Kachess R. 10/24/01
1150 - 1355
Motan to Trail
50 cfs + at lake
No redds
No AFA

Trail to Falls
1303 - 1410

DF 144 11
P 5
A 5
BLC adult
HTT HTT HTT HTT HTT 11

No fish are redds above
Loquam C 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.

Joan Eastbrook walked
Mineral C 1325 - 1350
saw 1 Ask - Female
1/4 mile up Wminal series
of 4-6' falls.

Good water flow all the way
to lake. Area below trail
becomes dry every summer.
10/13/01 1050 Br -> Blue Slide
S.F. Tipton Bull Trout Spawning Survey 1000 Hrs, 38.5°F
E. Anderson G. Jannotta

old D of F: 12/11/01 12/11/01 12/11/01
  " Pro ++ ++ ++
  " Pos +

new D of F: 12/11/01 12/11/01 12/11/01 12/11/01
  " Pro
  " Pos

Fish 1 Unknown Tag Adult

old D of F +

1 6-8' Bull
Numerous CT + WF

End 1415 hrs, 100K lbs

Total 154K lbs

S.F. Tipton 1050 - Blue Slide
S.F. Tipton Mort. - Intact
Tag # 02013

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 - 1mi

J. Cummings surveying above bridge to falls
Old Def III (old below pond outlet + dry stream bed above dry area to TV-Xing)
New Def IV (3 new below pond outlet + 2 new above dry area)
Fish 1 adult bull
Several hundred Kokanee approx. 18-19" swimming below pond outlet + in pond outlet channel
Stream channel dry from Gold Creek Pond Outlet channel continues to mainstem to 1/3 mile above Trail Head.

10/9/01 Indian Creek Bull Trout Spawning Survey

Hwy 12 Bridge to OLY SP.
E. Anderson 1000 hrs.
H2O Temp. 43.2°F

Old Def IV III III III III III III III III III III
Old Pps.+++++
New Def III III III III III III III III III III
New Pps.
New Pps
Fish II
(1 yellow tail)
(1 no tail)

Few dozen Kokanee observed - spawning mostly complete + (eliminated or Changed)
86 Rests in mainstem and 1235 hrs.
9/24/01
N.F. Ahtanum C. Bull Trout

Spawner Survey
E. Anderson - WDFW
Brandon Rogers - Yakama Nation
H2O Temp 44.4°F @ 0950 Hrs.
Gray Rock T.H., Bridge to Shelly Creek
Redds.

Old Def. N4III
Old Pos. + changed to new Def.
Old Prob. I

New Def. N4III
4 cows observed
End 1230 Hrs.

H2O Temp @ 1235 Hrs. 43.5°F
End 1305 Hrs.

9/25/01
M.F. Ahtanum Bull Trout

Spawner Survey
0930 Hrs. H2O Temp. 44.1°F
E. Anderson 1.8 miles below
Treehouse C.G. to upstream
at 8 miles below C.G.
where Brandon Rogers (YN)
 started & went up to C.G.
Total area surveyed 2.8 miles -
Eric & Brandon.
No Redds observed in lower 1.0
mile of this reach.
Just 1 old Def. Redd.
End 1120 Hrs.

No Redds observed in Brandon's
6 mile reach, except
1 old Redd.
Kettle Cr. Bull Trout
Spawner Survey Month
up ≈ 34 mile
E. Anderson & J. Cummins
H2O Temp. C: start 1320hrs.
44.1°F
Redds
Old Def III
New Def 6
9/20/01

10-15-01 E. Anderson
Box Canyon Creek
No New Redds in Index
area on this date
- no bulls observed.

End C 1400Hrs.
Probable barrier log jam
at 3 ft falls approx.
1/3 mile up from mouth.
No Redds observed above
falls. (New log jam
falls - Redds observed
above this in previous
years.)
Box Canyon Creek - Barry T. Driver

November

Passage problems 3
Passage above falls
Six fish recorded 10 11 12

No data

1235 hrs - Heo Temp. 67

1250 hrs - Heo Temp. 67

Dinner at Clarks Fork & 6000 County Road

1350 hrs - roulette game with white elephant
take home good plastic elephant & 1000 yen.

