

Kachess R. 10/24/01

1150 - 1305.

Mouth to Trail

50 cfs + at lake

No Redds

No As

Trail to Falls

1305 - 1410

Dad IIII II

Prob

As

Blc adult

IIII III III IIII II

No fish are redds above
logjam @ 1355. Fish
just starting to spawn.



Kachess R (Cont), 10/26/01

Last years flags/redds from

10/26/01 + 11/7/01 are

present, in addition to days
flags

John Easterbrook walked
Mincal G 1325 - 1350

saw 1 fish - Female

1/4 mile up Mincal - series
of 4-6' falls.

Good water flow all the way
to lake. Area below trail
becomes dry every summer.

10/3/01

1050 Br → Blue slide.

S.F. Tieton Bull Trout Spawner
Survey 1000 Hrs, 38.5°F
E. Anderson G. Torretta

Old Def ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~

" Pro + + + +

~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~

" Pos + +

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

" Pro

" Pos

Fish 1 Unknown Tag Adult

Old Def +

16" Bull

Numerous CT & WF

End 1415 Hrs, 100 redds

Total 158 redds

S.F. Tieton 1050 - Blue slide

S.F. Tieton Mort - Intact

Tag # 02018

TL 63 cm

FL 62 cm

Spawning out female

less than 20 eggs in cavity

Intact - no decomposition.

Apparent natural mort.

10/10/01

Gold Creek Bull Trout Spawner
Survey

E. Anderson - Bridge above I-90 to
Trail Crossing \approx 2 mi?

J. Cummins surveying above Taxing to Falls.

Old Def III (old below pond outlet +
dry stream bed 30yd above dry area
to Tr-Xing)

New Def III (3 new below pond outlet
+ 2 new above dry area)

Fish 1 adult bull

Several hundred Kokanee approx.
12-14" spawning below pond outlet
+ in pond outlet channel.

Stream channel dry from Gold
creek pond outlet channel confluence
 \approx mainstem to \approx $\frac{1}{2}$ mile above
Trail Head.

10/9/01 Indian Creek Bull
Trout Spawning Survey

Hwy 12 Br. To N. Spring
E. Anderson 1000 Hrs.

H₂O Temp. 43.20F

Old Def III III III III III III III III III III
III III III

Old Pro. +++++

Old Pds. ++++++

New Def. III III III III III

New Pro

New Pds

Fish 11

(1 yellow tag)
(1 no tag)

Few dozen Kokanee observed - spawning
nearly complete

+ (eliminated or changed)

86 Redds in mainstem
end 1235 Hrs.

9-25-01

M.F. Ahlstrom Bull Trout

Spanner Survey

0930 Hrs. H₂O Temp. 44.1° F

E. Anderson 1.8 miles below

Treephones C.G. to upstream

at .8 miles below C.G.

where Brandon Rogers (YN)

started & went up to C.G.

Total area surveyed 1.8 miles -

- Eric & Brandon.

No Redds observed in lower 1.0

mile of this reach.

Just 1 old Det. Redd. ↘

End 1120 Hrs.

No Redds observed in Brandon's

.8 mile reach, except

1 old Redd.

Kettle Cr. Bull Trout

Spinner Survey Mouth

up \approx $\frac{3}{4}$ mile,

E. Anderson + J. Cummins

H₂O Temp. @ start 1320 Hrs,

44.1° F.

Redds

Old Def III

New Def ϕ

9/20/01

End @ 1400 Hrs,

Probable barrier log jam

w 3 ft falls approx.

$\frac{1}{3}$ mile up from mouth.

No Redds observed above

falls. (New log jam,

falls - redds observed
above this in previous
years.)

10-15-01 E. Anderson

Box Canyon Creek

No New Redds in Index
area on this date

- no bulls observed.

11/13/01

Box Canyon Creek Bull Trout
Spawner Survey spot check
Follow up (map up)

1 Def Redd in Lower
Box reported by
Perry Harvester.

Passage problems in
reservoir bed earlier
in season.

10/4/01

Box Canyon Bull Trout Spawner
Survey

E. Anderson + J. Easterbrook

Passage @ mouth looks good
although H₂O Flow low.

Plastic channel + fix @ mouth/lake
bed still intact.

1 adult bull at channel mouth
in lake.

1225 Hrs H₂O Temp.

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

" Prob

" Pos ||

Fish ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~

End 1450

About 6 redds above falls in
index area.

Six fish not on redds; 11 pool below
index falls.

American R. Bull Trout

Spawning Survey 9-20-01

1025 Hrs H₂O Temp 43.7°F

Mesutchee Trail X-ing to 1st

USFS access road above

Ledgepole C.G.

E. Anderson worked down to

J. Cummins going up.

Several fry observed (unknown species). No adults observed.

2 old def Redds.

0 New Redds.

End 1225

10/9/01 Indian Cr.

N. Spring @ 1300 Hrs 42.8°F

old Def ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~

old Pro. +1

old Pos. + + + +

New Def. ~~||||~~

New Pro.

New Pos

Fish: 1

(1 Orange Tug)

J. Cummins + E. Anderson.

1 10" E. Brook (male) Spawning
with 1 26" Bull (Female).

End 1350 Hrs.

86
26

112 Redds Final + 5 Diabole
Miss

Final
117 Redds

Indian Cr. Bull Trout Spawner
Survey 10/2/01
E. Anderson

^{Net IN}
Index

Lake to Hwy 12 Bridge, 1015 hrs

New Def III (includes one in lakebed)

H₂O Temp 45.3 F @ 1015 hrs

Good passage - no blocks,
Kokanee actively spawning -
numerous Kok, redds,

1 bull on Redd, 40 old redds.

Hwy 12 Bridge to N. Spring, 1045 hrs

Old Def III E. Anderson

Old Pro + (J. Cummins
New Def, 16 New Pos 2)

Old Pos ++ (" Prob 5

New Def III III III III III III III III III III III III

New Pro (J. Cummins
old Def 3 No Pos)

New Pos III (old Prob. 1

Fish (Bulls) III - Not tagged.

III - Tagged (orange)

End 1345 hrs (Jim Fish 5 yellow
1 No Tag 1 faded
1 unknown white)

Indian Cr. N. Spring
10/2/01 43.50F @ 1425 hrs.
Anderson & Cummins

Old Def III I

" Prob, 1 + + 1 + - (3 cancelled
or changed)

" Pos, + III

New Def. III III III 1 changed

" Prob,

" Pos

Fish - No Tag III

Orange Tag 1

Curcuss (1/2 natural meat) 1

21 Redds

Nov 6, 2001 Bull Trout Redd Count
Upper Kachess River Start 1200 Hrs
From LK to barrier falls.

E. Anderson + J Cummins WDFW

H₂O Temp near mouth 39.7°F

Good Flow thruout reach.

No Kokanee spawning.

Noted Kokanee spawning last year
at this time near mouth/lake bed.

1 Adult Bull Trout + No Redds
below Tr. Xing.

1300 Hrs Start from Trail-Xing
to upstream barrier falls
in Kachess R. branch.

Fish NI IIII

Redds

Old Def. NI II

New Def. NI II

H₂O Temp in Kachess above Mineral Cr.

End 1415 Hrs

40.6°F

10-24-01 Bull Trout spawner
survey
Upper Kachess R. Inlet
J. Cummins + E. Anderson

No Fish, No Redds,

509-366-1184
Brandon - cell

TO: John Easterbrooks, Jim Cummins, Bob Gibbons, Jim Uehara, Bob Tuck,
Jim Matthews, Paul James, Jeff Thomas, Steve Croci, Karen Lindhorst,
Ken MacDonald, Tina Mayo, Walt Larrick, Gary Torretta, Kate Puckett, Pat Monk,
Dave Lind

FROM: Eric Anderson

SUBJECT: Yakima Basin Bull Trout Redd Counts (Spawning Surveys) & Associated
Investigations

The bull trout spawning survey schedule is attached. A few of you are on it so please check and let me know of any conflicts ASAP. We can still use help in those areas that are noted with a question mark. Please let me know which areas and dates you can provide assistance on. I am particularly interested in getting help from those that have done this before and are familiar with the streams and reaches. Of course you are also welcome to accompany surveyors even if you are not familiar with the stream. I know I am asking a lot and you are all busy but hey.....this is the fun stuff and it is for a good cause.

Check the instruction sheet on procedure. You will need flagging and a permanent marker. Please use the survey form format for the stream reaches that you do. Please fax (509-575-2474) or mail the data to me within several days of completing the survey. (Mail to 1701 S. 24th Ave, Yakima, WA 98902) (Email at anderea@dfw.wa.gov)

If questions, I can be reached at work (509-457-9301) or home (509-966-4017).

