

1999 STOCK ASSESSMENT SURVEYS

Region 3

District 8

Target species	Stream	Reach	Method	Timeframe	Comments
All Species	Swauk Creek	Entire	Snorkel Electrofish	July-Sep	Inventory, presence/absence, 3-5 days mouth to source.
All Species	Cowiche Creek	Entire	Snorkel Electrofish	July-Sep	Inventory, presence/absence, 3 days mouth to source.
All Species	Ahtanum Creek & tribs.	Above RM 18	Snorkel Electrofish	July-Sep	Inventory, relative abundance, distribution, 2 days spot check from RM 18 to upstream.
All Species	Yakima River (Easton Lake to Keechelus Lake)	Entire	Snorkel Electrofish	July-Sep	Inventory, presence/absence, 2-3 days spot check from mouth to source.
All Species	Tieton River	Entire	Snorkel Electrofish	Aug-Oct	Inventory, presence/absence, 3-4 days spot check from mouth to Rimrock Lake.
Bull Trout	Deep Creek	RM 0-4	Foot Survey	Aug & Sep	Redd Count, 2-3 days.
Bull Trout	Indian Creek	RM 0-4	Foot Survey	Sep & Oct	Redd Count, 3 days.
Bull Trout	S.F. Tieton River & tribs	RM 0-13	Foot Survey	Sep & Oct	Redd Count, 3 days.
Bull Trout	American River & tribs	RM 12-18	Foot Survey	September	Redd Count, 2-3 days.
Bull trout	N.F. Ahtanum Cr	RM 13-16	Foot Survey	September	Redd Count, 2 days.
Bull Trout	M.F. Ahtanum Cr	RM 0-7	Foot Survey	September	Redd Count, 1-2 day spot check.
Bull Trout	S.F. Ahtanum Cr	RM 9-11	Foot Survey	September	Redd Count, 1-2 day spot check.
Bull Trout	Rattlesnake Cr & tribs	RM 12-17	Foot Survey	September	Redd Count, 4-5 days.
Bull Trout	N.F. Teanaway R & tribs	Above RM 5	Foot Survey	September	Redd Count, 2 day spot check from RM 5 to upstream.

Bull Trout	Box Canyon Cr	RM 0-2	Foot Survey	Sep & Oct	Redd Count, 3 days.
Bull Trout	Kachess River	RM 0-2	Foot Survey	Sep & Oct	Redd Count, 2 days.
Bull Trout	Mineral Creek	RM 0-2	Foot Survey	Sep & Oct	Redd Count, 2 days.
Bull Trout	Gold Creek	RM 0-5	Foot Survey	Sep & Oct	Redd Count, 3 days.

Bull Trout Take Report - 1999

WDFW Trapping or Research Program: Fish Program — Yakima subbasin

WDFW field operations report of bull trout take during 1999 in the Yakima subbasin. Additional details of field operations and data summaries are contained in WDFW reports (i.e., Sport Fish Investigations in Washington State) and in Regional files/records.

WDFW survey biologists - Eric Anderson & Jim Cummins.

Survey assistance provided by: Steve Croci, Jeff Thomas (USFWS); Paul James (CWU); Scott Hoefler, Ken MacDonald (USFS); Gary Toretta (BR); Phillip Smith (YIN/WDFW); Pat Monk (Irrigation District).

Anticipated survey activities that were not conducted due to lack of personnel/time:

Cowiche Creek inventory, presence/absence.

Ahtanum Creek & tributary streams inventory, relative abundance, distribution.

SF Ahtanum Creek redd count survey.

Yakima River (Easton Lake to Keechelus Lake) inventory, presence/absence.

Tieton River inventory, presence/absence.

NF Teanaway River & tributary streams redd count.

Kachess River/Mineral Creek redd count survey.

The 1999 Bull Trout Take Report is presented in the following table:

NOTE: Bull trout mortalities not presented in this table include a report from Scott Craig & Richard Smith, USFWS on their observation of 2 dead bull trout adults in the dry lake bed of Rimrock Lake on October 12. The fish were found below the SF Tieton River falls near an area where the river splays out across the dry lake bed. The fish appeared to be post spawned bull trout that became stranded as they were returning to the lake. Rimrock Lake water levels are regulated by the Bureau of Reclamation for irrigation purposes.

WDFW Trapping or Research Program: Fish Program — Yakima subbasin

Take Location	Specific Date(s) of Take	Type of Take 1/	Number Taken	Biological Data Collected? (Y or N)	Type of Biological Data Collected 2/	Disposition of Bull Trout Taken 3/	Comments
Naches R.	Dec 12	Angling	1	Y	T. Length 43cm	Confiscated -Frozen	Illegal - Sport Angling Harvest
Swauk Cr & tribs (Baker, Williams, Iron)	July 16,27, 28 Aug 6,13	Electrofish	0	Y	Inventory	None Encountered	None
Deep Cr	Sep 2,15,16	Observation	0	Y	Redd Count	None Taken	107 Redds, 51 Bulls Observed
Indian Cr	Sep 8,10, 24 Oct 5	Observation	0	Y	Redd Count	None Taken	205 Redds, 110 Bulls Observed Evidence of 2 poached bulls observed (heads, entrails).
SF Tieton R & trib (Bear)	Sep 11,23, Oct 6	Observation	0	Y	Redd Count	None Taken	161 Redds, 100 Bulls Observed, Carcass of 1 bull observed.
American R & tribs (Union, Kettle)	Sep 9,23	Observation	0	Y	Redd Count	None Taken	30 Redds, 1 Bull Observed
Crow Cr	Sep 13,24	Observation	0	Y	Redd Count	None Taken	19 Redds, No Bulls Observed
NF Ahtanum Cr & trib (Shellneck)	Sep 13,21, 27	Observation	0	Y	Redd Count	None Taken	7 Redds, 2 Bulls Observed
MF Ahtanum Cr	Sep 28	Observation	0	Y	Redd Count	None Taken	No redds observed, incomplete survey.
Rattlesnake Cr & trib (Little Wildcat)	Sep 7,8, 16,17	Observation	0	Y	Redd Count	None Taken	44 Redds, 5 Bulls Observed
Box Canyon Cr	Sep 21 Oct 4,13	Observation	0	Y	Redd Count	None Taken	17 Redds, 13 Bulls Observed Carcass of 1 bull observed.
Gold Cr	Sep 22 Oct 1,20	Observation	0	Y	Redd Count	None Taken	40 Redds, 30 Bulls Observed

1/ Take types include observation, trapping/handling, trapping/handling/sampling, lethal take (i.e. bull trout killed while handling).

2/ Includes measurement of fork length, scale sampling, Genetic sampling.

3/ Note release location, if released (e.g. "above trap" or "downstream of collection point"). If a mortality, please note location of specimen, or that carcass was destroyed, etc.