Fishes: 10411111
American R. Bull Trout

Spawning Survey 9-20-01
1625 hrs. H2O temp 43.7°F
Mesaquite 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 E 1300 Hrs 42.8°F

Old Def Redd NN NN NN NN
Old Pro. +1
Old Pos. + + +

New Def: NN NN
New Pro.
New Pos

Fish: 1
(1 Orange Tag)

J. Cummins + E. Anderson.

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

End 1350 Hrs

26

1/2 Redds = male + female

56
Indian Cr. Bull Trout Spawner Survey 10/2/01 Not IN
E. Anderson

Lake to Hwy 12 Bridge, 10/15 hrs
New Def 111 (includes one in webcam)
H2O Temp 45.3 F @ 1015 hrs
Good passage - no blocks
Kokanee actively spawning - numerous kok, redds
1 bull on redd, no old redds

Hwy 12 Bridge to N. Spring, 10/15 hrs
Old Def N 111 E. Anderson
Old Def + (J.Cummins, 26 New Pos 16)
Old Pos ++ (New Def, 116 Prob 3)
New Def N 111 N N N N N N
New Pos N 111 N N N N N N N N
New Pos N 111 N N N N N N
Fish (bulls) N 111 Not Tugged
End 1345 hrs (Jim Fish S 4/11/07)
12 redd S
Nov 6, 2001 Bull Trout Redd Count
Upper Kuchess River, Start 1200 hrs
From 1K to barrier-falls.
E. Anderson & J. Cummins WDFW
H2O Temp near mouth 39.7°F
Good Flow throughout reach.
No Kokanee spawning.
No Kokanee spawning last year
at this time near mouth (lake bed)
1 Adult Bull Trout + No Redds
below Tr. Xing.

1300 Hrs. Start from Tr. Xing
To upstream barrier-falls
in Kuchess R. branch.
Fish N11 III (1 Fish above ledge
Redds
Old DeF. N11
New DeF. N11
H2O Temp in Kuchess above Mineral Cr.
End 1415 Hrs 40.6°F
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
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**NOTES**

- STATE PAYDAY

**Week of Nov 5** upper Kachess R. - Anderson or Cummins
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 WDF 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 9°C (48°F) 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 WDF 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 (WDF 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 with 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.

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<td>Rattlesnake Cr. (Little Wildcat Cr.)</td>
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<td>S.F. Tieton R. (Bear Cr.)</td>
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<td>Deep Cr.</td>
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<td>N.F. Teanaway River (F/R)</td>
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<td>NF Teanaway/DeRoux Cr.</td>
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<td>Box Canyon Cr.</td>
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<td>Keechelus Lake (AD)</td>
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<td>Gold Cr.</td>
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<td>Cle Elum R. (upper)</td>
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</tbody>
</table>

* Incomplete survey; index area not fully defined or adequately monitored.
Redds in small trib (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.

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

* Incomplete survey; index area not fully defined or adequately monitored. Redds in small trips (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 <ANDEREAA@dfw.wa.gov>
Date: Wed, Nov 14, 2001 2:12 PM
Subject: bull trout

Eric, The final tally for SF Ahtanum is 14 definite 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 Excel Files
Bull Trout Spawning Ground Survey

Stream: M.E. Antlerum
Date: 9-13-01
Location: From 2/2 miles (admitted) below Tree Phases C.G. to 1/2 mile above Tree Phases.
Water Temp.: 45.0°F C 1000 Hrs.
Investigator: E. Anderson; Brandon Rogers (YN); Bob Tuck (NCPW comm.)
Start Time: 1000 Hrs.
End Time: 1200 Hrs.