Thanks a bunch.....Eric



Bull Trout Redd Counts

SEPTEMBER, 2001

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | |
|--|--|--|--|---|--|--|-----|
| AUGUST 2001 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 2001 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 | | Aug. 29 Deep Cr. Cummins, Easty | Aug. 30 Lower Bumping R Cummins + Lindhorst + ? Lindhorst/Reiss | Aug 31 American R Cummins + Lindhorst | 1 122 | |
| 2 121 | 3 HOLIDAY LABOR DAY 120 | 4 Indian Cr. 119 Cummins + ? Thomas Torretta | 5 Deep Cr. 118 Paul James + CWU S.F. Tieton R Cummins + ? (CROCI) | 6 N.F. Ahtanum Cr. 117 Cummins/Tuck M.F. Teanaway Anderson cancelled | 7 M.F. Ahtanum Cr. 116 Cummins/Tuck | 8 Lower Bumping Anderson + ? 115 | |
| 9 114 | 10* Rattlesnake Cr 113 Lindhorst + USFS S.F. Ahtanum Cr Yakama Nation? | 11 American R. 112 Lower Cle Elum R. Anderson + ? CROCI cancel | 12 Torretta's 111 Deep Cr. Cummins + ? N.F. Ahtanum Cr. Anderson + Rogers | 13 American R. Crow Cr. 110 Lindhorst + USFS M.F. Ahtanum - Tuck Anderson + Rogers | 14 Crow Cr. 109 Lindhorst + USFS | 15 108 | |
| Upper Cle Elum R Anderson + ? | 16 N.F. Teanaway Anderson + Torrett 0830 Cancel | 17 Rattlesnake Cr. 106 Cummins + ? M.F. Teanaway Anderson + ? | 18 (CROCI) 105 Anderson - Oly | 19 Tuck + Gann 104 American R. Anderson + Cummins | 20 American R. 103 Anderson + Cummins | 21 Crow Cr. 102 Cummins + USFS Incomplete? Yakima R. (Easton - Keechelus) Anderson + upper Cle Elum cancelled | 101 |
| 23 100 | 24 Nite I-52 Pond Box Canyon Cr. Cummins N.F. Ahtanum Cr. Anderson + B Rogers | 25* Gold Cr. 105 Cummins + ? M.F. Ahtanum Cr. Anderson + B Rogers | 26 (CROCI) 104 Upper Cle Elum R. Anderson + ? S.F. Ahtanum Yakama Nation Home I-52 Nite | 27 (CROCI) I-52 Pond 98 Lower Cle Elum R. Anderson + ? Anderson + ? (cancel but let CROCI know) | 28 Teanaway Anderson Cummins - Redo Crow | 29 94 | |
| 30 93 | <p>N O T E S</p> <p>Nite Electro fish with Divers, Paul James will be trapping / tagging bulls on Indian, S.F. Tieton, Deep + possibly Gold + Box Canyon. Student Techs Also entrainment studies below Tieton Dam.</p> <p>* STATE PAYDAY</p> | | | | | | |

SEPTEMBER, 2001



Bull Trout Redd Counts

OCTOBER, 2001

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | |
|---|---|---|---|---|--|---|--|
| | 1 ⁹² DK Season Upper Yakima Anderson 12.8 miles (16.8) | 2 ⁹¹ Indian Cr. Anderson + Cummins Reservoir-Croci Rest | 3 ⁹⁰ 0600 Primart S.F. Tieton R. Anderson + Cummins Torretta ⁸⁷² Double Tree ^{mitab} Doug Adams ^{w100} | 4 ⁸⁹ Box Canyon Cr. Anderson, Rest Doug Adams (Paul will call.) for count | 5 ⁸⁸ Gold Cr. Anderson + ? Torretta 10mi Marvins ^{5mi} weights ²⁰ 7pm | 6 ⁸⁷ Return Seattle 9.6 miles | |
| 7 ⁸⁶ Bmi. weights 2am | 8 ⁸⁵ Gold Cr. Anderson + Anderson Cr. Grass Camp Rest 1100Hrs | 9 ⁸⁴ Indian Cr. Ete Etna System Anderson + Cummins Indian ? 0600 Grass Camp 11.5 miles | 10 ⁸³ EJC Gold Cr. EJC, Croci Rest | 11 ⁸² Marvins 6am Cummins-Cho Etn Rest | 12 ⁸¹ Upper Kachess R. Anderson or Cummins 67045 Camp 6 miles 6901 1000Hrs | 13 ⁸⁰ Rest | |
| 14 ⁷⁹ Half Marathon | 15 ⁷⁸ Box Canyon Cr. Anderson or Cummins | 16 ⁷⁷ Gold Cr. Anderson or Cummins + ? DNR end of season meet 0930 Tappan | 17 ⁷⁶ Box Canyon Cr. ? | 18 ⁷⁵ Dental 1000 Hrs Thursday | 19 ⁷⁴ Paul Bennett ? | 20 ⁷³ Friday | |
| 21 ⁷² | 22 ⁷¹ | 23 ⁷⁰ | 24 ⁶⁹ Upper Kachess R. Anderson or Cummins | 25* ⁶⁸ | 26 ⁶⁷ | 27 ⁶⁶ | |
| 28 ⁶⁵ DAYLIGHT SAVINGS TIME ENDS | 29 ⁶⁴ | 30 ⁶³ | 31 ⁶² USFWS Conf. on BCC man Randy | Nov 1 Return everyone of 5 th | | | |
| SEPTEMBER 2001 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 2001 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 | NOTES Week of Nov. 5 upper Kachess R. - Anderson or Cummins | | | | | |

*STATE PAYDAY

OCTOBER, 2001

Instruction for marking Redds

adfluvial adult populations. However, we must agree on standards and techniques so that surveys conducted by differing agency personnel will be comparable over the long term.

The first task is to set boundaries for each spawning survey site or stream. These boundaries must be utilized for all future work and existing spawning survey data must conform or be removed from the long-range database. I recommend that streams and site boundaries as listed above, for long-term habitat monitoring, be used also for annual spawning surveys. The WDW Area Fish Biologist, Wenatchee, will be responsible for maintaining the long-range bull trout spawning database, regardless of who conducts the surveys on the ground.

Timing and frequency of spawning surveys will adhere to the criteria of Shepard and Graham (1983c), consisting of two or more "preliminary" surveys (starting about 1 Sept.) and a final survey after water temperatures have cooled to below 9C (48F) and adults have mostly left the area (usually early to mid-October). In Appendix F there are selected graphical comparisons of redds and adults counted during 1988 through 1991 surveys. Preliminary surveys offer at least trend information for the cycle which would be useful in case the final survey is cancelled or rendered ineffective due to inclement weather or streamflow. A significant number of WDW and WNF surveys have been conducted too early in the cycle or were "rained out" (Tables 5 and 6).

Spawning surveys will consist of separately enumerating definite, probable, and possible redds (Shepard and Graham 1983c), along with numbers of adult bull trout observed. Some of our (WDW and WNF) redd counts since 1983 have included both completed redds and "false" redds (test digs) and some have not differentiated between them. The following redd identification criteria will be used for every redd survey.

- (1) **Definite:** No doubt about it. The area is definitely "cleaned" and a pit (pocket) and tailspill are recognizable. Adult bull trout may still be attending the site. Not normally in an area normally cleaned by steam hydraulics.
- (2) **Probable:** An area cleaned that may possibly be due to stream hydraulics, but a pit and tailspill are recognizable, or an area that does not appear clean, but has a definite pit and tailspill (an "old" redd).
- (3) **Possible:** A cleaned area of about the right size and appearance from a distance, but that does not have a definite pit or tailspill. This could be caused by stream hydraulics, by the tentative digging of spawners (false or test dig), or by wading anglers, etc.

For final reports and trend analysis, only Class 1 and 2 redd counts should be included. Occasionally large (up to 5m x 10m), multiple redds will be encountered in the field and surveyors will find it difficult to determine the exact number of redds at the site. In such instance, each identifiable pit or pocket will be counted as a separate redd.

*Flag all redds w/ date, redd type, #fish, Surveyor initials.
Send data back to Eric Anderson by filling out the data form
for stream/reach.*

Summary of bull trout spawning surveys (redd counts) in index areas of the Yakima sub-basin, 1984 - 2001.
 (R = Resident, F = Fluvial, F/R = Fluvial/Resident, AD = Adfluvial). WDFW files, Yakima, WA.

| Stream | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 <u>Yakima River (F)</u> Keechelus to Easton Reach | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2* | 1* |
| 2 <u>Ahtanum Creek (R)</u> N.F. Ahtanum Cr. (Shellneck Cr.) M.F. Ahtanum Cr. S.F. Ahtanum Cr. | — | — | — | — | — | — | — | — | — | 9 | 14 | 6 | 5 | 7 | 5 | 7 | 11 | 20 |
| | — | — | — | — | — | — | — | — | — | — | — | — | 1* | 1* | — | 0* | 10* | 1* |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5* | 14* |
| 3 <u>Naches River (F)</u> Rattlesnake Cr. (Little Wildcat Cr.) | — | — | — | — | — | — | 2* | — | — | — | 4* | 26* | 38 | 46 | 53 | 44 | 45 | 57 |
| 4 American R. (Union Cr., Kettle Cr.) | — | — | — | — | — | — | — | — | — | — | — | — | 25 | 24 | 31 | 30 | 44 | 36 |
| 5 Crow Cr. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 19 | 26 | 6 |
| 6 <u>Rimrock Lake (AD)</u> S.F. Tieton R. (Bear Cr.) | — | — | — | — | — | — | 32* | — | — | 38* | 167 | 95 | 233 | 177 | 142 | 161 | 144 | 158 |
| 7 Indian Cr. | 29* | 69* | 16* | 35* | 25 | 39 | 69 | 123 | 142 | 140 | 179 | 201 | 193 | 193 | 212 | 205 | 226 | 117 |
| 8 <u>Bumping Lake (AD)</u> Deep Cr. | — | — | — | — | — | 17* | 15* | 84 | 78 | 45 | 12 | 101 | 46 | 126 | 98 | 107 | 147 | 51 |
| 9 <u>N.F. Teanaway River (F/R)</u> NF Teanaway/DeRoux Cr. | — | — | — | — | — | — | — | — | — | — | — | — | 2* | 0* | 0* | — | 0* | 0* |
| 10 <u>Kachess Lake (AD)</u> Box Canyon Cr. | 5 | 4 | 3 | 0 | 0 | 0 | 5 | 9 | 5 | 4 | 11 | 4 | 8 | 10 | 16 | 17 | 10 | 14 |
| 11 Kachess R (upper) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0* | — | 15 | 14 |
| 12 <u>Keechelus Lake (AD)</u> Gold Cr. | 2 | 2 | 21 | 15 | 12 | 3 | 11 | 16 | 14 | 11 | 16 | 13 | 51 | 31 | 36 | 40 | 19 | 15 |
| 13 <u>Cle Elum Lake (AD)</u> Cle Elum R. (upper) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7* | 0* |

* Incomplete survey; index area not fully defined or adequately monitored.
 Redds in small tribs (parenthesis) included in the total stream count.