From: "Geoff McMichael" <gmichael@televar.com>
To: "Walt Larrick" <wlarrick@pn.usbr.gov>, "Todd's wfd...
Date: 6/11/99 10:46am
Subject: Errata- Lower Yakima River bull trout

List,

I have a correction/apology to make regarding the previous contacts regarding bull trout captured in the lower Yakima River. I regret to inform you that some of the fish classified as bull trout in the field were brown trout. I had fin tissue samples analyzed on the last three fish that were called bull trout and they came back as brown trout. It is possible that some of the earlier fish that were collected were bull trout, but we have no way of knowing. Based on this, I am not confident in calling any of the fish that were captured in 1999 in the lower Yakima River as bull trout. I am more confident in the identification of the fish that was called a bull trout that was captured in the lower Yakima in June of 1997 because a member of the crew that captured that fish had previously handled many juvenile bull trout. The crew members that sampled the fish that were called bull trout in 1999 had not previously sampled many juvenile bull trout and no juvenile brown trout. They were confused by the red spots. I apologize for any extra work, hope, stress, etc... our misidentifications may have caused any of you. We will sample fin tissue in the future to ensure that we do not repeat this mistake again. In addition, I will not distribute information about presumptive bull trout captures, until the identification is certain. Here is my new bottom line regarding bull trout in the lower Yakima River.

1. we did capture one bull trout in the lower Yakima River above Benton City in June, 1997
2. no bull trout were captured in the lower Yakima River in 1998.
3. it is unlikely that there is a bull trout population in the lower Yakima River.

Geoff McMichael
Washington Department of Fish and Wildlife
Ecological Interactions Team
201 N. Pearl ST., Ellensburg, WA 98926
509 925 4467

From: "Geoff McMichael" <gmichael@televar.com>
To: "ERIC ANDERSON" <ANDEREA@dfw.wa.gov>, "Jim Cummins...
Date: 4/22/99 3:05pm
Subject: another bull

All,

Another bull trout was captured today (4/22/99)(total now is 6) in the Benton Section. This one was 129 mm FL (134 TL), 27 g. Several photos were taken. We will have two boats in this section for two days next week for our mark-recap bass estimate. We are averaging about a bull trout per run (one boat - one day) up to this point. Will the trend continue and up our bull count to 10 next week? stay tuned.....

Geoff McMichael
Washington Department of Fish and Wildlife
Ecological Interactions Team
201 N. Pearl ST., Ellensburg, WA 98926
509 925 4467

CC: "Todd's wfdw address" <pearstnp@dfw.wa.gov>, "Fred..."

From: "Geoff McMichael" <gmichael@televar.com>
To: "Jim Cummins" <cummijlc@dfw.wa.gov>, "ERIC ANDERSO...
Date: 4/19/99 8:00am
Subject: Another Lower Yakima River Bull Trout

Hello,

The fifth bull trout was captured in the Benton section on Thursday (4/15/99). It was 158 mm FL (167 mm TL) and 43 g. The crew is now so used to seeing bull trout down there that I have to ask if they got any. Just for fun: our efficiency on bass (which I assume is much better than it is on small salmonids) is about 2 to 4% per run. If we assume it was the same for bull trout, we'd expect that there are 1,250 to 2,500 bull trout in the Benton section. Crazy.

Geoff McMichael
Washington Department of Fish and Wildlife
Ecological Interactions Team
201 N. Pearl ST., Ellensburg, WA 98926
509 925 4467

CC: "Walt Larrick". <wlarrick@pn.usbr.gov>, "Steve Croc..."

From: "Geoff McMichael" <gmichael@televar.com>
To: "ERIC ANDERSON" <ANDEREA@dfw.wa.gov>, "Jim Cummins...
Date: 4/8/99 1:33pm
Subject: more bull

Well,

it looks like there are now more bull trout in the lower Yakima than in the upper Yakima. Two more (so far, they're only half way down) today in the Benton section. go figure. This brings the total to 4 bull trout we have captured in the Benton section.

data:

FL = 195, TL = 207, 79 g
and
FL = 158, TL = 167, 46 g

jimmy crickets!

Geoff McMichael
Washington Department of Fish and Wildlife
Ecological Interactions Team
201 N. Pearl ST., Ellensburg, WA 98926
509 925 4467

CC: "Todd's wfdw address" <pearstnp@dfw.wa.gov>, "Fred..."

From: "Geoff McMichael" <gmichael@televar.com>
To: "ERIC ANDERSON" <ANDEREA@dfw.wa.gov>, "Jim Cummins..."
Date: 4/8/99 1:42pm
Subject: lower Yakima bull trout, extra info.

A little extra info.

it looks like there are now more bull trout in the lower Yakima than in the upper Yakima. Two more (so far, they're only half way down) today in the Benton section. go figure. This brings the total to 4 bull trout we have captured in the Benton section.

data:

FL = 195, TL = 207, 79 g
and
FL = 158, TL = 167, 46 g

**the fish captured in the Benton section on 3/29/99 was probably not recaptured because its size was quite different from either of these fish (FL=184 mm , Wt=66 g) .

jimmy crickets!
Geoff McMichael
Washington Department of Fish and Wildlife
Ecological Interactions Team
201 N. Pearl ST., Ellensburg, WA 98926
509 925 4467

CC: "Todd's wfdw address" <pearstnp@dfw.wa.gov>, "Fred..."

From: "Jim's Coho Account" <coho@wolfenet.com>
To: "Eric Anderson" <ANDEREA@dfw.wa.gov>
Date: 3/31/99 10:35am
Subject: Re: another bull trout in the lower Yakima River -Forwarded

-----Original Message-----

From: Eric Anderson <ANDEREA@dfw.wa.gov>
To: coho@wolfenet.com <coho@wolfenet.com>
Date: Wednesday, March 31, 1999 9:38 AM
Subject: another bull trout in the lower Yakima River -Forwarded

>Jim:
>
>FYI - see attached info from Geoff McMichael on another bull captured
>below Chandler.
>
>Do you guys ever see them in the Prosser Juevenile Collection facility or
>at the adult counting or collection facilities? Roza Dam, etc? Who
do
>I need to talk to?
>
>Regards.....Eric
>

Eric:

During the process of writing the bull trout ba, Joel and I searched all YIN records for bull trout encounters at CJMF and adult counts at Prosser and Roza, and we found no records of bull trout encounters.

Jim

may not be recording non andromeas?

From: Eric Anderson
To: SMTP:"coho@wolfenet.com"
Subject: another bull trout in the lower Yakima River -Forwarded

Jim:

FYI - see attached info from Geoff McMichael on another bull captured below Chandler.

Do you guys ever see them in the Prosser Juevenile Collection facility or at the adult counting or collection facilities? Roza Dam, etc? Who do I need to talk to?

Regards.....Eric

Email from Geoff Received on 3/31/99

Eric, FYI Our predator crew (Anthony Fritts and Gabe Temple) captured another bull trout (FL=184 mm , Wt=66 g) in the Benton section on 3/29/99. The fish was captured about 2.5 km below the Chandler power house on the left bank. This capture was about 1 km upstream and on the opposite bank of the location where the other bull trout (which was larger; captured in 1997) was captured. Geoff McMichael

Washington Department of Fish and Wildlife

Ecological Interactions Team

201 N. Pearl ST., Ellensburg, WA 98926

509 925 4467

1999 Annual Report Federal Fish and Wildlife Permit

Permit No. TE001698-1

Permitee: Paul W. James
Department of Biological Sciences
Central Washington University
Ellensburg, WA 98926

Introduction

The objectives for this study were to capture adult during post-spawning migrations to determine the following: 1) Timing of post-spawning migrations, 2) Population size estimates, growth rates, minimum size at maturity, longevity and spawning frequency. These objectives are part of a monitoring program conducted cooperatively by biologists from the U.S. Bureau of Reclamation (USBR), Washington Department of Fish and Wildlife (WDFW), U.S. Fish and Wildlife Service (USFWS), and Central Washington University (CWU). The overall objective of the program is to determine the status and dynamics of bull trout populations in the Upper Yakima and Naches River drainages.