Redds:

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<tr>
<th></th>
<th>New</th>
<th>Old</th>
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<tbody>
<tr>
<td>Definite</td>
<td>φ</td>
<td>1</td>
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<tr>
<td>Probable</td>
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<td>φ</td>
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<tr>
<td>Possible</td>
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<td>φ</td>
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Bull Trout Observed:

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<tr>
<th>Tagged:</th>
<th>Untagged:</th>
<th>Sub-adults:</th>
<th>Juvenile:</th>
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Comments: End of survey just above C.G. at Tree Phases. No bulls observed. Best gravel & spawning habitat is from Tree Phases to downstream 1/2 mile. 1 good redd observed in lower section of this survey area.
Bull Trout Spawning Ground Survey

Stream: Middle Fork Abakanum
Date: 9/17/01

Location: 8 miles (downriver) below Tree Phone, 6 to 9 road miles above Tree Phone

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

Investigator: Frauen Braden Roger (YN)

Start Time: 0933
End Time: 1200

Redds:

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<th>New</th>
<th>Old</th>
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<tbody>
<tr>
<td>Definite</td>
<td>1</td>
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<tr>
<td>Probable</td>
<td>0</td>
<td></td>
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<tr>
<td>Possible</td>
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Bull Trout Observed:

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<tr>
<td>Tagged</td>
<td>0</td>
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<tr>
<td>Untagged</td>
<td>0</td>
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<tr>
<td>Sub-adults</td>
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<tr>
<td>Juvenile</td>
<td>0</td>
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</table>

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. Upstream 1/2 mile below Tree Phone 6C flat, gradient more gravel. Above Tree Phone 6C moderate gradient, mostly rubble, boulders, no much water flow. Redd was in lower 1/2 mile, below possible log jam passage barrier.
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**

<table>
<thead>
<tr>
<th>Take Location</th>
<th>Specific Date(s) of Take</th>
<th>Type of Take 1/</th>
<th>Number Taken</th>
<th>Biological Data Collected? (Y or N)</th>
<th>Type of Biological Data Collected 2/</th>
<th>Disposition of Bull Trout Taken 3/</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Cr</td>
<td>Aug 29, Sep 5,12</td>
<td>Observation</td>
<td>1 Carcass</td>
<td>Y</td>
<td>Redd Count</td>
<td>None - Carcass left in stream.</td>
<td>51 Redds, 9 Bulls Observed</td>
</tr>
<tr>
<td>Bumping R (lower)</td>
<td>Aug 30</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>No redds or bulls observed, incomplete survey.</td>
</tr>
<tr>
<td>Indian Cr</td>
<td>Sep 4, Oct 2,9,23</td>
<td>Observation</td>
<td>1 Carcass</td>
<td>Y</td>
<td>Redd Count</td>
<td>None - Carcass left in stream.</td>
<td>117 Redds, 26 Bulls Observed</td>
</tr>
<tr>
<td>SF Tieton R &amp; trib (Bear)</td>
<td>Aug 29, Sep 5,20,22, Oct 3</td>
<td>Observation</td>
<td>2 Carcasses</td>
<td>Y</td>
<td>Redd Count (Carcass T-Length 63 &amp; 71 cm)</td>
<td>None - Carcasses left in stream.</td>
<td>158 Redds, 131 Bulls Observed.</td>
</tr>
<tr>
<td>American R &amp; tribes (Union, Kettle)</td>
<td>Aug 31, Sep 13,20</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>36 Redds, 29 Bulls Observed</td>
</tr>
<tr>
<td>Crow Cr</td>
<td>Sep 13,21, 25</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>6 Redds, 1 Bull Observed.</td>
</tr>
<tr>
<td>NF Ahtanum Cr &amp; trib (Shellneck)</td>
<td>Sep 6,12, 24</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>20 Redds, 3 Bulls Observed.</td>
</tr>
<tr>
<td>MF Ahtanum Cr</td>
<td>Sep 7,13,25</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>1 Redd, No Bulls Observed, incomplete survey.</td>
</tr>
<tr>
<td>SF Ahtanum Cr</td>
<td>Sep 5,13,17</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>14 Redds, 2 Bulls Observed, incomplete survey.</td>
</tr>
<tr>
<td>Rattlesnake Cr &amp; trib (Little Wildcat)</td>
<td>Sep 10,11, 12,17,18</td>
<td>Observation</td>
<td>1 Carcass</td>
<td>Y</td>
<td>Redd Count (Carcass Genetic sample, T-Length 41 cm)</td>
<td>None - Carcass left in stream.</td>
<td>57 Redds, 9 Bulls Observed</td>
</tr>
<tr>
<td>Box Canyon Cr</td>
<td>Sep 24, Oct 4,15, Nov 13</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>14 Redds, 15 Bulls Observed</td>
</tr>
<tr>
<td>Kachess R (upper)</td>
<td>Oct 24, Nov 6</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken</td>
<td>14 Redds, 10 Bulls Observed.</td>
</tr>
<tr>
<td>Location</td>
<td>Date</td>
<td>Method</td>
<td>Count</td>
<td>Sex</td>
<td>Redd Count</td>
<td>Notes</td>
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<tr>
<td>Gold Cr</td>
<td>Sep 25 Oct 10,22</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>None Taken</td>
<td>15 Redds, 11 Bulls Observed</td>
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<tr>
<td>Yakima R (Easton Lk to Keechelus Dam)</td>
<td>Sep 13,21</td>
<td>Observation</td>
<td>1 Carcass</td>
<td>Y</td>
<td>Redd Count (Carcass T.Length 81 cm)</td>
<td>None - Carcass left in stream. 1 Redd, 1 Bull observed, incomplete survey.</td>
<td></td>
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<tr>
<td>Cle Elum R (upper)</td>
<td>Sep 10 Oct 11</td>
<td>Observation</td>
<td>0</td>
<td>Y</td>
<td>Redd Count</td>
<td>None Taken No redds or bulls observed, incomplete survey.</td>
<td></td>
</tr>
</tbody>
</table>