BULL TROUT SPAWNING SURVEYS

Summary of bull trout spawning surveys in the Yakima sub-basin during 2000 and 2001.
 (R = Resident, F = Fluvial, F/R = Fluvial/Resident, AD = Adfluvial).
 Washington Department Fish & Wildlife files, Yakima, WA.

| Stream Index | 2000 | 2001 |
|--|-----------------|-----------------|
| <u>Yakima River (F)</u> Keechelus to Easton Reach | 2* | 1* |
| <u>Ahtanum Creek (R)</u> N.F. Ahtanum Cr. (Shellneck Cr.) M.F. Ahtanum Cr. S.F. Ahtanum Cr. | 11 10* 5* | 20 1* 14* |
| <u>Naches River (F)</u> Rattlesnake Cr. (Little Wildcat Cr.) American R. (Union Cr., Kettle Cr.) Crow Cr. | 45 44 26 | 57 36 6 |
| <u>Rimrock Lake (AD)</u> S.F. Tieton R. (Bear Cr.) Indian Cr. | 144 226 | 158 117 |
| <u>Bumping Lake (AD)</u> Deep Cr. | 147 | 51 |
| <u>N.F. Teanaway River (F/R)</u> NFTeanaway R./DeRoux Cr. | 0* | 0* |
| <u>Kachess Lake (AD)</u> Box Canyon Cr. Kachess R. (upper) | 10 15 | 14 14 |
| <u>Keechelus Lake (AD)</u> Gold Cr. | 19 | 15 |
| <u>Cle Elum Lake (AD)</u> Cle Elum R. (upper) | 7* | 0* |

* Incomplete survey; index area not fully defined or adequately monitored.
 Redds in small tribs (listed in parenthesis) were included in the total stream count.

NOTE: 2001 was a severe drought year and appeared to have affected some populations more than others. If passage improvements had not been conducted on Rattlesnake, Indian and Box Canyon Creeks counts in those systems would likely have been much lower.

From: "Brandon Rogers" <brandonr@yakama.com>
To: Eric Anderson <ANDEREA@dfw.wa.gov>
Date: Wed, Nov 14, 2001 2:12 PM
Subject: bull trout

Eric, The final talley for SF Ahtanum is 14 definate and probable redds.

We reconed Reservation cr. for it's first mile, and found generally unsuitable habitat, very steep with very little suitable substrate. We surveyed SF Ahtanum 5 times this season starting on Sept.5th and ending on the 26th. Three of the surveys were in the same reach (I'll point that out on the map) so we stayed within the protocol for the rest of the stream. All of the redds were found in this preliminary index reach. I am confident that these numbers are conservative and I suspect that some of the "possibles" were redds as well.

Eric Anderson wrote:

> You can give Kevin a heads up if you want. If not you can still go over the info at the meeting. Meetings are informal enough that it should not be a problem. We had a final count of 13 redds in the NF Ahtanum and 7 in Shellneck (20 total). I should be in office today and tomorrow if you need to talk.

> Eric

>

> >>> "Brandon Rogers" <brandonr@yakama.com> 11/14 7:41 AM >>>

> Eric, I have some office time today and I want to do a write up on what

> we saw this summer and what should be done. I would appreciate

> suggestions (I know you already gave me some.) I plan to have a map of

> the area maybe overlaying an airphoto.

>

> Should I email this to Kevin when I'm done, or just bring it to the

> meeting? I'm not sure how these things go.

>

> Thanks

> Brandon

See Ahtanum Exedll Files

| |
|---|
| 2 |
| 0 |
| 0 |
| 1 |

Bull Trout Spawning Ground Survey

Stream: M. F. Ahitanum
 Date: 9-13-01

Location: From .8 miles (odometer) below Tree Phones C.G. to 1/4 mile above Tree Phones.

Water Temp.: 45.0°F @ 1000 Hrs.

Investigator: E. Anderson; Brandon Rogers (YN); Bob Tuck (consultant WDFW comm.)

Start Time: 1000 Hrs.

End Time: 1200 Hrs.

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

2
0
0
1

Comments: Ended survey just above C.G. at Tree Phones.
No bulls observed.
Best gravel + spawning habitat is from
Tree Phones to downstream 1/2 mile.
1 Good Redd observed in lower section
of this survey area.

Bull Trout Spawning Ground Survey

Stream: Middle Fork Abitanum.

Date: 9/7/01

Location: From .8 miles (downriver) below Tree Phone C6 to .9 road miles above Tree Phone

Water Temp.: 42°F lower end @ 0933 45 upper end @ 1200

Investigator: Cummins, Bradm Roger (YN)

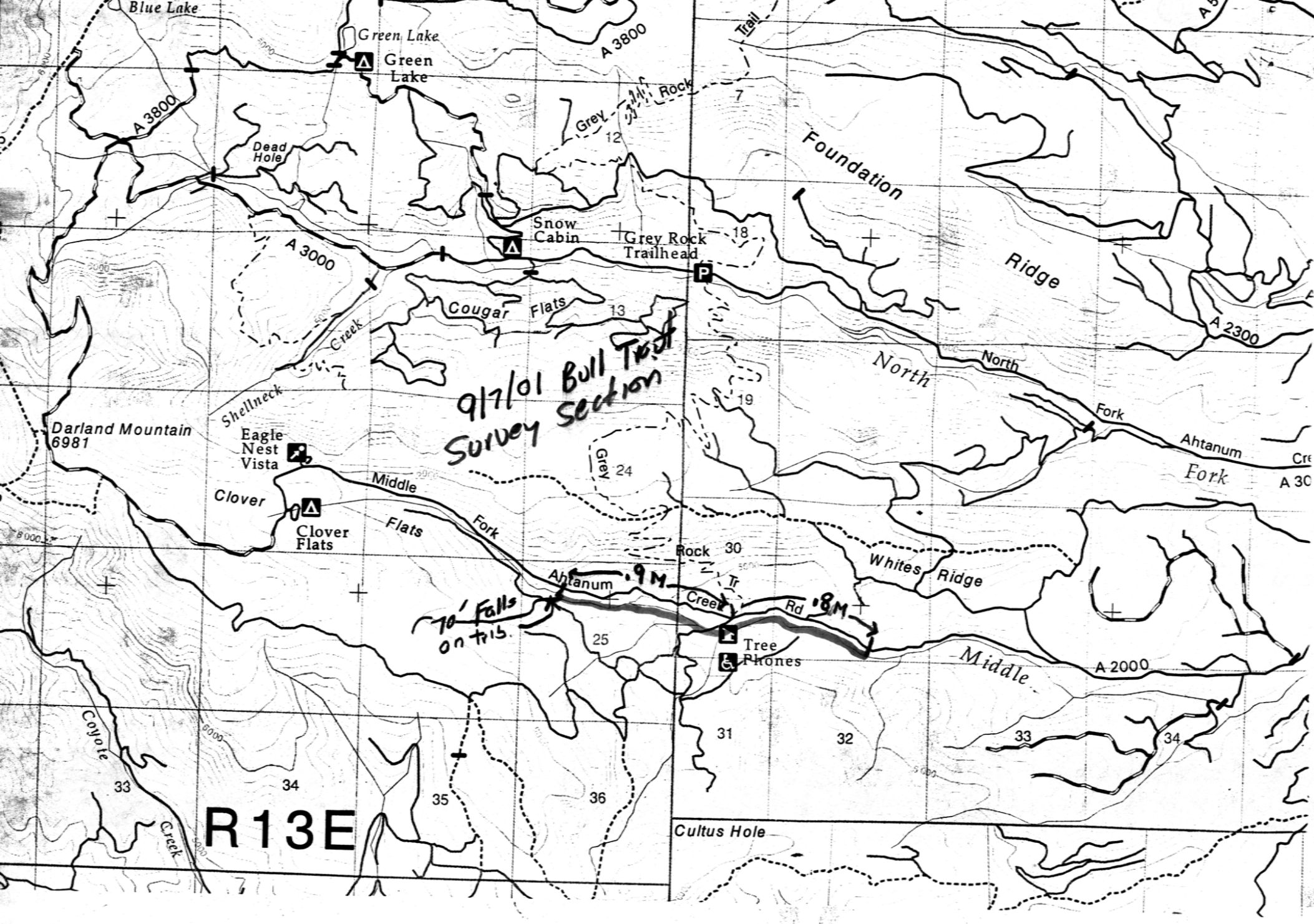
Start Time: 0933

End Time: 1200

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

Comments: Cutthroat 1" to 8" plentiful, but not as plentiful as in N. Fork. End of survey just above unnamed trib. This unnamed trib was 70' falls. Lower end of surveyed section, steep gradient, boulder rubble substrate. Upover 1/2 mile below Tree Phone C6 flatter gradient, more gravel. Above Tree Phone C6 moderate gradient, mostly rubble, boulders, + not much water flow. Redd was in lower 1/2 mile, below possible log jam passage barrier.

2001



9/17/01 Bull Trail Survey Section

10' Falls on Tris.

R13E

Cultus Hole

Blue Lake

Green Lake
Green Lake

A 3800

A 3800

Dead Hole

Grey Rock

Trail

Foundation Ridge

A 3000

Snow Cabin

Grey Rock Trailhead

Cougar Flats

Ridge

A 2300

Darland Mountain 6981

Shellneck

Eagle Nest Vista

North

North

Fork

Ahtanum

Cre
A 30

Clover

Middle

Clover Flats

Flats

Fork

Ahtanum

Rock 30

Whites Ridge

10' Falls on Tris.

Tr

Creer

Rd

Tree Phones

Middle

A 2000

Coyote

33

34

35

36

31

32

33

34

Creek

Bull Trout Take Report - 2001

WDFW Monitoring: Fish Program - Yakima sub-basin

WDFW monitoring report of bull trout take during 2001 in the Yakima sub-basin. 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, John Easterbrooks

Survey assistance provided by: Steve Croci, Jeff Thomas, (USFWS); Gary Torretta, Karen Lindhorst, (USFS); Dr. Paul James, William Meyer, Yuki Reiss, (CWU); Kate Puckett (BR); Brandon Rogers (YN).