Methods

Data on adult bull trout was collected by capturing post-spawning individuals moving downstream from spawning grounds in tributary streams into reservoirs. Trapping was conducted by installing panel-weir type traps with holding boxes on five tributary streams. Prior to installing each trap a snorkel survey was conducted in each tributary to determine when adults entered the stream. The study area was as follows:

<u>Reservoir</u>	<u>Tributary</u>
Bumping Lake (Naches Basin)	Deep Creek
Rimrock Lake (Naches Basin)	Indian Creek and South Fork Tieton River
Keechelus Lake (Upper Yakima)	Gold Creek
Kachees Lake (Upper Yakima)	Box Canyon Creek

Redd surveys conducted by biologists from WDFW were used to determine when spawning was underway in each stream. When it was determined that all of the spawning adults were on the spawning grounds, a trap was installed on each tributary. Once installed the trap was checked twice each day to remove fish. Any fish that were captured were anesthetized with MS-222 prior to handling. Fish were measured in millimeters, weighed in grams and tagged with a color-coded, numbered external Floy tag. Any previously tagged fish were noted and the tag number recorded. Fish were then placed in a holding pool constructed of cobbles and boulders to allow fish to recover and then swim downstream at their discretion.

Results

Snorkel Surveys - Snorkel surveys conducted prior to trap installation found that in only one stream, South Fork Tieton River, did adult bull trout move upstream earlier than the spawning time. Adult bull trout were found in South Fork Tieton River in early August while the spawning time is not until mid-September. No adult bull trout were found in Deep Creek (Naches Basin) or Gold Creek and Box Canyon Creek (Upper Yakima Basin) in early August. A few adult bull trout (10) were found in Indian Creek in mid-August. In mid-August another snorkel survey was conducted in Gold Creek and Box Canyon Creek. Seven adult bull trout were found in the plunge pool at the base of the barrier falls on Box Canyon Creek. Occasionally, fish were observed jumping at the falls attempting to pass. In Gold Creek, the stream was dry about ½ mile upstream from Gold Creek Pond and three adults were found below the pond. These fish were kept from migrating upstream to the usual spawning areas and would probably be forced to spawn below the pond or wait for rainfall to migrate upstream.

Trapping Efforts – Traps were checked each morning and each evening. No fish were found in any of the traps during midday. Just after nightfall the traps were checked and occasionally fish were found. Fish were also found in the traps just after sunrise.

Deep Creek - Trapping for adults began on September 2, 1999 and continued through September 15, 1999. The trap was installed just downstream from the bridge crossing Deep Creek on USFS Road No. 174. A total of 111 adults were captured and released unharmed. Of the 111 adults captured, 43 (38.4%) had been tagged in 1998. The average total length was 550 mm (range 354-802) and the average total weight was 2,804 grams. In addition to the 111 adults, we captured 17 juvenile bull trout with an average size of 204 mm (range 137-250). All of the juveniles were also released unharmed.

Indian Creek - Trapping for adults began on September 16, 1999 and continued through October 6, 1999. The trap was installed just upstream from the U.S. Hwy. 12 bridge near the west end of Rimrock Lake. A total of 211 adults were captured and released unharmed. Of the 211 adults captured, 110 (52%) had been previously tagged. The average total length was 592 mm (range 428-756) and the average total weight was 3,323 grams.

South Fork Tieton River - Trapping for adults began on September 19, 1999 and continued through October 8, 1999. The trap was installed at the South Fork Campground about one river mile upstream from Rimrock Lake. A total of 112 adults were captured and released unharmed. On October 9th a heavy rain fell and as we were monitoring the trap that night the stream began to rise. Floating debris began to collect on the trap panels and we feared that some bull trout may be injured if they became impinged on the panels. We therefore began to dismantle the trap to allow water, debris and probably fish to move past the structure. Of the 112 adults captured, 42 (37.5%) had been previously tagged. The average total length was 580 mm (range 455-742) and the average total weight was 3,052 grams.

Box Canyon Creek – A trap was installed in Box Canyon Creek at the Lake Kachees Campground on October 7, 1999. A heavy rain fell during the night and washed the trap out on

October 8, 1999. No fish were captured and it was assumed that all post-spawning adults migrated back into Kachees Lake during the high flows.

Gold Creek – A trap was installed in Gold Creek directly across from Gold Creek Pond on October 7, 1999. A heavy rain fell during the night and washed the trap out on October 8, 1999. No fish were captured and it was assumed that all post-spawning adults migrated back into Keechelus Lake during the high flows.

Conclusions

Snorkel Surveys - Based on the snorkel surveys it appeared that adult bull trout moved out of reservoirs during late summer to migrate to spawning areas, with the exception of South Fork Tieton River. From surveys conducted in previous years it appears that the bull trout spawning in South Fork Tieton River migrate into the stream in late spring or early summer during high flows. The flows in early summer 1999 were unusually high and hampered snorkeling efforts. Gold Creek (Keechelus Lake) appears to have sections that become dry during most summers. The usual spawning areas for bull trout are upstream from the areas that usually become dry thus creating a barrier from upstream passage unless fish move upstream prior to this time. Snorkel surveys are planned for 2000 to more precisely determine when adult bull trout move out of each reservoir and into spawning streams.

Trapping Efforts – The spawning run in Deep Creek (Bumping Reservoir) appears to be the earliest in the Yakima Basin with spent individuals returning to the reservoir during the first two weeks in September. Spawning in Indian Creek and South Fork Tieton River (Rimrock Lake) occur throughout the month of September with spent individuals returning to the reservoir from late September through mid-October. Spawning in Box Canyon Creek and Gold Creek probably occurs from late September through mid-October. However, because of high water our traps failed to capture any out-migrating fish. We assume that the fish move back into the reservoir during rainfall events in mid or late October. Based on the times of the day that fish were found in traps it appeared that all fish moved at night. Once the traps had been checked and fish processed in the morning hours no fish were found again until nightfall.

Plans for 2000 Sampling - Trapping efforts will be conducted on Indian Creek, South Fork Tieton River and Deep Creek to recover tagged fish from the 1998 and 1999 trapping efforts. This data should allow us to make reasonably accurate population estimates for each run. These estimates can then be used to determine the correlation between adult population redd counts. In the future redd counts may be used to monitor adult bull trout populations without having to trap and handle any individuals. Traps will also be placed in Box Canyon and Gold Creeks in an effort to capture and tag individuals so that monitoring of these populations can proceed.

From: "Todd N. Pearsons" <pearstnp@dfw.wa.gov>
To: "John McConnaughey" <mcconnaughey@yakama.com>, "Ja...
Date: 9/24/99 8:30AM
Subject: Bull trout counts

Gentlemen,

We just finished our bull trout counts in the North Fork of the Teanaway. The population estimate is 20 which is up from last year. There were 12 bull trout between 61 and 140 mm and 8 bull trout between 300 and 660 mm. The siting of small bull trout is good news because we haven't seen small bull trout up in the North Fork during the past few years.

Todd

Bull Trout Take Report - 1999

WDFW Trapping or Research Program: Fish Program - Yakima subbasin

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Bull Trout Take Report - 1999

WDFW Trapping or Research Program: Fish Program - Yakima subbasin

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2/ Includes measurement of fork length, scale sampling, Genetic sampling.

3/ Note release location, if released (e.g. "above trap" or "downstream of collection point"). If a mortality, please note location of specimen, or that carcass was destroyed, etc.