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
Spawner Survey
0930 Hrs. H2O Temp. 44.1°F
E. Anderson 1.3 miles below
Treehouse C.G. to upstream
at 3.8 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 Def. Redd
End 1120 Hrs.

No Redds observed in Brandon’s
8 mile reach, except
1 old Redd.
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
cummi{at}dwr.wa.gov
From: "Mark Johnston" <markj@yakama.com>
To: Eric Anderson <ANDREA@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: 9/25/99  
Location: 100' ft below I-90 to falls  
Water Temp.: 47°F @ 100'57°F @ 1322' below I-90  
Investigator: Jim Cunningham / Jeff Thomas  
Start Time: 10:30  
End Time: 14:00  
Redds:  
Definite: 6  
Probable: 0  
Possible: 1  
Bull Trout Observed:  
Tagged: 0  
Untagged: 10 (all just above I-90)  
Sub-adults:  
Juvenile:  

Comments: Jeff walked west of upper area to falls. He found 4 old redds. The first redd was the last sign of fish. Just above trail crossing were 2 old redds. He found dry area and as expected, there was a long stretch of dry streambed above Gold Creek Pond. The last old redd was just below Silver Creek Trail crossing. No fish above Gold Creek Pond. I saw 80 kokanee 18-14" just above I-90. West with the 10 bull trout in upper 284E stands & several kokanee redds above & below I-90. No fish passes. Problems in the 100' ft below I-90 that I surveyed. No kokanee carcasses.

File name: G\bull trout\bull_trout_spawning_ground_survey.wpd  
Revision date: September 16, 1999
Bull Trout Spawning Ground Survey

Stream: Gold Creek
Date: 10/27/01

Location: Gold Creek Bridge Crossing to Falls

Water Temp.: 45°F @ Gold Creek Bridge @ 0717 Upper Creek 4°F @ 1115

Investigator: Jim Cummings & Steve Cocci

Start Time: 0953
End Time: 1430

Redds:

<table>
<thead>
<tr>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

Definite:
Probable:
Possible:

Bull Trout Observed:
Tagged: 9
Untagged: 0
Sub-adults: 0
Juvenile: 0

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 in some areas. I could not find the 2 redds that Steve reported, but may have mistaken them for rock redds. Rained all day. Steve may have missed 1 redd at mouth of Silver Ck. 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.