Occasionally a bull trout carcass was observed during the course of conducting redd counts. Carcasses were reported in the following "Bull Trout Take Report" but were not caused by or were they a result of these monitoring activities.

Bull Trout Take Report - 2001

WDFW Monitoring: Fish Program - Yakima sub-basin

| 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 |
|--|--------------------------------|-----------------|--------------|-------------------------------------|---|------------------------------------|--|
| Deep Cr | Aug 29, Sep 5,12 | Observation | 1 Carcass | Y | Redd Count | None - Carcass left in stream. | 51 Redds, 9 Bulls Observed |
| Bumping R (lower) | Aug 30 Sep 7 | Observation | 0 | Y | Redd Count | None Taken | No redds or bulls observed, incomplete survey. |
| Indian Cr | Sep 4, Oct 2,9,23 | Observation | 1 Carcass | Y | Redd Count | None - Carcass left in stream. | 117 Redds, 26 Bulls Observed |
| SF Tieton R & trib (Bear) | Aug 29 Sep 5,20,22 Oct 3 | Observation | 2 Carcasses | Y | Redd Count (Carcass T.Length 63 & 71 cm) | None - Carcasses left in stream. | 158 Redds, 131 Bulls Observed. |
| American R & tribs (Union, Kettle) | Aug 31 Sep 13,20 | Observation | 0 | Y | Redd Count | None Taken | 36 Redds, 29 Bulls Observed |
| Crow Cr | Sep 13,21, 25 | Observation | 0 | Y | Redd Count | None Taken | 6 Redds, 1 Bull Observed. |
| NF Ahtanum Cr & trib (Shellneck) | Sep 6,12, 24 | Observation | 0 | Y | Redd Count | None Taken | 20 Redds, 3 Bulls Observed. |
| MF Ahtanum Cr | Sep 7,13,25 | Observation | 0 | Y | Redd Count | None Taken | 1 Redd, No Bulls Observed, incomplete survey. |
| SF Ahtanum Cr | Sep 5,13,17 | Observation | 0 | Y | Redd Count | None Taken | 14 Redds, 2 Bulls Observed, incomplete survey. |
| Rattlesnake Cr & trib (Little Wildcat) | Sep 10,11, 12,17,18 | Observation | 1 Carcass | Y | Redd Count (Carcass Genetic sample, T.Length 41 cm) | None - Carcass left in stream. | 57 Redds, 9 Bulls Observed |
| Box Canyon Cr | Sep 24 Oct 4,15 Nov 13 | Observation | 0 | Y | Redd Count | None Taken | 14 Redds, 15 Bulls Observed |
| Kachess R (upper) | Oct 24 Nov 6 | Observation | 0 | Y | Redd Count | None Taken | 14 Redds, 10 Bulls Observed. |

| | | | | | | | |
|---------------------------------------|---------------------|-------------|-----------|---|---|--------------------------------|--|
| Gold Cr | Sep 25 Oct 10,22 | Observation | 0 | Y | Redd Count | None Taken | 15 Redds, 11 Bulls Observed |
| Yakima R (Easton Lk to Keechelus Dam) | Sep 13,21 | Observation | 1 Carcass | Y | Redd Count (Carcass T.Length 81 cm) | None - Carcass left in stream. | 1 Redd, 1 Bull observed, incomplete survey. |
| Cle Elum R (upper) | Sep 10 Oct 11 | Observation | 0 | Y | Redd Count | None Taken | No redds or bulls observed, incomplete survey. |

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.

9-25-01

M.F. Ahtanum Bull Trout
Spanner Survey

0930 Hrs. H₂O Temp. 44.1° F

E. Anderson 1.8 miles below

Treephones C.G. to upstream
at .8 miles below C.G.

where Brandon Rogers (YN)

started & went up to C.G.

Total area surveyed 1.8 miles -

- Eric & Brandon.

No Redds observed in lower 1.0
mile of this reach.

Just 1 old Det. Redd.

End 1120 Hrs.

Go

No Redds observed in Brandon's
.8 mile reach, except
1 old Redd.

From: James L. Cummins
To: Eric Anderson
Date: Thu, Sep 13, 2001 3:33 PM
Subject: Yakima Redd Survey

Today, Jeff Thomas, Gary Torretta and I walked the Yakima R. Jeff walked from the Stampede Pass Highway Bridge to Keechelus Dam. Gary and I walked from the bridge downstream approximately 1/4 miles below the braided area. We found no bull trout redds or bull trout. I will get the data to you next wee, but we found about 10 spring chinook redds and about the same number of adult spring chinook.

Jim Cummins, Fish Biologist
 Washington Department of Fish & Wildlife
 1701 South 24th Ave.
 Yakima, WA 98902
 (509) 457-9316
 cummijlc@dfw.wa.gov

NEW
 2001 **AcipHex**TM
 E. Anderson rabeprazole sodium
 20-MG TABLETS

1 Fish 1 Redd
 in Keechelus - Eastern
 Reach.
 9/21/01
 Crystal Springs area,
 1 male on redd.

2
 0
 0
 1

STRIKE BACK NOW
 ACIPHEXTM is a trademark of Eisai Co., Ltd., Tokyo, Japan.
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From: "Mark Johnston" <markj@yakama.com>
To: Eric Anderson <ANDEREA@dfw.wa.gov>
Date: Mon, Dec 17, 2001 2:20 PM
Subject: Re: Bull Trout

Eric,

We did not have any bulltrout at Roza this year, but on the spawning ground above Easton dam, we saw a huge dead one, it was about 32 inches and 10 pounds.

Later,

Mark

Eric Anderson wrote:

>

> Hi Mark,

> Did you see any bulls at Roza Dam this year? Any place else?

> Eric

Bull Trout Spawning Ground Survey

Stream: Gold Creek
 Date: 9/25/01
 Location: 1000 ft below I-90 to falls
 Water Temp.: 47°F @ 1015 57 @ 1322 below I-90
 Investigator: Jim Cummins / Jeff Thomas
 Start Time: 1020
 End Time: 1400

| Redds: | New | Old |
|----------------------|---------------------------------|-------|
| Definite: | <u>6</u> | _____ |
| Probable: | <u>0</u> | _____ |
| Possible: | <u>1</u> | _____ |
| Bull Trout Observed: | _____ | |
| Tagged: | <u>0</u> | |
| Untagged: | <u>10 (all just above I-90)</u> | |
| Sub-adults: | <u>—</u> | |
| Juvenile: | <u>—</u> | |

Comments: Jeff walked west of upper area to falls. He found 4 det 1 pos. The pos redd was the last sign of fish, & just above trail crossing near Silver Creek. He found dry area & as expected, there was a long stretch of dry streambed above Gold Cr Pond. The last det redd was just below Silver Cr trail crossing. No fish above Gold Cr Pond. I saw 20 Kokanee 12-14" just above I-90, most with the 10 bull trout in 1 pool. 2 BLE redds & several Kokanee redds above & below I-90. No fish passage problems in the 1000 ft below I-90 that I surveyed. No Kokanee carcasses.

2001

check 2nd & 3rd pass numbers.

Bull Trout Spawning Ground Survey

Stream: Gold Creek

Date: 10/22/01

Location: Gold Creek Bridge Crossing to falls

Water Temp.: 45°F @ Gold Creek Road Bridge @ 0857 Upper Creek 41°F @ 1115

Investigator: Timi Cummins & Steve Cocci

Start Time: 0953

End Time: 1430 ±

| Redds: | New | Old |
|-----------|-------------------|-------------------|
| Definite: | <u>2</u> | <u>9</u> |
| Probable: | <u> </u> | <u> </u> |
| Possible: | <u> </u> | <u>1</u> |

| | |
|----------------------|----------|
| Bull Trout Observed: | |
| Tagged: | <u>9</u> |
| Untagged: | <u>0</u> |
| Sub-adults: | <u>0</u> |
| Juvenile: | <u>0</u> |

Comments: I walked from bridge to trail crossing, Steve walked trail crossing to falls. All new redds were above trail crossing. Water flow much higher than last survey + flowing all the way to falls. Water clear, but might have been too high to see redds + some areas. I could not find the 2 redds that Peter reported, but may have mistaken them for kok redds. Rained all day. Steve may have missed 1 redd at mouth of Silver Creek. My flag may have washed away due to high flows. We could not see most of the old redds - water too high. It was wet today.

Note: Old redds were missed. 15 Total

2001

10/10/01

Gold Creek Bull Trout Spawner

Survey

E. Anderson - Bridge above I-90 to
Trail Crossing \approx 2 mi.

J. Cummins surveying above Tr-Xing to Falls.
Old Def III (1 old below pond outlet +
dry stream bed 3 old above dry area
to Tr-Xing)

New Def IV (3 new below pond outlet
+ 2 new above dry area)

Fish 1 adult bull

Several hundred kokanee approx.

12-14" spanning below pond outlet
+ in pond outlet channel.

Stream channel dry from Gold
Creek Pond Outlet channel confluence
w/ mainstem to \approx $\frac{1}{2}$ mile above
Trail Head.

Bull Trout Spawning Ground Survey

Stream: Gold Creek
Date: 10/10/01
Location: Trail Crossing to lower falls (Cascades)
Water Temp.: 43°F
Investigator: Jim Cummins
Start Time: 1135
End Time: 1255

| Redds: | New | Old |
|-----------|----------|----------|
| Definite: | <u>1</u> | <u>1</u> |
| Probable: | <u>1</u> | <u>1</u> |
| Possible: | | |

Bull Trout Observed:

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

Comments: Eric Anderson has additional data for
reel down stream from trail. Steady
rain. One alee almost dry - no fish passage.