STATE OF WASHINGTON
APPOINTMENT/SCHEDULE CALENDAR

SEPTEMBER, 1999

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
			1 244/122	2 245/121 Deep WDFW + CWU	3 246/120	4 247/119	
5 248/118	6 249/117 HOLIDAY LABOR DAY	7 250/116 Rattlesnake USFS	8 251/115 Indian WDFW	9 252/114 American USFS	10* 253/113 Indian WDFW + USFWS	11 254/112 S.F. Tieton WDFW	
12 255/111	13 256/110 Crow USFS N.F. Ahtanum WDFW	14 257/109	15 258/108 Deep WDFW + USFWS (see 17th)	16 259/107 Rattlesnake WDFW	17 260/106 Deep (Finish) USFWS	18 261/105	
19 262/104	20 263/103	21 264/102 N.F. Ahtanum WDFW + USFWS (JAPP) Gold + Bok Canyon USFWS	22 265/101	23 266/100 American WDFW Indian CWU	24* 267/99 Crow WDFW S.F. Tieton CWU	25 268/98	
26 269/97	27 270/96 N.F. Ahtanum M.F. Ahtanum WDFW	28 271/95 Edd Braker 0630 office	29 272/94	30 273/93 Ahtanum Field Trip WDFW, DNR			
AUGUST 1999 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	OCTOBER 1999 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	<p>Do second survey on American a little earlier. Do survey on Crow between 13 & 24 next year, 24 is OK for final. Do Rattlesnake a few days later next year. Do 1st Ahtanum 3-4 days earlier next year. Gold Cu 10/1 survey was good, peaking</p> <p>N O T E S</p> <p>*STATE PAYDAY (subject to change—not officially adopted as of calendar print)</p>					

SEPTEMBER, 1999



STATE OF WASHINGTON
APPOINTMENT/SCHEDULE CALENDAR

OCTOBER, 1999

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SEPTEMBER 1999 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	NOVEMBER 1999 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30				1 274/92 Gold WDFW & Public (Tom Andramjeski) 0700 Parking Lot	2 275/91
3 276/90	4 277/89 Box Canyon WDFW (Philip Smith) 0630 Ellensburg	5 278/88 Indian WDFW & USEWS Steve, Gary	6 279/87 S.F. Tieton WDFW & USEWS (Philip Smith) 0830 Football 3:30 Bimart	7 280/86 OFF swapped-Rain	8* 281/85 OFF Salmon Fishing	9 282/84 Soccer
10 283/83 Soccer	11 284/82 OFF	12 285/81 Office Auditor on inventory.	13 286/80 Leave Gold My House WDFW 0630 meet Gary Tomette & Bimart	14 287/79 Meet Plum Lv on HCP 1000 @ moxer Sight in Rifle in P.M.	15 288/78 Box Canyon WDFW Football 3:30 Lori-Bday	16 289/77 Soccer
17 290/76 Salmon Fishing	18 291/75 Salmon Projects meeting in Habitat WDFW cont. Am. 1300 Hrs. Office	19 292/74 Regional meeting Survey Office	20 293/73 Office Roschubal Gold Creek 0630 my team WDFW Jim & Eric	21 294/72 Office Cooper LK/River	22 295/71 ETK Scout Football 3:30	23 296/70 Soccer
24 297/69 DAYLIGHT SAVINGS TIME ENDS ETK Scout	25* 298/68 Office	26 299/67	27 300/66	28 301/65	29 302/64 Football 3:30	30 303/63 ETK Hunting

31 304/62
ETK
Hunting

N
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*STATE PAYDAY (subject to change—not officially adopted as of calendar print)

OCTOBER, 1999

9/28/99

Eric Andersen

WDFW

M.F. Ahtanum Creek

Spot check for bull trout spawning activity from parking lot near junction with N.F. to upstream \approx 1.5 miles

No Redds, No bull trout observed,

A few 2-6" Cutthroat observed.

Not much spawning gravel in this section, patchy distribution of spawning gravel in this lower section.

Need to do upper section in 2000.

Bull Trout Spawning Ground Survey

Stream: N.F. Ahtanum Creek

Date: 9/13/99

Location: Gray Rock Trail Head Foot Bridge to upstream @ confluence w Shellrock Creek

Water Temp.: 44°F

Investigator: Eric Anderson + Ken Bavis WDFW

Start Time: 1000

End Time: 1400

Redds:	New	Old
Definite:	<u>4</u>	<u>—</u>
Probable:	<u>0</u>	<u>—</u>
Possible:	<u>2</u>	<u>—</u>

Bull Trout Observed:

Tagged:	<u>N/A</u>	<u>None tagged in this system.</u>
Untagged:	<u>4</u>	<u>(about 14" + 16")</u>
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: Approximately a dozen 6-8" fish observed; appeared to be cutthroat.
No bulls ^{heard} observed on redds.
Some evidence of cutthroat wading in stream + along banks but not as bad as in past on this date.

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Bull Trout Spawning Ground Survey

Stream: N. F. Ahtanum Creek

Date: 9/21/99

Location: above confluence with Skellneck Creek to upstream
approximate 2 miles

Water Temp.: 43°F

Investigator: Eric Anderson WDFW + Jeff Thomas USFWS

Start Time: 1230

End Time: 1500

Redds:

	New	Old
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Definite: 0 —

Probable: 0 —

Possible: 0 —

Bull Trout Observed:
Tagged: 0

Untagged: 0

Sub-adults: 0

Juvenile: 0

Comments: A few dozen 2-10" fish were observed;
most appeared to be cutthroat.

this was a check for bull trout spawning
activity but none observed. Not part
of normal index area.

Good overhead cover, but steeper gradient &
less spawning gravel w increasing silt loads (deposits
up stream). Cattle were present in stream and
along banks in some areas.

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Bull Trout Spawning Ground Survey

Stream: Shellneck Creek (Trib. to N.F. Antennum)
Date: 9/21/99
Location: confluence w N.F. Antennum to upstream
Water Temp.: 43°F
Investigator: Eric Anderson WDFW + Jeff Thomas USFWS
Start Time: 1015
End Time: 1130

Redds:	New	Old
Definite:	<u>1</u>	<u>—</u>
Probable:	<u>0</u>	<u>—</u>
Possible:	<u>0</u>	<u>—</u>
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>0</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: About a dozen 3-6" cutthroat observed.

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Bull Trout Spawning Ground Survey

Stream: N.F. Ahtanum Creek

Date: Gray Rock Trail Head Foot Bridge Crossing to
 Location: Shellneck Creek (includes shellneck creek.)

Date: 9/27/99

Water Temp.: 43°F

Investigator: Eric Anderson WDFW

Start Time: 1000

End Time: 1530

Redds:	New	Old
Definite:	<u>2</u>	<u>5 (includes 1 in shellneck)</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>2 (changed to new definite)</u>

Bull Trout Observed:	Count	Notes
Tagged:	<u>0</u>	
Untagged:	<u>2 Bull Tr.</u>	<u>Near Redd by woody debris</u>
Sub-adults:	<u>0</u>	<u>Spawning appears to be complete.</u>
Juvenile:	<u>0</u>	<u>(pics?) 14-16"</u>

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Comments: - About dozen cattle crossing stream + cattle walking along banks in vicinity of redds, considerable trampling in spring areas near redds between Grey Rock + Snow Cabin. Cow pies + tracks all around redds on the flat.
- Turbid H₂O condition from cattle in stream (pictures of cows in stream were taken). Turbidity was localized + cleared after cattle left the stream.
- Also noted 1 Redd in area from Grey Rock to downstream about 2 miles. - This is not normal part of index area (not counted in above total).