File name: C:\bull trout bull trout spawning ground survey.wpd
Revision date: September 16, 1999

Note: Old redds were missed.
10/10/01
Gold Creek Bull Trout Spawner
Survey
E. Anderson = Bridge above I-90 to Trail Crossing = 2mi
J. Cummins = surveying above T-Xing to Falls
Old Def III
Old below Pond outlet + dry stream bed below above dry area
to T-Xing
New def NN
3 new below pond outlet + 2 new above dry area
Fish 1 adult bull
Several hundred Kokanee approx
12 "spawning below pond outlet + in pond outlet channel
Stream channel dry from Gold Creek Ponds outlet channel confluence
N mainstem to 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: 11:35
End Time: 12:55

Redds:

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite:</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Probable:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Possible:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bull Trout Observed:
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tagged:</td>
<td>0</td>
</tr>
<tr>
<td>Untagged:</td>
<td>0</td>
</tr>
</tbody>
</table>
Sub-adults: 0
Juvenile: 0

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

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possible:</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Bull Trout Observed:

Tagged: { }
Untagged: 30-40 (too turbid to observe tags)
Sub-adults: 
Juvenile: 

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

Low H\textsubscript{2}O level.

Hot, sunny afternoons.

S\textsubscript{900} F \textsuperscript{C} O Temp., 1400 hrs.

Just starting to dry.

A farm roads in south central.

In one large pool,

Still school of fish.

Starting to test a big

Bulls present, just

Turbid H\textsubscript{2}O

Several pool runs

(near Blue Skies, Olga Rapids)

End of Parker area.

Shutting Presence near South Lock for Bull Trout

8/29/01 5:15 AM
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 Collins & Steve Brocco
Start Time: 1040
End Time: 1343

Redds:

<table>
<thead>
<tr>
<th>Definite</th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.F.</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Bear</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Probable: 1 0 2 3
Possible: 1 0 4 3

Bull Trout Observed:
Tagged: 0 0
Untagged: 0 0
Sub-adults: 0 0
Juveniles: "About 20 we & 1 cr in a single pool."

Comments: Found 1 Wot 28.25" yellow tag # 438, female
TL - Decomposition in progress;
Apparent Natural Mort.
Few eggs in cavity.
Partial data, Eric was reviewing data for 1050 Rd down to Blue Slide. Total reads: 163
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 Female ....less 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; ...
South Fork Tieton River

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

Date: 9/20-22/01

<table>
<thead>
<tr>
<th>Location</th>
<th>Definite</th>
<th>Probable</th>
<th>Possible</th>
<th>Adult Fish</th>
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</thead>
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<tr>
<td>Falls to Blue Slide</td>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Old</td>
<td>10</td>
<td>4</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>New</td>
<td>88</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Bear Creek</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Old</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>New</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Summary</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
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<tr>
<td>Date</td>
<td>9/5/01</td>
<td>9/20/01</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Definite</td>
<td>19</td>
<td>101</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Probable</td>
<td>7</td>
<td>5</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Possible</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
# Bull Trout Spawning Ground Survey

**Stream:** South Fork Trion / Bear Creek

**Date:** 9/15/01

**Location:** Upper end Blue slide to falls + Bear Creek

**Water Temp.:**
- Bears Creek @ 9:57 45°F
- Falls @ 10:30 47°F
- Blue slide 9:30 49°F

**Investigator:**
- Cummins + Tenella (Blue slide - 10:30)
- Thomas (Bear Creek)
- Creek + Neiderer (Bear to falls), Thomas, Creek + Neiderer (10:30 to Bear Creek)

**Start Time:**
- Cummins + Tenella - 09:57, Thomas 10:40 + Bear C, Creek + Neiderer - 10:30 + Falls

**End Time:**
- " " 13:30, " " 12:00, " " 13:40 10:40

**Redds:**

<table>
<thead>
<tr>
<th></th>
<th>S &amp; F</th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite</td>
<td>12</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Probable</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Possible</td>
<td>27</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Bull Trout Observed:**

<table>
<thead>
<tr>
<th></th>
<th>S &amp; F</th>
<th>Bear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tagged</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Untagged</td>
<td>29</td>
<td>15</td>
</tr>
</tbody>
</table>

**Sub-adults:**

- 1 7" BAC with gills to death or 4" scalepin

**Juvenile:**

- 100 BAC

**Comments:**

From Blue slide, upstream next 2 pools & riffles was unique 3 contains (5-300 meters). The upstream most pool ~200m above Blue slide had 35-40 adult BAC, maybe more.
The tailout at the end of this pool had about 13-14
"false reds," called possibles here. The pool down
had about 14 BAC & another 11-12 possible reds. I have
never seen anything like this. Both groups of possible
redds are flagged lots of algae for 42 hour
below 1050 bridge. Water slightly Turbid.