2
0
0
1

Bull Trout Spawning Ground Survey

Stream: S.F. Tieton R.
Date: 8-29-01
Location: above Blue Slide rapids.
Water Temp.: 59°F @ 1400 Hrs.
Investigator: E. Anderson
Start Time: 1400 Hrs
End Time: 1500 Hrs.

| Redds: | New | Old |
|-----------|----------|----------|
| Definite: | <u>—</u> | <u>—</u> |
| Probable: | <u>—</u> | <u>—</u> |
| Possible: | <u>6</u> | <u>—</u> |

Bull Trout Observed:
Tagged: —
Untagged: 30-40 (to turbid to observe tags)
Sub-adults: —
Juvenile: —

2001

Comments: Spot check via snorkel gear for staging / spawning activity.
Bulls schooled but test digs (possible redds) observed.
Hot, sunny weather. (low 90's F). Low H₂O level.
Falls beginning to form @ mouth w 1-2 FT drop.

8/29/01 S.F. Teton R.

Spot check for Bull Trout
Staying / Presence near
end of Index area
(near Blue slide) above Rapids

Snorkel several pool / runs
Turbid H₂O

Bulls present, just
starting to test dig
still schooled up, 30-40 bulls
in one large pool.

A few reds in side channel
just starting to dig.

59° F, H₂O Temp, 1400 hrs.

Hot / sunny 90's.

Low H₂O level.

Falls beginning to form at mouth
≈ 1-2 ft drop.

Bull Trout Spawning Ground Survey

Stream: S.F. Tieton / Bear Creek
 Date: 10/3/01
 Location: 1050 Rd to Falls / mouth to falls
 Water Temp.: 39°F
 Investigator: Jim Cummins + Steve Crocci
 Start Time: 1040
 End Time: 1343

Total
58

| Redds: | S.F. | New Bear | S.F. | Old Bear |
|----------------------|---|-------------|-----------|-----------|
| Definite: | <u>11</u> | <u>3</u> | <u>17</u> | <u>21</u> |
| Probable: | <u>1</u> | <u>0</u> | <u>2</u> | <u>3</u> |
| Possible: | <u>1</u> | <u>0</u> | <u>4</u> | <u>3</u> |
| Bull Trout Observed: | <u>SF</u> | <u>Bear</u> | | |
| Tagged: | <u>0</u> | <u>0</u> | | |
| Untagged: | <u>0</u> | <u>0</u> | | |
| Sub-adults: | <u>0</u> | <u>0</u> | | |
| Juvenile: | <u>About 20 WE + 1 CT in a single pool.</u> | | | |

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1

Comments: Found 1 Mort 28.25" yellow tag # 438, female
TL - Decomposition in process.
Apparent Natural Mort.
Few eggs in cavity.
partial delta, Eric has remaining delta for
1050 Rd down to Blue Slide. Total redds ± 163

From: Eric Anderson
To: Paul James
Date: Tue, Nov 20, 2001 11:14 AM
Subject: Bull Trout Morts

Paul,
Info on bull trout morts that we encountered during spawner surveys. I have the tags if you want them.

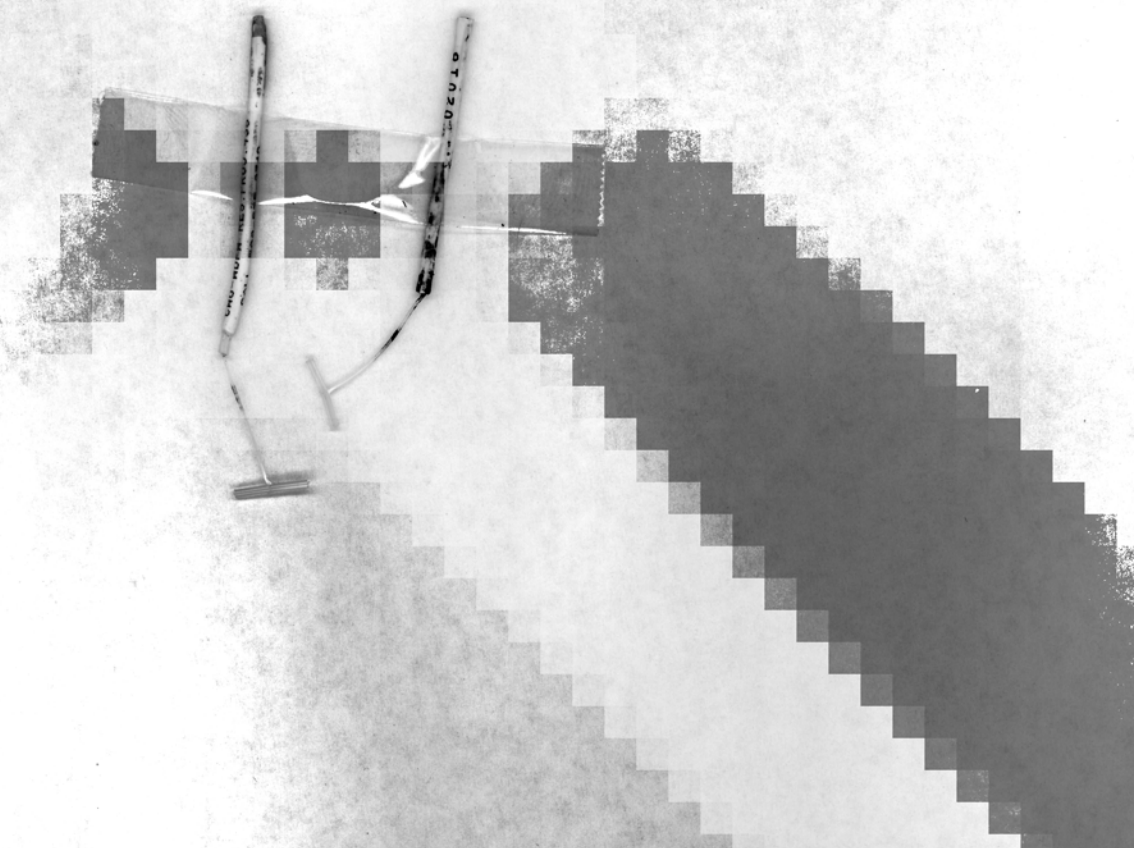
S.F. Tieton River 10/03/01
USFS Rd 1050 Bridge to Blue Slide
E. Anderson (WDFW) & G. Torretta (BR)
Tag # 02018 Yellow, Spawned out Femaleless than 20 eggs in cavity, FL 62.0 cm, TL 63.0 cm.
Intact - no apparent decomposition. Appeared to be natural mortality.
Tag Retained, Carcass left for nutrients.

S.F. Tieton River 10/03/01
Falls to Bear Creek
J. Cummins (WDFW) & S. Croci (USFWS)
CWU-WDFW Res. Proj. Tag # 438 Yellow, Spawned out Female.....a few eggs in cavity, TL 71.7cm.
Intact but decomposition in process. Appeared to be natural mortality.
Tag Retained, Carcass left for nutrients.

End.....Eric

CC: Gary Torretta; James L. Cummins; Kate Puckett; ...

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1



South Fork Tieton River

Surveyors: Paul James, Devona Ensmenger, Shawn Corrigan, Will Clark, Katrina Anderson, Will Truce

Date: 9/20-22/01

Location: Falls to Blue Slide

Definite

| | |
|-----|-----|
| Old | New |
| 10 | 88 |

Probable

| | |
|-----|-----|
| Old | New |
| 4 | 5 |

Possible

| | |
|-----|-----|
| Old | New |
| 2 | 5 |

| |
|-------------------|
| <u>Adult Fish</u> |
| 20 |

Location: Bear Creek

Definite

| | |
|-----|-----|
| Old | New |
| 9 | 13 |

Probable

| | |
|-----|-----|
| Old | New |
| 3 | 0 |

Possible

| | |
|-----|-----|
| Old | New |
| 3 | 0 |

| |
|-------------------|
| <u>Adult Fish</u> |
| 10 |

| | | | |
|---------------|-----------------|-----------------|-----------------|
| Summary: Date | <u>Definite</u> | <u>Probable</u> | <u>Possible</u> |
| 9/5/01 | 19 | 7 | 5 |
| 9/20/01 | 101 | 5 | 5 |
| Total= | 120 | 12 | 10 |

Bull Trout Spawning Ground Survey

Stream: South Fork Tipton / Bear Creek
 Date: 9/5/01

Location: Upper end Blue slide to falls + Bear Creek

Water Temp.: 1050 Road @ 0957 - 45°F Falls @ 1030 - 42°F Blue slide @ 1330 - 49°F
Bear Creek @ 1040 - 8°C

Investigator: CUMMINS + Torella (Blue slide - 1050 Rd) Thomas (Bear Creek)
Croce + Heather? (Bear to falls), Thomas, Croce + Heather (1050 Rd to Bear Creek)

Start Time: CUMMINS + Torella - 0957, Thomas 1040 + Bear Cr, Croce + Heather - 1030 @ Falls

End Time: " " - 1330, " " 1230 " " 1340 @ 1040 Rd

| Redds: | S.F. | New Bear | Old |
|-----------|------------|----------|-----|
| Definite: | <u>12</u> | <u>9</u> | |
| Probable: | <u>4</u> | <u>3</u> | |
| Possible: | <u>27*</u> | <u>3</u> | |

| Bull Trout Observed: | S.F. | Bear |
|----------------------|-----------|-----------|
| Tagged: | <u>11</u> | <u>2</u> |
| Unknown: | <u>43</u> | |
| Untagged: | <u>29</u> | <u>15</u> |

100 BLC

Sub-adults: _____
 Juvenile: 1 7" BLC Went, Checked to death on 4" sculpin

Comments: * From Blue slide upstream next 2 pools + riffles was unique + confusing (± 200 meters). The upstream most pool ± 200 m above Blue slide had 35-40 adult BLC, maybe more. The tailout at the end the this pool had about 13-14 "false redds" called possible here. The next pool down had about 14 BLC + another 11-12 possible redds. I have never seen anything like this. Both groups of possible redds are flagged. Lots of algae for 1/2 hour below 1050 bridge. Water slightly turbid.