**1999 Bull Trout Redd Survey
Crow Creek**

Total Season Count = 19 Redds

<u>Segment of Stream</u>	<u>Definite</u>	<u>Probable</u>	<u>Possible</u>	<u>Fish</u>	<u>Temp/Time</u>	<u>Date</u>
End of 1922 Road to gorge below Falls Creek	19	0	0	0	45/1040	9/24/99
Total	19	0	0	0		

Notes:

Season total is definite + probable on final pass (possibles not included in season total).

Temp = degrees F.

All redds located from end of 1922 Road Trail Crossing at creek to upstream @ gorge/boulder jam below Falls Creek.

Spawning complete; no fish were observed on final pass.

Need to do the same survey reach in YR 2000 plus the area below the 1922 Road Trail Crossing downstream to the mouth to identify (or establish) the future index area.

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**1999 Bull Trout Redd Survey
Rattlesnake Creek**

Total Season Count = 44 Redds

<u>Segment of Stream</u>	<u>Definite</u>	<u>Probable</u>	<u>Possible</u>	<u>Fish</u>	<u>Temp/Time</u>	<u>Date</u>
Trail 1114 x-ing (below MJB x-ing) to MJB Trail x-ing	0	0	0	0	44/1100	9/17/99
MJB Trail x-ing to Shell Cr.	9	0	1	2	44/1000	9/17/99
Shell Cr. to Little Wildcat Cr.	2	0	0	0	44/1400	9/16/99
Little Wildcat Cr.	11	0	0	0	43/1600	9/17/99
Little Wildcat Cr. to McNeil Cr.	22	0	0	3	44/1500	9/17/99
Total	44	0	1	5		

Notes:

Season total is definite + probable on final pass (possibles not included in season total).
Temp = degrees F.

In Little Wildcat Creek all redds were above where the trail crosses the creek (none below).
Proceed up Little Wildcat from trail crossing for approximately 50 minutes steady
walking/wading time (about 10 minutes above upper end of rock slide area on left bank).

In the upper stream segment (Little Wildcat Cr to McNeil Cr) the channel was dry above the
beaver zone. However, redds were present in the beaver impounded areas of the stream channel.

Spawning complete; only a few fish observed near redds.

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**1999 Bull Trout Redd Survey
American River**

Total Season Count = 30 Redds

<u>Segment of Stream</u>	<u>Definite</u>	<u>Probable</u>	<u>Possible</u>	<u>Fish</u>	<u>Temp/Time</u>	<u>Date</u>
Union Cr. - mouth to falls	15	0	0	0	44/0940	9/23/99
American R. - 1/4 mile below Union Cr. to Union Cr.	1	1	1	1	46/1020	9/23/99
American R. - Timber Cr. to Mesatchee Trail x-ing	11	0	1	0	46/1120	9/23/99
Kettle Cr. - lower 3/4 mile	2	0	0	0	44/0940	9/23/99
American River - 1/4 mile below Kettle Cr. to Kettle Cr.	—	—	—	—	No survey conducted in this reach. No redds were observed in 1998.	
Total	29	1	2	1		

Notes:

Season total is definite + probable on final pass (possibles not included in season total).
Temp = degrees F.

In the Kettle Creek Section, proceeded from mouth to upstream; stopped at a pink ribbon that says END Reach 1, also near a small creek flowing into right bank (approx. 3/4 mile).

Spawning complete; only one fish observed below Union Creek.

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Bull Trout Spawning Ground Survey

Stream: Kettle Creek (trib. to American River)

Date: 9/23/99

Location: confluence w American R. to upstream \approx $\frac{3}{4}$ mile

Water Temp.: 44°F

Investigator: Eric Anderson WDFW

Start Time: 0940

End Time: 1050

Redds:	New	Old
Definite:	<u>2</u>	<u>0</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>0</u>

Bull Trout Observed:	
Tagged:	<u>0</u>
Untagged:	<u>0</u>
Sub-adults:	<u>0</u>
Juvenile:	<u>0</u>

Comments: A few small 2-4" unidentified
salmonids observed.

4 ft. vertical falls about $\frac{1}{4}$ mile upstream created
by log jam; possible barrier (?) No redds
found above.

Union Creek 9/23/99

0945 - 44°F

Redds (F-1)

Def P₁b P₂s

HH

⊖

HH

1

HH

American R - Union C - 1/4 mile down

Def P₁b P₂s

1 1 1

1 - 22" M

2

46°F @ 1020

JC

American R 9/23/99 1120-46°E

Timber Cr to Mesatchee

Def Proj Pos

HTT

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HTT

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Eric walked upper part of
this section. His data is
included here. JL

1999 American River Bull Trout Spawning Survey - First Pass

<u>Segment of Stream</u>	<u>Definite</u>	<u>Probable</u>	<u>Possible</u>	<u>Temp./Time</u>	<u>Date</u>
Union Creek - mouth to falls	0	1	1	44/1040	9/9/99
American River - 1/4 mile below Union Creek	0	0	0	43/0900	9/9/99
American River - Timber Creek to Mesatchee trail crossing	3	0	1	47/1745	9/9/99
Kettle Creek - lower 3/4 mile	0	0	0	44/1030	9/9/99
TOTAL	3	1	2		

USFS - Scott Hoetter

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S. F. Tieton River 10/6/99
Bull Trout Spawning Survey
H₂O Temp. 45°F 1100-1500
Blue slide To Rd 1050 Bridge.
Old Def. 47
" Prob. 11 (changed to definite)
" Pos. 3 (Eliminated)

New Def. 36
" Prob.
" Pos.

No Fish observed.

Eric Anderson WDFW
Phillip Smith YIN

Bull Trout Spawning Ground Survey

Stream: South Fork Tieton River
Date: 10/6/99
Location: Barrier falls downstream to confluence w/ Bear Cr
Water Temp.: 43°F
Investigator: Steve Croci - USFWS ; Gary Torretta - USBR
Start Time: 10:45
End Time: 12:40

Redds:	New	Old
Definite:	<u>14</u>	<u>10</u>
Probable:	<u>0</u>	<u>1</u> changed to new redds
Possible:	<u>0</u>	<u>1</u> "
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>0</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: saw bear @ confluence w/ Bear creek

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Bull Trout Spawning Ground Survey

Stream: South Fork Tieton River (Bear Cr.)

Date: 10/6/99

Location: Bear Cr.