*Jim Cummins*
Bull Trout Spawning Ground Survey

Stream: Crow Creek
Date: 9/24/01
Location:
Water Temp.: 46°F
Investigator: Jim Cumminz (Alamo, SP) (USGS)
Start Time: 0948
End Time: 1510

Redds:
- New: 5
- Old: 1

Definite:
Probable:
Possible:
Bull Trout Observed:
- Tagged: 0
- Untagged: 0
- Sub-adults: 1
- Juvenile:

Comments: Saw one 9-10" fish near redd, but not sure if it was a bull trout. First redd above sand filled rock area. Did not reach upper area of BHC area about 100 yard below. Returned to vehicle at 1330. Very long trip.
Bull Trout Spawning Ground Survey

Stream: Crow Creek
Date: 9/26/01
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: 0 0
Probable: 0 0
Possible: 0 0

Bull Trout Observed:
Tagged: 0
Untagged: 0
Sub-adults: 0
Juvenile: 

Comments: Walked trail all the way to about 1/2 mile above Fall Creek.
Walked downstream about 1 hour to impossible canyon fork.
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/wheel from 0700-1830. Left hose on the four redds that are between large boulders and upper end of survey section. No redds above falls.
### Total Season Count

<table>
<thead>
<tr>
<th>Segment of Stream</th>
<th>Definite</th>
<th>Probable</th>
<th>Possible</th>
<th>Fish</th>
<th>Temp/Time</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trail 1114 x-ing</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>--/1100</td>
<td>9/17/00</td>
</tr>
<tr>
<td>(below MJB x-ing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to MJB Trail x-ing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MJB Trail x-ing</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>42/0917</td>
<td>9/17/00</td>
</tr>
<tr>
<td>to Shell Cr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shell Cr. to</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>45/1430</td>
<td>9/16/00</td>
</tr>
<tr>
<td>Little Wildcat Cr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little Wildcat Cr.</td>
<td>11</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>--/1235</td>
<td>9/17/00</td>
</tr>
<tr>
<td>to McNeil Cr.</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>--/1045</td>
<td>9/17/00</td>
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<tr>
<td>Total</td>
<td>43</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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: 1141 trail crossing below MJB to dry are below McNel Cr

Water Temp: Strawberry Meadow 9/17 @ 1318.4°F

Investigator: Jim Cummins / Jeff Thomas

Start Time: 1319 on 9/17 0930 on 9/18
End Time: 1530 on 9/17

Redds:

<table>
<thead>
<tr>
<th></th>
<th>New Rattlesnake/Wildcat</th>
<th>Old Rattlesnake/Wildcat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite</td>
<td>20 / 6</td>
<td>13 / 5</td>
</tr>
<tr>
<td>Probable</td>
<td>2 / 1</td>
<td>9 / 1</td>
</tr>
<tr>
<td>Possible</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Total 57

Bull Trout Observed:
- Tagged: 0
- Untagged: 2
- Sub-adults: 0
- Juvenile: 0

Comments: A few "old" redds deleted, 4 a few "old" pos counted to redds.

Thomas did little Wildcat + Rattlesnake co-rivel from L. Wildcat. I walked all but upper 1/8 mile below Shell Creek. - VC

2001
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/1 pair

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
Bull Trout Spawning Ground Survey

Stream: American River
Date: 8/31/01
Location: Union Creek down 1/2 mile
Water Temp.: 
Investigator: Jon Cummings, Karen Longhorst
Start Time: 0930
End Time: 1040

<table>
<thead>
<tr>
<th>Redds</th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Probable</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Possible</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Bull Trout Observed:
- Tagged: 0
- Untagged: 21
- Sub-adults: 0
- Juvenile: 0

Comments: Karen covered most of the section while I did Union Creek. We both agreed that there were 41 adult bull trout in one pull at the upstream most Cubi below Union Creek. I don't believe fish are spawning yet on the American in this area.