Jim Cummins

20001

Bull Trout Spawning Ground Survey

Stream: Crow Creek
Date: 9/21/01

Location: 1

Water Temp.: 46° F

Investigator: Tim Cummins / Alamo (SP) (USFS)

Start Time: 0948

End Time: 1510

| Redds: | New | Old |
|-----------|----------|----------|
| Definite: | <u>5</u> | <u>1</u> |
| Probable: | | |
| Possible: | | |

Bull Trout Observed:

| | |
|-------------|-----------|
| Tagged: | <u>0</u> |
| Untagged: | <u>0</u> |
| Sub-adults: | <u>1?</u> |
| Juvenile: | <u>-</u> |

Comments: Saw one 9-10" fish near redd, but not sure if it was a bull trout. First redd above sand bluff / bedrock area. Did not reach upper area of BHC area - about 1/4 mile below. Returned to vehicle @ 1830. Very long trip.

2
0
0
1

Bull Trout Spawning Ground Survey

Stream: Crow Creek

Date: 9/28/01

Location: * Beaver Pond area to flagged upper end of section near large rocks.

Water Temp.: _____

Investigator: JIM CUMMINS

Start Time: 1230

End Time: 1630

| Redds: | New | Old |
|----------------------|-----------|-----------|
| Definite: | <u>0*</u> | <u>6*</u> |
| Probable: | <u>0</u> | _____ |
| Possible: | <u>0</u> | _____ |
| Bull Trout Observed: | | |
| Tagged: | <u>0</u> | _____ |
| Untagged: | <u>0</u> | _____ |
| Sub-adults: | <u>0</u> | _____ |
| Juvenile: | _____ | _____ |

Comments: * Walked trail all the way to about 1/8 mile above Fall Creek. Walked downstream about 1 hour to impossible canyon/falls. Walked around this falls up to area we flagged as the upper boundary then down to below beaver pond area. Found 4 of the 6 old redds. The remaining 2 redds (old) are below this point. Due to lateness I stopped at this point & returned by trail. I was on trail/creek from 0800 - 1830. Left flags on the four redds that are between beaver ponds and upper end of survey section. No redds above falls

~~Sections counts
in 2001~~

2000 Bull Trout Redd Survey
Rattlesnake Creek

Total Season Count = 45 Redds

X
2001

| | Segment of Stream | Definite | Probable | Possible | Fish | Temp/Time | Date |
|----|--|----------|----------|----------|------|-----------|---------|
| 4 | Trail 1114 x-ing (below MJB x-ing) to MJB Trail x-ing | 5 | 0 | 1 | 0 | --/1100 | 9/17/00 |
| 6 | MJB Trail x-ing to Shell Cr. <i>Trail crossing above shell cr</i> | 4 | 0 | 0 | 0 | 42/0917 | 9/17/00 |
| 15 | Shell Cr. to Little Wildcat Cr. | 7 | 1 | 0 | 0 | 45/1430 | 9/16/00 |
| 13 | Little Wildcat Cr. | 11 | 1 | 0 | 1 | --/1235 | 9/17/00 |
| 19 | Little Wildcat Cr. to McNeil Cr. | 16 | 0 | 0 | 0 | --/1045 | 9/17/00 |
| 57 | Total | 43 | 2 | 1 | 1 | | |

Notes:

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

In Little Wildcat Creek, 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).

Spawning complete; only one fish observed on redd.

One pass survey conducted in Shell Creek from mouth to upstream approximately 50 minutes steady walking/wading time. One definite redd was observed above the stream crossing.
Several probable passage barriers above the trail x-ing. This redd not included in the above index area total. Suggest additional investigation in this stream in 2001.

Bull Trout Spawning Ground Survey

Stream: Rattlesnake Cr
 Date: 9/17 - 9/18/01

Location: 1114 trail crossing below MJB to dm arc below McNeil Cr

Water Temp.: ~~1114~~ Strawberry Meadows 9/17 @ 1318.46°F

Investigator: Jim Cummins / Jeff Thomas

Start Time: 1314 on 9/17 0930 on 9/18

End Time: 1530 on 9/17

| Redds: | New Rattlesnake/Wildcat | | Old Rattlesnake/Wildcat | |
|-----------|----------------------------|----|----------------------------|----|
| | Definite: | 20 | 6 | 13 |
| Probable: | 2 | 1 | 9 | 1 |
| Possible: | 1 | 1 | 1 | 1 |

Total
57

Bull Trout Observed:

Tagged: 0

Untagged: 2

Sub-adults: 0

Juvenile: 0

Comments: A few "old" redds deleted, + a few "old" pos
changed to redds.

Thomas did the Little Wildcat + Rattlesnake up-river
from L. Wildcat. I walked all but upper 1/8 mile
below Shell Break. - JC

20001

From: "Karen S Lindhorst/R6/USDAFS" <klindhorst@fs.fed.us>
To: "Eric Anderson" <ANDEREA@dfw.wa.gov>, <jeffhazz@ao...>
Date: Thu, Sep 13, 2001 8:43 AM
Subject: Rattlesnake Creek Redds

Hi, Got out of the Rattlesnake last night about 1600. Three fun filled days of river walking and night snorkeling.

Here is the results.

9/10-From trail crossing downstream of MJB toward MJB : 1630-1815 Def -0, Prob-2, Pos-2, 0 fish
9/12-From ending below MJB 9/10 to above MJB`.25mi: 1100-1200 Def-0, Prob-0, Pos-0, 0 fish
9/12-From`.25mi above MJB to 1mi above MJB: 1100-1200 Def-0, Prob-0, Pos-0, 0 fish
9/10-From 1mi above MJB to 1/2 mi below Shell: 1630-1825 Def-3, Prob-1, Pos-4 --3 fish, 1 single/1 pair near redd.
9/11-From 1/2 mile below shell to Shell: 1200-1330 Def-0, Prob-0, Pos-1, 0 fish
9/11-From Shell to Lt. Wild Cat:1330-1445 Def-2, Prob-3, Pos-3, 0 fish
9/11-From Lt. Wildcat to end of water /above beaver ponds:1445-1630 Def-11, Prob-3, Pos-3, 1 dead fish/head eaten off -- we cut off tail to use for Yuki's genetic studies. Estimated it to be about 16" with head/12" left.
9/11-From Rattlesnake up Little Wildcat --above rock slide: 1200-1445 Def-4, Prob-1, Pos-0, 3 fish, 1 single/1pair

Totals: Def-20
Prob-10
Pos-13
Day Fish-7 (1 Dead)
Night Fish - 9 Adults / >35 juves.

All snorkeling done below MJB = above trail crossing and downstream of trib below MJB Trail X Rattlesnake.

9/10 Night snorkled from 2115 to 2230. Collected 17 caudal fin samples from juv's. Saw 5 individual adult fish.

9/11 Night snorkled from 2115 to 2315. Collected 12 caudal fin samples from juv's. Saw 4 adult fish / 2 pairs.

Karen S. Lindhorst -- Fish Biologist @ Naches Ranger District
Okanogan Wenatchee National Forests
Naches Ranger District - 10061 Highway 12 Naches, WA 98937
Fax 509/653-2638 509/635-2205 ex. 231
klindhorst@fs.fed.us -or- KRANDWA1@aol.com

CC: "Karin Y Reiss/R6/USDAFS" <kreiss@fs.fed.us>, <jef...

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0
0
1

Bull Trout Spawning Ground Survey

Stream: American River

Date: 8/31/01

Location: Union Creek down 1/2 mile

Water Temp.: _____

Investigator: Jim Cummins, Karin Loughorst

Start Time: 0950

End Time: 1040

| Redds: | New | Old |
|----------------------|-----------|-------|
| Definite: | <u>0</u> | _____ |
| Probable: | <u>0</u> | _____ |
| Possible: | <u>2</u> | _____ |
| Bull Trout Observed: | | |
| Tagged: | <u>0</u> | _____ |
| Untagged: | <u>21</u> | _____ |
| Sub-adults: | <u>0</u> | _____ |
| Juvenile: | <u>0</u> | _____ |

2
0
0
1

Comments: Raven covered most of the section while I did Union Cr. We both agreed that there were 01 adult bull trout in one pull at the upstream most cabin below Union Creek. I don't believe fish are spawning yet on the American in this area.

Bull Trout Spawning Ground Survey

Stream: American River
Date: 8/31/01
Location: Mesatchee Creek Trail Crossing to Timber Creek
Water Temp.: 58°F @ 1327
Investigator: Karen Longhurst & Jim Cummins
Start Time: 1115
End Time: 1345

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

Comments: * Possible that this is a small spring
Chinook redd - looked to be several weeks
old & no other BLC redds in American today
Saw several trout & whitefish

2
0
0
1

Bull Trout Spawning Ground Survey

Stream: Union Creek
Date: 8/31/01

Location: Worth to Falls

Water Temp.: 48 F @ 0930

Investigator: JIM CUMMINS

Start Time: 0930

End Time: 1005

| Redds: | New | Old |
|-----------|----------|-----|
| Definite: | <u>5</u> | |
| Probable: | <u>1</u> | |
| Possible: | <u>0</u> | |

Bull Trout Observed:

| | |
|-------------|----------------|
| Tagged: | <u>0</u> |
| Untagged: | <u>6</u> |
| Sub-adults: | <u>1 ~ 11"</u> |
| Juvenile: | <u>0</u> |

Comments: All redds above highway bridge + fish.