Water Temp.: ✓

Investigator: Steve Croci USFWS ; Gary Torretta USBR

Start Time: 13:00

End Time: 14:30

Redds:	New	Old
Definite:	<u>9</u>	<u>27</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>0</u>

Bull Trout Observed:

Tagged: 1 yellow

Untagged: 0

Sub-adults: 0

Juvenile: 0

Comments: _____

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Bull Trout Spawning Ground Survey

Stream: South Fork Tieton River
Date: 10/6/99
Location: Confluence w/ Bear Cr. to 1050 bridge
Water Temp.: 43°F
Investigator: Steve Croci - USFWS; Gary Tarzetta - USBR
Start Time: 1500
End Time: 1615

Redds:	New	Old
Definite:	<u>7</u>	<u>5</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>0</u>

Bull Trout Observed:

Tagged:	<u>0</u>
Untagged:	<u>0</u>
Sub-adults:	<u>0</u>
Juvenile:	<u>0</u>

Comments: _____

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1999 Bull Trout Redd Surveys - Surveyors - Paul James
CNU

South Fork Tieton River (23 September 1999)

Blue Slide to Falls:

	<u>Old Redds (1st survey)</u>	<u>New Redds (2nd survey)</u>	<u>Totals</u>
Possible	1	2	3
Probable	0	16	16
Definite	48	18	66
# fish = 3			

Bear Creek:

	<u>Old Redds (1st survey)</u>	<u>New Redds (2nd survey)</u>	<u>Totals</u>
Possible	0	0	0
Probable	0	0	0
Definite	11	15	26
# fish = 11			

Grand total (all categories) = 111

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S. F. Tinton R 9/11/99

Falls - Bear Cr / 41° F / 0940-1155

Def	Prob	Pos	Tag	Fish	Untag	Unknown
III		I	III		II	IIII
III						III
III						

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Bear Creek - to falls 1155 440F

Def	Prob	Pos	Tag	Untag	Unknown
III			III	III	III
III			III	III	III
III			III	III	III
III			III	III	III

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S. F. Tinton - Bear Cr - Campground

Def	Prob	Pos	Tag	Untag	Unknown
III			III	III	III
III			III	III	III
III			III	III	III
III			III	III	III

3

1 mort
Yellow Tags

J. Cummins

Bull Trout Spawning Ground Survey

Stream: S. F. Tieton River
Date: 9/11/99
Location: Minnie Meadows Camp Ground downstream to
Blue Side
Water Temp.: 43°F
Investigator: Eric Anderson WDFW
Start Time: 1000
End Time: 1330

Redds:	New	Old
Definite:	<u>28</u>	<u>—</u>
Probable:	<u>0</u>	<u>—</u>
Possible:	<u>2</u>	<u>—</u>
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>18</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: Most fish appeared to be untagged but
did not see all fish clearly to say
100% were untagged.

Bull Trout Spawning Ground Survey

Stream: Rattlesnake Creek
Date: 9/17/99
Location: Little Wildcat Creek
Water Temp.: 43°F
Investigator: John McGowan + Bruce Berry (Rechecked by Eric Anderson)
Start Time: 1600
End Time: 1830

Redds:	New	Old
Definite:	<u>9</u>	<u>2</u>
Probable:	<u>3 (changed to def + eliminated)</u>	<u>0</u>
Possible:	<u>3 (Eliminated)</u>	<u>0</u>
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>0</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: _____

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Bull Trout Spawning Ground Survey

Stream: Rattlesnake Creek

Date: 9/17/99

Location: MTB Trail Crossing to Still Creek

Water Temp.: 44°F

Investigator: John McGowan + Bruce Barry WDFW

Start Time: 1000

End Time: 1430

(most double checked by Eric Anderson)

Redds:

	New	Old
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Definite: 9 0

Probable: 0 1 (changed to New Definite)

Possible: 1 0

Bull Trout Observed:
Tagged: 0

Untagged: 2

Sub-adults: 0

Juvenile: 0

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Comments: Spawning appear complete; only 1 of 2 fish observed near redd.

A Fox catfish observed.

Bull Trout Spawning Ground Survey

Stream: Rattlesnake Creek
Date: 9/17/99
Location: MJB Trail Crossing to Trail Crossing 1114 about 1.5 mile below MJB
Water Temp.: 44°F
Investigator: Eric Anderson WDFW
Start Time: 1100
End Time: 1330

Redds:	New	Old
Definite:	<u>0</u>	<u>0</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>1 (Eliminated)</u>
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>0</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: A few cutthroat observed in deeper pools; 6-10" range.

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Bull Trout Spawning Ground Survey

Stream: Rattlesnake Creek

Date: 9/17/99

Location: Little Wildcat Creek to McNeil Creek to area of Beaver Dam + Dry creek channel.

Water Temp.: 44°F

Investigator: Eric Anderson WDFW

Start Time: 1500

End Time: 1700

Redds:	New	Old
Definite:	<u>18</u>	<u>4</u>
Probable:	<u>0</u>	<u>3</u> (All ^{new} changed to definite)
Possible:	<u>0</u>	<u>1</u> (eliminated)
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>3</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: A few juvenile cutthroat observed.
Channel dries up in vicinity of McNeil
creek — area of slower moving water
with beaver activity.

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Bull Trout Spawning Ground Survey

Stream: Rattlesnake Creek
Date: 9/16/99
Location: Shess Creek to Little Wildcat Creek
Water Temp.: 44°F
Investigator: Eric Anderson, John McGowan & Bruce Berry WDFW
Start Time: 1400
End Time: 1630

Redds:	New	Old
Definite:	<u>1</u>	<u>1</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>1 (changed to new definite)</u>

Bull Trout Observed:

Tagged:	<u>0</u>	<u>None tagged in this system.</u>
Untagged:	<u>0</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: Training for John & Bruce.
A few cutthroat in the 4-8" range were observed.
Half dozen more redds observed above little wildcat creek but these were included in count on 17th for Wildcat to McNeil.

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USFS - Naches Ranger District - Scott Hoeter
Ken MacDonald

1999 Rattlesnake Creek Bull Trout Spawning Survey - First Pass

<u>Segment of Stream</u>	<u>Definite</u>	<u>Probable</u>	<u>Possible</u>	<u>Temp./Time</u>	<u>Date</u>
1114 trail crossing (below MJB x-ing) to MJB trail crossing	0	0	1	39/0930	9/8/99
MJB trail crossing to Shell Creek	0	1	0	44/1610	9/7/99
Shell Creek to Little Wildcat Creek	1	0	1	43/1410	9/7/99
Little Wildcat Creek	2	0	0	43/1350	9/7/99
Little Wildcat Creek to McNeil Creek	4	3	1	43/1410	9/7/99
TOTAL	7	4	3		

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Bull Trout Spawning Ground Survey

Stream: Crow Creek (Trib. to Little Naches)

Date: 9/24/99 + 10/1/99

Location: approximately 1/4 mile below Crow Creek Lake to downstream @ 1922 Road.

Water Temp.: 45°F

Investigator: Eric Anderson + Jim Cummins WDFW

Start Time: 1040

End Time: 1900

Redds: New Old

Definite: 14 5

Probable: 0 1 (changed to new Definite)

Possible: 0 1 (Eliminated)

Bull Trout Observed:
Tagged: 0

Untagged: 0

Sub-adults: 0

Juvenile: 0

Comments: Most survey completed on 9/24 but lower 3/4 mile finished on 10/1.

All redds located from 1922 Rd Trail crossing at creek to upstream @ Boulder Jam below Falls Creek.

Need to do some survey in 2000 + from 1922 Rd trail crossing to downstream to identify future inder area.