File name: G:\bull trout\bull trout spawning ground survey.wpd
Revision date: September 16, 1999
Bull Trout Spawning Ground Survey

Stream: American River
Date: 8/13/01
Location: Mesachee Creek Trail Crossing to Timber Creek
Water Temp.: 58°F C 13.27
Investigator: Karen Langholt & Jim Cummins
Start Time: 1115
End Time: 1345

Redds: New Old
Definite: 1
Probable: 
Possible: 

Bull Trout Observed:
Tagged: 0
Untagged: 0
Sub-adults: 0
Juvenile: 0

Comments: Possible that this is a small spring. Looked to be several weeks old or no other Bull trout redds in American today. Saw several trout & whitefish.
Bull Trout Spawning Ground Survey

Stream: Union Creek
Date: 8/31/01

Location: West to Falls

Water Temp.: 48°F 8:09:30

Investigator: Jim Cummings

Start Time: 09:30

End Time: 10:05

Redds:

<table>
<thead>
<tr>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite: 5</td>
<td>0</td>
</tr>
<tr>
<td>Probable: 1</td>
<td>0</td>
</tr>
<tr>
<td>Possible:</td>
<td></td>
</tr>
</tbody>
</table>

Bull Trout Observed:

- Tagged: 0
- Untagged: 6
- Sub-adults: 1 \( \sim 11'' \)
- Juvenile: 0

Comments: All reds above highway bridge + fish.
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.: 40°F C 1145
Investigator: **Jim Cummins**

Start Time: 1130
End Time: 1245

Redds:

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Probable:</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Possible:</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Bull Trout Observed:

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tagged: 0</td>
</tr>
<tr>
<td>Untagged: 0</td>
</tr>
<tr>
<td>Sub-adults: 0</td>
</tr>
<tr>
<td>Juvenile: 0</td>
</tr>
</tbody>
</table>

Comments: Likely block to upstream migration. Logjam 1/4 mile. Read 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.

---

File name: G:\bull trout\bull trout spawning ground survey.wpd
Revision date: September 16, 1999
Bull Trout Spawning Ground Survey

Stream: Union Creek / American from Union to 1/4 mile down
Date: 9/20/01

Location: Mouth to falls / 1/4 mile below Union Ok

Water Temp.: Union 42°F @ 1020

Investigator: Jim Cummins

Start Time: 10:19 C Univ / 10:40 American

End Time: 10:40 C Univ / 11:20 American

Redds:

<table>
<thead>
<tr>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Definite: 16
Probable: 0
Possible: 0

Bull Trout Observed:

Tagged: 0
Untagged: 0
Sub-adults: 0
Juvenile: 0

Comments:

* USES removed Alans. Did not find any "old" redds on American, although USES recorded 1.
From: "Karen S Lindhorst/R6/USDAFS" <klindhorst@fs.fed.us>
To: "Eric Anderson" <ANDERE@@dfw.wa.gov>, <ANDERE@@dfw...>
Date: Fri, Sep 14, 2001 3:59 PM
Subject: Re: Rattlesnake Creek Redds

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

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

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

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

American above Lidgepole to Mesatchee Creek Trail Crossing
Temp 48 degrees F @0940
2 reds, 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).
Bull Trout Spawning Ground Survey

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

Redds:

<table>
<thead>
<tr>
<th>Definite: Below Culvert</th>
<th>New Culvert</th>
<th>Old Culvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Probable: 

<table>
<thead>
<tr>
<th>Possible:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

Possible: 

<table>
<thead>
<tr>
<th>Possible:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

Bull Trout Observed:
Tagged: 1
Untagged: 2 (3 unknown) / 6 total adults all above culvert.
Sub-adults: 
Juvenile: 