2001

Bull Trout Spawning Ground Survey

Stream: Kettle Creek (Trib. to American R. By PV CG)
Date: 8/31/01

Location: Mouth to 1/2 mile upstream

Water Temp.: 49°F @ 1145

Investigator: Jim Cummins

Start Time: 1130

End Time: 1240

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

Comments: Likely block to upstream migration - logjam @
~ 1/4 mile. Redd below that point. This barrier was
here last year. I put a flag at the upper
end of the area I walked, which is slightly
below last year. There is a 2nd potential
migration barrier just above where I stopped.

2001

1

2

Bull Trout Spawning Ground Survey

Stream: Union Creek / America from Union 2 1/4 mile down
Date: ~~10/20/01~~ 9/20/01

Location: mouth to falls / 1/4 mile below Union CK

Water Temp.: Union 42°F @ 1020

Investigator: Jim Cummins

Start Time: 1019 @ Union / 1040 American

End Time: 1040 @ Union / 1120 American

| Redds: | New | Old |
|-----------|-----------------------------|---|
| Definite: | <u>16* / 0</u> | <u>15 10 / 0 10</u> |
| Probable: | <u> </u> | <u> </u> |
| Possible: | <u> </u> | <u> </u> |

Bull Trout Observed:

Tagged: 0

Untagged: 0

Sub-adults: 0

Juvenile: 0

Comments: * USFS removed flags. Did not find any "old" redds on American, although USFS reported 2.

2001

9/13/2001

From: "Karen S Lindhorst/R6/USDAFS" <klindhorst@fs.fed.us>
To: "Eric Anderson" <ANDEREA@dfw.wa.gov>, <ANDEREA@dfw...
Date: Fri, Sep 14, 2001 3:59 PM
Subject: Re: Rattlesnake Creek Redds

1

The crew walked Crow Creek yesterday, got home at 1800.
Temp. 10 degrees C/50 degrees F @ 1200
Saw 1 possible redd and 1 fish, not on the redd. We'll look again next
friday.

Crow Creek

1

Kettle Creek
Temp. 48 degrees F @1000
3 redds and 0 fish

2

Union Creek
Temp. 52 degrees F @1300
15 redds and 1 fish on redd.

3

American below Union Creek
Temp. 50 degrees F @1140
2 redds and 1 fish on redd.

4

American above Lidgepole to Mesatchee Creek Trail Crossing
Temp 48degrees F @0940
2 redds, 0 fish
This was at the site of the redd location Jim Cummings marked on the first
pass. One was really long (possibly a chinook size redd) the other one was
toward right bank and smaller (approx 1/2-2/3 the size).

American R.

2
0
0
1

Bull Trout Spawning Ground Survey

Stream: Deep CK (Entire Index Area - Lake to Falls)
 Date: 8/29/01
 Location: Lake to Falls
 Water Temp.: 45 @ Culvert - 1050
 Investigator: Jim Cummins, John Eastbrook + Bob Tuck
 Start Time: 1050
 End Time: 1600

| Redds: | Below Culvert | New Culvert-Copp | ✓ Easty Above Copper | Old |
|----------------------|---------------|------------------|-------------------------|-----------------------------------|
| Definite: | 11 | 4 | 1 | |
| Probable: | 2 | 1 | | |
| Possible: | 1 | - | 1 | |
| Bull Trout Observed: | | | | |
| Tagged: | 1 | | | |
| Untagged: | 2 | | (3 unknowns) | 6 Total adults all above culvert. |
| Sub-adults: | | | | |
| Juvenile: | | | | |

2
0
0
1

Comments: Drought year - no passage above first rock slide - same area as in past. No fish observed above this dry (intermittent) area, but 1 det + 1 pos redd observed by Eastbrooks. with only 19 det + Prob, & few fish. Dr James may trap few fish. We agreed that he will check Friday + decide if/when he will trap. One Mat (animal kill) - Caudal section below culvert + an additional pile of presumed BAC eggs at mouth (animal kill?). Saw fry above + below culvert.

Jim Cummins 8/30/01

From: Paul James <JamesP@cwu.EDU>
To: <ANDEREA@dfw.wa.gov>
Date: Thu, Sep 6, 2001 10:25 AM
Subject: Re: Deep Creek Redds

Eric:

We completed the redd survey on Deep Creek yesterday. It looks pretty bleak. I have attached an Excel file with the data. We have a total of ³⁷~~36~~ redds (26 below culverts!) which includes our counts and Jim's counts. We only saw one pair that were still on a redd and it looks like spawning is essentially over. The stream dries up about a half mile above the culverts on Rd 1800. I think fish either could not make it above the culverts or didn't like what they found up there and ended up spawning below the culverts or maybe not at all. Not good news but not unexpected during this dry year. I would like to talk to you sometime about meeting with the USFS to re-design the culverts. They should be passable at all water levels and I'll bet a lot of fish just never made it past them this year.

Later,

Paul

2001

| 2001 Bull Trout Redd Surveys | | | | | | | | | |
|------------------------------|---|------------------|------------|----------|----------|-----|--|------------|--|
| Deep Creek | | | | | | | | | |
| Surveyors: | Paul James | Devona Ensmenger | Will Truce | | | | | | |
| Date: | 9/5/01 | | | | | | | | |
| Location: | From Rd 1800 crossing to dewatered zone | | | | | | | | |
| | Definite | | Probable | | Possible | | | | |
| | Old | New | Old | New | Old | New | | Adult Fish | |
| | 4 | 4 | 1 | 1 | 0 | 0 | | 1 | |
| Location: | From Rd 1800 crossing to lake | | | | | | | | |
| | Definite | | Probable | | Possible | | | | |
| | Old | New | Old | New | Old | New | | Adult Fish | |
| | 12 | 11 | 1 | 2 | 0 | 0 | | 2 | |
| Summary: | Date | Definite | Probable | Possible | | | | | |
| | 8/29/01 | 16 | 3 | 2 | | | | | |
| | 9/5/01 | 15 | 3 | 0 | | | | | |
| | Total= | 31 | 6 | 2 | | | | | |

13 8/29
 13 9/5

 26

2
0
0
1

Bull Trout Spawning Ground Survey

Stream: Deep Creek
 Date: 9/12/01
 Location: Lake to dry area + Falls down 3/4 mile
 Water Temp.: At road - lower culvert 44.5°F @ 1012
 Investigator: Jim Cummins / Jeff Thomas
 Start Time: 1015
 End Time: 1439

| Redds: | New | Old |
|----------------------|-----------------------|-------------------------|
| Definite: | <u>14</u> | <u>24 31</u> |
| Probable: | <u>1 1</u> | <u>5</u> |
| Possible: | <u>2</u> | <u></u> |
| Bull Trout Observed: | | |
| Tagged: | <u>0</u> | |
| Untagged: | <u>0</u> | |
| Sub-adults: | <u>0</u> | |
| Juvenile: | <u></u> | |

Total
~~51~~
 51

| |
|---|
| 2 |
| 0 |
| 0 |
| 1 |

Comments: I walked the culvert up to just below first rock slide, where the channel is dry. 5 new def + 1 new prob. Total this section 13 def + 2 prob = 15. Jeff Thomas walked area below culvert. Old left channel is dry. Total redds this section 9 new def + 23 old def + 4 old prob = 36. Also. Jeff walked from upper culvert to falls - no redds - change old def to no redd. I walked from culvert downstream about 1/2 mile, well beyond area that is dry & did not find flowing water again before I stopped walking downstream. No redds.

Bull Trout Spawning Ground Survey

Stream: Bumping River
Date: 8/30/01

Location: Bumping Dam to Goos Prairie

Water Temp.: 67°F @ 1035

Investigator: Jim Cummins with Yuki Reiss + Karin Lindhorst

Start Time: 1030

End Time: 1430

| Redds: | New | Old |
|----------------------|----------|--------------------------------------|
| Definite: | <u>0</u> | <u>17 Spring Chinook (Year 2000)</u> |
| Probable: | <u>0</u> | |
| Possible: | <u>0</u> | |
| Bull Trout Observed: | | |
| Tagged: | <u>0</u> | |
| Untagged: | <u>0</u> | |
| Sub-adults: | <u>0</u> | |
| Juvenile: | <u>0</u> | |

Comments: Water temp high for BIC spawning. No spring chinook spawning yet, but could clearly identify last years spring chinook redds. No spring chinook adults observed. About 17 old spring chinook redds visible. The old redds are large, + there is algae growing on the gravel. No spring chinook carcasses

2001

Bull Trout Spawning Ground Survey

Stream: Bumping R. (Lower)
 Date: 9/7/01
 Location: Dam to Bridge below Dam
 Water Temp.: 57.6°F @ 1115 Hrs.
 Investigator: E. Anderson
 Start Time: 1115 Hrs.
 End Time: 1315 Hrs.

(also spot check in split channel below bridge to Goose Prairie)

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

2
0
0
1

Comments: Spring chinook actively spawning.
Blue Flaps from 9/6 survey by YN bios.
that marked chinook redds.
1 chinook carcass observed.
~12 chinook redds w actively spawning chinook.
No bull trout or redds observed.
If time, need to check later in season.

9/7/01

Bumping R, From Dam to Bridge
Crossing - Spot check for
Bull Trout spawning activity

E. Anderson

H₂O Temp. 57.6° F @ 1115 Hrs

No bulls were observed.

Spring Chinook actively spawning.

Blue Flays from 9/6 survey
by YV Biologists marking
chinook redds,

≈ 12 chinook redds observed.

1155-1315 Hrs. 1 carcass observed.

Spot check in split channel
below bridge to Goose Prairie
but no bulls or redds observed.

H₂O still too warm,

check later in season!

Bull Trout Spawning Ground Survey

Stream: Cle Elum R. (Upper)

Date: 9/10/01

Location: Hyas LK to downstream \approx 3/4 mile

Water Temp.: 55.6 °F @ 1030 Hrs.

Investigator: E. Anderson (WDFW), Steve Croci (USFWS), Heather Larson (BR)

Start Time: 1030 Hrs.