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USFS - Naches Ranger District - Scott Hoeter

1999 Crow Creek Bull Trout Spawning Survey - First Pass

<u>Segment of Stream</u>	<u>Definite</u>	<u>Probable</u>	<u>Possible</u>	<u>Temp./Time</u>	<u>Date</u>
End of 1922 Road to Falls Creek	5	1	1	43/1025 48/1300	9/13/99
TOTAL	5	1	1		

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Bull Trout Spawning Ground Survey

Stream: Deep Creek

Date: 9/15/99

Location: Culvert @ Rd 4800 to upstream near Copper Creek

Water Temp.: 43 °F *where we met w Steve Croci USFWS + Gary Torvella (Bo who were workin' downstream from Burrier Falls (See Creei count)*

Investigator: Eric Anderson WDFW + Jeff Thomas USFWS

Start Time: 1010

End Time: 1330

Redds:	New	Old
Definite:	<u>15</u>	<u>13</u>
Probable:	<u>0</u>	<u>2 (changed to new definite)</u>
Possible:	<u>0</u>	<u>2 (" " " ")</u>
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>2</u>	
Sub-adults:		
Juvenile:		

Comments: _____

Total about 110

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Sept. 15, 1999 E. Anderson J. Thomas
Deep Cr. Bull Trout Spawning Survey
Culvert @ 1300 to upstream 430F
Old Def. ~~NI~~ ~~NI~~ ~~NI~~ @ copper creek
" Pro. ~~H~~(changed to Def)
" Pos. ~~H~~(changed to Def)

New Def ~~NI~~ ~~NI~~ ~~NI~~ |

New Pro.

New Pos

Fish Tagged
un. Tagged 11

Start 1010 Hrs. End 1330 Hrs.

Bull Trout Spawning Ground Survey

Stream: DEEP CREEK

Date: 9/15/99

Location: Barrier falls downstream to Copper Cr.

Water Temp.: 8°C

Investigator: Steve Croci - USFWS + Gary Torella BOR

Start Time: 10:00

End Time: 14:00

Redds:	New	Old
Definite:	<u>14</u>	<u>58</u>
Probable:	<u>2</u>	<u>2</u>
Possible:	<u>0</u>	<u>2*</u>

Bull Trout Observed:
Tagged: 0

Untagged: 1 did not see tag

Sub-adults: 0

Juvenile: 0

Comments: * 2 old possible = 3 new def
only counted as new definite
- 4 redds from upper culvert to falls
- 1 fish observed just downstream of culvert

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Bull Trout Spawning Ground Survey

Stream: PEEP CREEK
 Date: 9/16/99
 Location: Rd 1800 double culvert to mouth (both channels)
 Water Temp.: X
 Investigator: Steve Craci USFWS
 Start Time: 10:00
 End Time: 12:30

Redds:	New	Old
Definite:	<u>3 all in rt. channel</u>	<u>0</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>0</u>

Bull Trout Observed:
 Tagged: 0
 Untagged: 0
 Sub-adults: 0
 Juvenile: ≈ 5 2"-4" in isolated pool in left (looking ↓) channel

Comments: - left channel heading downstream was dry for the middle (1/3 - 1/4)
- good connection @ mouth for both channels
- most water in Right channel
- lots of large woody debris in channel

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Bull Trout Spawning Ground Survey

Stream: Indian Creek
 Date: 9/8/99
 Location: Hwy 12 Bridge to N. Spring
 Water Temp.: 44°F
 Investigator: Eric Anderson WDFW
 Start Time: 0930
 End Time: 1320

Redds:	New	Old
Definite:	<u>15</u>	<u>—</u>
Probable:	<u>0</u>	<u>—</u>
Possible:	<u>8</u>	<u>—</u>
Bull Trout Observed:		
Tagged:	<u>11</u>	
Untagged:	<u>14</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

195
14
110

Comments: Most tagged with orange Floy tag @ dorsal
but 3 fish appeared to have yellow tags
or faded orange (?).

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9/8/99 - 0930 Hrs H₂O Temp 44°F
Indian Cr. Bull Trout Redd Survey
Hwy 12 Bridge to N. Spring
E. Anderson
Def. ~~III~~ ~~III~~ ~~III~~

Prob.

Pos. ~~III~~ III

Fish Tagged ~~III~~ ~~III~~ I

un-Tagged ~~III~~ ~~III~~ III

Ended Survey @ N. Spring Junction
on this day @ 1320 Hrs.

Most tagged Fish w orange tags @
dorsal but 3 Fish appeared to
have yellow tags or faded orange?

Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 9/10/99
Location: N. Spring to upstream @ source; includes beaver ponds.
Water Temp.: 44 °F
Investigator: Eric Anderson WDFW
Start Time: 1130
End Time: 1400

Redds:	New	Old
Definite:	<u>23</u>	<u>—</u>
Probable:	<u>0</u>	<u>—</u>
Possible:	<u>7</u>	<u>—</u>

Bull Trout Observed:

Tagged:	<u>19</u>
Untagged:	<u>22</u>
Sub-adults:	<u>2</u>
Juvenile:	<u> </u>

Comments: Most tagged fish with orange floy tag @ dorsal but 4 appeared yellow + 5 pink or (faded orange?).
Of above definite redds 2 were above beaver dams,
2 bull trout heads/entrails found in stream (beaver pond area) @ N. Spring source by access road. These appeared to be evidence of poaching.

9/10/99 1130 Hrs, H₂O Temp 44°F
Indian Cr. Bull Trout Redd Survey
N. Spring to upstream @ source.

E. Anderson

Def. III III III III III

Prob.

Pos. III II

Fish Tagged III III III III

Un-Tagged III III III III II

Juvenile / Subadult II

Mostly orange tagged fish but
4 were yellow + 5 pink or
faded orange?

(Ended survey section @ 1400 Hrs.
of above Def. Redds 2 were above
beaver pond area.

Two bull trout heads picked up out
of stream at N. Spring source by
Road. Entrails ... poaching.

Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 9/10/99
Location: End of Road Trail Crossing to downstream @ junction w
N. Spring.
Water Temp.: 44°F
Investigator: Eric Anderson WDFW
Start Time: 1000
End Time: 1130

Redds:	New	Old
Definite:	<u>8</u>	<u>—</u>
Probable:	<u>0</u>	<u>—</u>
Possible:	<u>4</u>	<u>—</u>
Bull Trout Observed:		
Tagged:	<u>1</u>	
Untagged:	<u>8</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: 1 fish appeared to have yellow tag
or faded orange (?).

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9/10/99 1000 Hrs H₂O Temp. 44°F
Indian Cr. Bull Trout Redd Survey
End of Road Trail Crossing to downstream
(Mainstem) E. Anderson
Det. ~~III~~ III

Prob.

Pos. IIII

Fish Tagged, 1
Un-Tagged ~~III~~ III

(1 Yellow tagged Fish.)

