6	CG
542	Bezzia	13	Diptera	Ceratopogonidae	6	CG
652	Chrysops	4	Diptera	Tabanidae	11	CG
63	Paraleptophlebia	14	Ephemeroptera	Leptophlebiidae	1	CG
49	Ephemerella	10	Ephemeroptera	Ephemerellidae	1	CG
60	Caenis	3	Ephemeroptera	Caenidae	7	CG
22	Centroptilum	1	Ephemeroptera	Baetidae	2	CG
136	Corixidae	1	Hemiptera	Corixidae	10	UN
456	Hydracarina	6	Hydracarina		8	PR
149	Sialis	4	Megaloptera	Sialidae	4	PR
667	Sphaeriidae	11	Pelecypodea	Sphaeriidae	8	CF
	Sum of Count:	423				

Sample Date: 94/08/11 Sample Time: 12:00 W.F.POTLATCH RIVER

Taxon	Scientific Name	Count	Order	Family	Sensitivity	
418	Oligochaeta	6			5	CG
446	Hyalella azteca	1	Amphipoda	Talitridae	8	CG
429	Ferrissia	1	Basommatophora	Ancylidae	6	SC
260	Cleptelmis ornata	4	Coleoptera	Elmidae	4	CG
261	Dubiraphia	6	Coleoptera	Elmidae	4	CG
252	Oreodytes	2	Coleoptera	Dytiscidae	5	PR
749	Daphnia	1	Crustacea	Daphnidae	8	CF
452	Pacifastacus leniusculus	1	Decapoda	Astacidae	6	SH
319	Chironomidae	390	Diptera	Chironomidae	8	CG
286	Hexatoma	3	Diptera	Tipulidae	2	PR
542	Bezzia	2	Diptera	Ceratopogonidae	8	CG
303	Simulium	1	Diptera	Simuliidae	6	CF
679	Diphetor hageni	26	Ephemeroptera	Baetidae	5	CG
63	Paraleptophlebia	8	Ephemeroptera	Leptophlebiidae	1	CG
49	Ephemerella	1	Ephemeroptera	Ephemerellidae	1	CG
456	Hydracarina	2	Hydracarina		8	PR
760	Somatochlora	1	Odonata	Libellulidae	9	PR
127	Isoperla	3	Plecoptera	Perlodidae	2	PR
197	Cheumatopsyche	7	Trichoptera	Hydropsychidae	5	CF
606	Psychomyia	3	Trichoptera	Psychomyiidae	2	SC
182	Hydroptila	2	Trichoptera	Hydroptilidae	6	SC
	Sum of Count:	470				

MACROINVERTEBRATE DATA

As of: 3/16/95

Site ID: 94NCIR0027

Sample Date: 94/08/15 Sample Time: 10:00 W.F. POTLATCH RIVER

Taxon	Scientific Name	Count	Order	Family	Sensitivity
260	Cleptelmis ornata	26	Coleoptera	Elmidae	4 CG
251	Dytiscidae	1	Coleoptera	Dytiscidae	5 PR
452	Pacifastacus leniusculus	1	Decapoda	Astacidae	6 SH
300	Ptychopteridae	1	Diptera	Ptychopterydae	7 CG
319	Chironomidae	64	Diptera	Chironomidae	6 CG
283	Limnophila	2	Diptera	Tipulidae	4 PR
679	Diphetor hageni	5	Ephemeroptera	Baetidae	5 CG
13	Ameletus	2	Ephemeroptera	Siphlonuridae	0 CG
63	Paraleptophlebia	45	Ephemeroptera	Leptophlebiidae	1 CG
50	Ephemerella aurivilli (Bengtsson)	11	Ephemeroptera	Ephemerellidae	0 CG
149	Sialis	1	Megaloptera	Sialidae	4 PR
649	Libellula	1	Odonata	Libellulidae	9 PR
567	Sphaeriidae	1	Pelecypodae	Sphaeriidae	8 CF
134	Sweltsa	1	Plecoptera	Chloroperlidae	1 PR
127	Isoperla	6	Plecoptera	Perlodidae	2 PR
89	Zapada cinctipes	5	Plectoptera	Nemouridae	2 SH
237	Lepidostoma	22	Trichoptera	Lepidostomatidae	1 SH
602	Oxyethira	3	Trichoptera	Hydroptilidae	11 MH
	Sum of Count:	197			

Sample Date: 94/08/15 Sample Time: 11:00 W.F. POTLATCH RIVER

Taxon	Scientific Name	Count	Order	Family	Sensitivity
418	Oligocheeta	12			5 CO
260	Cleptelmis ornata	136	Coleoptera	Elmidae	4 CG
268	Optioservus quadrimaculatus	4	Coleoptera	Elmidae	4 SC
452	Pacifastacus leniusculus	4	Decapoda	Astacidae	6 SH
319	Chironomidae	892	Diptera	Chironomidae	6 CO
303	Simulium	20	Diptera	Simulidae	6 CF
290	Tipula	24	Diptera	Tipulidae	4 SH
283	Limnophila	16	Diptera	Tipulidae	4 PR
285	Dicranota	20	Diptera	Tipulidae	3 PR
708	Ormosia	4	Diptera	Tipulidae	3 CG
679	Diphetor hageni	16	Ephemeroptera	Baetidae	5 CG
63	Paraleptophlebia	136	Ephemeroptera	Leptophlebiidae	1 CG
458	Hydracarina	4	Hydracarina		9 PR
567	Sphaeriidae	24	Pelecypodae	Sphaeriidae	8 CF
127	Isoperla	112	Plecoptera	Perlodidae	2 PR
82	Amphinemura	136	Plecoptera	Nemouridae	2 SH
89	Zapada cinctipes	68	Plectoptera	Nemouridae	2 SH
197	Cheumatopsyche	52	Trichoptera	Hydropsychidae	5 CF
198	Hydropsyche	4	Trichoptera	Hydropsychidae	4 CF
237	Lepidostoma	24	Trichoptera	Lepidostomatidae	1 SH
189	Wormaldia	12	Trichoptera	Philopotamidae	3 CF
	Sum of Count:	1,720			

Sample Date: 94/08/15 Sample Time: 12:00 W.F. POTLATCH CREEK

Taxon	Scientific Name	Count	Order	Family	Sensitivity
418	Oligocheeta	24			5 CG
260	Cleptelmis ornata	52	Coleoptera	Elmidae	4 CG
278	Hydrophilidae	4	Coleoptera	Hydrophilidae	5 PR
452	Pacifastacus leniusculus	4	Decapoda	Astacidae	6 SH
319	Chironomidae	96	Diptera	Chironomidae	6 CG
290	Tipula	8	Diptera	Tipulidae	4 SH
652	Chrysops	12	Diptera	Tabanidae	11 CG
50	Ephemerella aurivilli (Bengtsson)	8	Ephemeroptera	Ephemerellidae	0 CG
63	Paraleptophlebia	12	Ephemeroptera	Leptophlebiidae	1 CG
567	Sphaeriidae	8	Pelecypodae	Sphaeriidae	8 CF
82	Amphinemura	8	Plecoptera	Nemouridae	2 SH
127	Isoperla	28	Plecoptera	Perlodidae	2 PR
89	Zapada cinctipes	12	Plectoptera	Nemouridae	2 SH
197	Cheumatopsyche	4	Trichoptera	Hydropsychidae	5 CF
237	Lepidostoma	72	Trichoptera	Lepidostomatidae	1 SH
602	Oxyethira	12	Trichoptera	Hydroptilidae	11 MH
	Sum of Count:	364			