End Time: 1300 Hrs.

| Redds: | New | Old |
|----------------------|-----|-----|
| Definite: | — | — |
| Probable: | — | — |
| Possible: | — | — |
| Bull Trout Observed: | | |
| Tagged: | — | |
| Untagged: | — | |
| Sub-adults: | — | |
| Juvenile: | — | |

Comments: No bull trout or redds observed.
Last year redds (2000) were still
visible.
Several unidentified trout fry on fringes
of River (side channel areas, etc.)

2
0
0
1

9/10/01

Upper Cle Elum R. Bull
Trout Spawning Survey
spot check.

Hyas LK to downstream 3/4 mi.
H₂O Temp 55.6°F @ 1030 Hrs.

E. Anderson WDFW

S. Croci USFWS

H. Larson BR

(Heather)

No new Redds or fish
observed.

Last years reds present.

A few fry on fringes
of River, backwater areas.

End 1300 Hrs

Field Notes for Survey
Form

Bull Trout Spawning Ground Survey

Stream: Cle Elum River
Date: 10/11/01

Location: 1/4 mile up Hyas LK Trail — Hyas LK

Water Temp.: 46°F

Investigator: Jim Cummins

Start Time: 1115

End Time: 1208

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

Comments: Today was cool, rain showers, 1" snow on ground.

2
0
0
1

Bull Trout Spawning Ground Survey

Stream: Box Canyon Creek
Date: 9/24/00
Location: Footbridge to falls (approx 2 miles)
Water Temp.: 53°F @ 1320 below falls
Investigator: Jim Cummins
Start Time: 1100
End Time: 1320

| Redds: | New | Old |
|----------------------|----------|--------------|
| Definite: | <u>0</u> | |
| Probable: | <u>0</u> | |
| Possible: | <u>0</u> | |
| Bull Trout Observed: | | |
| Tagged: | | |
| Untagged: | <u>1</u> | |
| Sub-adults: | <u>1</u> | <u>~ 13"</u> |
| Juvenile: | | |

Comments: Reservoir low. Approximately 600' of the creek was put into a narrow channel last week, constructed of hay bales + plastic sheet. Creek is possible if fish are willing to swim over black plastic in narrow channel. As good as it can be. Counted 15 7-12" Cutthroat. Saw several 1" + 3" salmonids. One area slightly more than half way between foot bridge + lake may be impassible. Flow 60% ± of normal. The adult fish was in the pool below the cascade slightly less than halfway to main falls.

2001

Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 10/9/01

Location: Roadend to lower end of Canyon - including Upper S. Spring

Water Temp.: 39° F @ 1105

Investigator: Jim Cummins

Start Time: 1014

End Time: 1104

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

Comments: No fish access to this area since mid to late ~~fall~~ summer.

2
0
0
0
1

Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 10/9/01

Location: from Lower S. Spring to North Spring, including L. S. Spring

Water Temp.: 42° F @ 1145

Investigator: Tim Cummins

Start Time: 1150

End Time: 1227

| Redds: | New | Old |
|-----------|----------|----------|
| Definite: | <u>1</u> | <u>3</u> |
| Probable: | <u></u> | <u>1</u> |
| Possible: | <u></u> | <u>3</u> |

Bull Trout Observed:

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

Comments: No redds in Lower South Spring.
Eric was done for North Spring &
mainstem below North Spring.

2001

Bull Trout Spawning Ground Survey

Stream: Inchan Creek
 Date: 9/4/01
 Location: Highway 12 bridge to falls
 Water Temp.: 48°F @ mouth - 1012, 7°F @ waterfall @ 1300 (Thomas)
43°F N. Spring @ 1245 U. South Spring 6°F.
 Investigator: Cummins, Eastbrooks, Lindhorst, Reiss, Thomas, Torretta
 Start Time: 1012 - 1300
 End Time: 1300

| Redds: | New | Old |
|----------------------|-------------------------|-----|
| Definite: | <u>15</u> | |
| Probable: | <u>6</u> | |
| Possible: | <u>6</u> | |
| Bull Trout Observed: | | |
| Tagged: | <u>1 orange</u> | |
| Untagged: | <u>1</u> | |
| Sub-adults: | <u>1 ≈ 6"</u> | |
| Juvenile: | <u>A few dozen 4-5"</u> | |

2
0
0
1

Comments: Cummins + Eastbrooks - mouth to Highway 12 - No fish, no redds, + Highway 12 to North Spring - 8 def + 1 pos No adult BLC. Yuki + Karen Lower S. Spring, 0 Redds + 0 fish. Yuki + Karen - Mainstem from L. S. sp to N. Spring: 1 def, 2 pos, No adult BLC, 4-4-6" juv. fish. Yuki + Karen - North Spring. 6 def 5 prob, 4 pos - 2 fish + a few juveniles. Thomas + Torretta - Mainstem from L. S. Spring to falls, + Upper S. Spring - 0 Redds, 0 Adult BLC, more than a dozen juvenile BLC. 1 WF.

Indian Creek E. Anderson

Oct 23

spot check for additional
spawning - no fish observed

spawning in marshes below
or above N. spring for 1 mile
or in N. spring.

2001

Bull Trout Spawning Ground Survey

Stream: Indian Creek.
Date: 10/2/01
Location: End of road, including S. Spring down to North Spring
Water Temp.: 44°F
Investigator: Jim Cummins
Start Time: 1030
End Time: 1345

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

Bull Trout Observed:

| | |
|-------------|---|
| Tagged: | <u>0</u> |
| Untagged: | <u>0</u> |
| Sub-adults: | <u>0</u> |
| Juvenile: | <u>1 10" fish in lower S. Spring, maybe EB.</u> |

Comments: Although I walked main Indian Creek below North Spring, Eric has that data + additional data down to Highway 12.
There is a section of mainstem between North + S. Spring that is dry.
Appears the work by Perry Harvestal was effective in getting gull trout into Indian Creek.
Eric also has North Spring data

2
0
0
1

Bull Trout Spawning Ground Survey

Stream: N. F. Antanum / Shellneck Creek
 Date: 9/6/01

Location: Grey Rock trail to Shellneck Ck + Shellneck Ck (3/4 mile)

Water Temp.: 44°F @ 1032 44°F just above Shellneck Ck @ 1325 + Shellneck 43

Investigator: Cummins, Tuck, Brandon Rogers (YN)

Start Time: 1032 (N.F.) / 1327 Shellneck

End Time: 1322 (N.F.) / 1445 Shellneck

| Redds: | N.F. | New Shellneck | Old |
|-----------|----------|---------------|-----|
| Definite: | <u>4</u> | <u>1</u> | |
| Probable: | <u>1</u> | <u>0</u> | |
| Possible: | <u>2</u> | <u>2</u> | |

2
0
0
1

Bull Trout Observed:
 Tagged: 0
 Untagged: 2 Tuck says he saw 2.
 Sub-adults: 0
 Juvenile: 0

Comments: - Cutthroat 1" - 8" plentiful. 1st reach (working upstream) was just below gated road bridge (~1.1 miles above grey cr).
2nd reach & all other reaches above Snow Cabin CG, starting about 100 yards above CG.
 - Cows along stream. - 4 cows.

Bull Trout Spawning Ground Survey

Stream: N.F. Antanum Cr. / Shellneck Cr.
 Date: 9-12-01

Location: Grey Rock trail to shellneck + lower 1/3 mile (shellneck).

Water Temp.: N.F. 45.5°F @ 1000 Hrs. ; 45.3°F @ 1230 Hrs.
(WDFW)

Investigator: E. Anderson, Brandon Rogers + Leon Gannelas (YN) + Bob Tuck (consultant/WDFW Commissioner)

Start Time: 1000 Hrs. N.F. 1300 Hrs. Shellneck

End Time: 1230 Hrs. N.F. 1400 Hrs. Shellneck.

| | New | | Old | |
|----------------------|---|-----------|-------------------------------------|-----------|
| | N.F. | shellneck | N.F. | shellneck |
| Definite: | <u>2</u> | <u>3</u> | <u>4</u> | <u>1</u> |
| Probable: | <u>0</u> | <u>0</u> | <u>1</u> | <u>0</u> |
| Possible: | <u>1</u> | <u>3</u> | <u>1</u> | <u>0</u> |
| Bull Trout Observed: | <u>(1 pos. above potential barrier)</u> | | <u>(1 pos. changed to New Def.)</u> | |
| Tagged: | <u>—</u> | | <u>(2 pos. changed to New Def.)</u> | |
| Untagged: | <u>2 (6" but not on redd)</u> | | <u>(14-15" on redd)</u> | |
| Sub-adults: | <u>—</u> | | | |
| Juvenile: | <u>—</u> | | | |

2
0
0
1

Comments: - Several cows observed along bank in the index area of N.F.
- Cow patties on sandbars in middle of stream.
- Some areas of riparian beat down + browsed by cattle. Few elk tracks or sign in riparian observed. One redd w/ cattle tracks.
- Active logging in Shellneck drainage by Antanum Irrigation District (AID).
- Probable wood jam/debris barriers (2-3 barriers) on Shellneck along road. Redds observed below lower barrier.
only 1/3 mile of lower Shellneck surveyed on this date.

9/24/01

N. F. Antanum C, Bull Trout

Spanner Survey

E. Anderson - WDFW

Brandon Rogers - Yakama Nation

H₂O Temp 44.4°F @ 0950 Hrs.

Grey Rock T.A. Bridge to Shellneck Co
Redds.

Old Def. IIII

old Pos. + changed to new Def.

old Probi I

(13)

New Def IIII

old Pos I

4 cows observed
on road in
lower N.F.

End 1230 Hrs.

(Lots of cow sign in creek bottom, trampling
through in the area.)
Shellneck Cr.

H₂O Temp @ 1235 Hrs. 43.8°F

Old Def. IIII

New Def. II (7)

old Pos II

End 1305 Hrs.

most Redds in
shell neck at high
Red. - probable
log jam barrier
↓ 3 ft falls prevent
upstream migration