Ended this survey section @
junction w N. Spring @ 1130 Hrs

Date: 9/10/99

Time: 12:15

H₂O temp: _____

Indian Creek Bull Trout Red Surveys

upper south spring

Steve Cloci

DEF 1

PROB 2

POS 6

Fish on data sheet for upstream at end of road trail crossing

END: 12:40

DATE: 9/10/99

TIME: 10:30 =

H₂O TEMP: _____

Indian Creek Bull Trout Red surveys

Lower south spring

STEVE CROCI

REE 2 : 2 in main river channel

Prob 3 : 1 in main river channel

Pos 7 : 2 in main river channel

Fish: all fish counted upstream of end of road trail crossing to barrier falls were counted together and can be found on data sheet for that location

End: 11:30

10
90
90
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Date 9/10/99

Time 1000 - 1030

H₂O TEMP

Indian Cr. Bull Trout redd surveys

End of road trail crossing to upstream barrier dam

Steve Croci lower & upper

DEF 1

PROB 2

POS 10

Fish includes data for lower & upper south spring

Tagged 3 All Orange

Untagged 11

Subadult 1

end time 1330

total time 1000 - 1030

+ 1130 - 1215

+ 1240 - 1330

> lower south spring 1030 - 1130

> upper south spring 1215 - 1240

Steve Croci

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CWU - Paul James

Indian Creek (24 September 1999)

Hwy 12 to Falls (including 2 S. springs):

	<u>Old Redds (1st survey)</u>	<u>New Redds (2nd survey)</u>	<u>Totals</u>
Possible	28	9	37
Probable	7	8	15
Definite	20	38	58
# fish = 2			

North Spring:

	<u>Old Redds (1st survey)</u>	<u>New Redds (2nd survey)</u>	<u>Totals</u>
Possible	8	4	12
Probable	0	0	0
Definite	22	41	63
# fish = 9			

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9**Grand total (all categories) = 185**

Indian Creek 10/5/99 43°F:

Bull Trout Spawning Survey

Eric Anderson WDFW; Gary Torretta BOR

Hwy 12 Bridge to N. Spring 1000-1230

old Def 31-

old Prob. 2 (changed to New Def.)

old Pos. 8 (Eliminated or changed to ^{New} Def.)

New Def 15 - No New Prob. or Poss.

Fish 7 observed.

N. Spring to upstream Trail Crossing

old Def. 6 - No old Prob.

old Pos. 4 (changed to New Def. or eliminated)

New Def. 9 - No other Redds or Fish

N. Spring from confluence to source
(including beaver pond area)

old Def. 66 - old Prob. 0

old Pos. 10 (Eliminated or changed to ^{New} Def.)

New Def. 14

Fish 3 observed.

Bull Trout Spawning Ground Survey

Stream: Indian Creek

Date: 10/5/99

Location: lower south spring (from confluence of mainstem to end)

Water Temp.: 44°C

Investigator: Steve Croci USFWS

Start Time: 10:15

End Time: 10:45

Redds:	New	Old
Definite:	<u>12</u>	<u>9</u>
Probable:	<u>0</u>	<u>8*</u> changed to new red
Possible:	<u>0</u>	<u>8*</u>

Bull Trout Observed:

Tagged: 0

Untagged: 0

Sub-adults: 0

Juvenile: 0

Comments: * One (1) old probable not consider a ^{new} redd

* three (3) old possible not considered new redd

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Bull Trout Spawning Ground Survey

Stream: Indian Creek

Date: 10/5/99

Location: main stem confluence w/ lower south spring to barrier falls

Water Temp.: 44°F | ≈ 1/4 mile downstream of end of road trail crossing

Investigator: Steve Croci - USFWS

Start Time: 10:45

End Time: 1:30

Redds:	New	Old
Definite:	<u>21</u>	<u>14</u>
Probable:	<u>0</u>	<u>7</u> <small>changed to new</small>
Possible:	<u>0</u>	<u>16*</u> <small>"</small>

Bull Trout Observed:	
Tagged:	<u>0</u>
Untagged:	<u>0</u>
Sub-adults:	<u>0</u>
Juvenile:	<u>0</u>

Comments: - 6 old possible not considered new redds
- approx 3 redds in main stem from end of road trail crossing to confluence w/ lower south spring.

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Bull Trout Spawning Ground Survey

Stream: Indian Creek
 Date: 10/5/99
 Location: Upper south spring
 Water Temp.: 44°F
 Investigator: Steve Croci - USFWS
 Start Time: 11:15
 End Time: 11:30

Redds:	New	Old
Definite:	<u>7</u>	<u>1</u>
Probable:	<u>0</u>	<u>2</u> changed to new redds
Possible:	<u>0</u>	<u>6*</u> ch "
Bull Trout Observed:		
Tagged:	<u>0</u>	
Untagged:	<u>0</u>	
Sub-adults:	<u>0</u>	
Juvenile:	<u>0</u>	

Comments: * Two (2) old possibles were not considered new redds
from Croci

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Gold Creek 10/20/99 0900-1500
Bull Trout Radd Count Spawning Survey
Eric Anderson + Jim Cummins WDFW
Combined count from Gold Creek Outlet
confluence to upstream at barrier falls
(including Pond outlet channel).

H₂O Temp. 43°F

Old Def. 34

Old Prob. 0

Old Pos. 2 (Eliminated)

New Def. 6

" Prob. 0

" Pos. 0

Fish. 1

Of above total there were 5 new
reeds (2 in Pond Outlet channel +
3 in mainstem) below dry channel bed
in area of private cabins.
(Dry channel for about 50 meters).

Hundreds of spawning Kokanee observed
in Pond Outlet channel / mainstem.

Gold Creek 10/1/99

Bull Trout Redd Count Spawning
Survey 0800 - 1730

Eric Anderson WDFW

Tom Andrewjeski (volunteer)

H₂O Temp. 44°F

Gold Cr. Pond Outlet stream

confluence with Gold Cr to upstream
(includes Gold Creek Pond Outlet (some))
survey to upper barrier falls.

New Def 33

" Prob. 0

" Pos. 2

Old Def. 1

" Prob.

" Pos. 2 old Pos. changed to new
definite.

Fish 24 Untagged bull trout
observed

Dry channel from Pond outlet confluence to
upstream 1/2 mile.

Bull Trout Spawning Ground Survey

Stream: GOLD CREEK

Date: 9/22/99

Location: Confluence of Gold Pond Cr. upstream to barrier falls

Water Temp.: NA

Investigator: Steve Croci - USFWS ; Pat Monk - Irrigation District Bio

Start Time: 9:30

End Time: 3:15

Redds:	New	Old
Definite:	<u>1</u>	<u>0</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>2</u>	<u>0</u>

Bull Trout Observed:

Tagged: 0

Untagged: 5

Sub-adults: 0

Juvenile: 0

Comments: - No connection at confluence of Gold Pond Cr. and Gold creek. channel was dry for about 20 yds.
- good flow out of Gold Pond Cr.
- Creek went dry ~ 1/2 mile upstream from confluence for about 1/2 - 3/4 mile. (near start of Gold Cr. trail.)
- saw numerous little < 2 in fish probably whitefish
- saw several 5-10 inch fish likely whitefish some cutthroat

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Box Canyon Creek 10/13/99
Bull Trout Redd Count Spawning
Survey H₂O Temp. 43°F
Eric Anderson + Jim Cummins WDFW
Gary Toretta BOR

Old Def. 13

" Prob. 0

" Pos. 1 (Eliminated)

Fish observed 2

Remains of 1 fish observed
(skin/carcass) appeared to
be natural mortality.

New Def. 4

" Prob. 0

" Pos. 0

Box Canyon Creek 10/4/99
Bull Trout Redd Count Spawning
Survey H₂O Temp. 44°F

Eric Anderson WDFW

P. Smith YIN/WDFW (EIT)
Volunteer

New Def 13

" Prob 0

" Pos 1

Fish Observed 7

1000 - 1400 Hrs.

Bull Trout Spawning Ground Survey

Stream: Box CAUYON CREEK

Date: 9/21/99

Location: Walking bridge upstream to barrier falls

Water Temp.: NA

Investigator: Steve Croci - USFWS ; GARY Terretta - USBR

Start Time: 9:15

End Time: 12:00

Redds:	New	Old
Definite:	<u>0</u>	<u>0</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>0</u>

Bull Trout Observed:

Tagged: 0

Untagged: 4

Sub-adults: 0

Juvenile: 0

Comments: - good connection flow @ mouth

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