Comments: Drought year - no passage above first rockslide - same area as in past. No fish observed above this dry (interruption) area, but I did see reds observed by Eastbrook with only 19 def +1 pub + few fish. Dr. James May trap few fish. We agreed that he will check Friday & decide if/when he will trap. One (adult) - (animal kill) - Caudal section below culvert & an additional pair of presumed male eggs at mouth (animal kill). Saw two clumps 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 36 reds (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 Bull Trout Redd Surveys

**Deep Creek**

<table>
<thead>
<tr>
<th>Surveyors:</th>
<th>Paul James</th>
<th>Devon Ensminger</th>
<th>Will Trace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>9/5/01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td>From Rd 1800 crossing to dewatered zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definite:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>New</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Probable:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old</td>
<td></td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>New</td>
<td></td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Possible:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Adult Fish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Location: From Rd 1800 crossing to lake

| Definite: |            |                 |            |
| Old        | 12         | 0               | 0          |
| New        | 13         | 0               | 0          |
| Probable:  |            |                 |            |
| Old        | 1          | 0               | 0          |
| New        | 2          | 0               | 0          |
| Possible:  |            |                 |            |
| Old        | 0          | 0               | 0          |
| New        | 0          | 0               | 0          |
| Adult Fish|            |                 |            |
|           |            |                 |            |

**Summary:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Definite</th>
<th>Probable</th>
<th>Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/29/01</td>
<td>14</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>9/5/01</td>
<td>15</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>
Bull Trout Spawning Ground Survey

Stream: Deep Creek
Date: 9/12/01
Location: Lane 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:

<table>
<thead>
<tr>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite: 14</td>
<td>31</td>
</tr>
<tr>
<td>Probable: 1</td>
<td>5</td>
</tr>
<tr>
<td>Possible: 0</td>
<td></td>
</tr>
</tbody>
</table>

Total 51

Bull Trout Observed:
Tagged: 0
Untagged: 0
Sub-adults: 0
Juvenile: 0

Comments: I walked the culvert up to just below first rock slide, where the channel is acy. 5 new def & 1 new posl. Total this Section 13 def + 2 posl = 15. Jeff Thomas walked area below culvert and left channel is dry. Total reads this section: 9 new def + 23 old def + 4 old posl = 36. Also Jeff walked from upper culvert to falls - no reads. Chanter aid def to no redds. I walked from culvert downstream about 1/2 mile, well beyond area that day I 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 Goose Prairie
Water Temp.: 67°F @ 1035
Investigator: Jim Cummings with Yuko Reiss & Karen Lindhors
Start Time: 1030
End Time: 1430

Redds:

<table>
<thead>
<tr>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite:</td>
<td>0</td>
</tr>
<tr>
<td>Probable:</td>
<td>0</td>
</tr>
<tr>
<td>Possible:</td>
<td>0</td>
</tr>
</tbody>
</table>

Bull Trout Observed:
- Tagged: 0
- Untagged: 0
- Sub-adults: 0
- Juvenile: 0

Comments: Water, temp high for bull spawning. No spring chinook spawning yet. But could clearly identify last year's spawning 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 carcases
Bull Trout Spawning Ground Survey

Stream: Bumping R. (Lower)
Date: 9/7/01
Location: Dam to Bridge below Dam. (Also spot check in split channel below bridge to Goose Prairie)
Water Temp.: 57.6°F e 1115 Hrs.
Investigator: E. Anderson
Start Time: 1115 Hrs.
End Time: 1315 Hrs.

Redds: New Old
Definite: φ
Probable: φ
Possible: φ

Bull Trout Observed:
Tagged: φ
Untagged:
Sub-adults:
Juvenile:

Comments:
Spring Chinook actively spawning. Blue flags from 9/6 survey by YN Bios. That marked Chinook redds.
1 Chinook curve observed.
×12 Chinook redds in actively spawning Chinook. No bull trout or redds observed.
If time, need to check later in season.

File name: C:\bull trout\bull trout spawning ground survey.wpd
Revision date: September 16, 1999
9/7/01
Bumping A, From Dam to Bridge Crossing- Spot check for Buzz Trout Spawning activity
E. Anderson
H2O Temp. 57.6°F @ 1115 Hrs
No bulls were observed.
Spring Chinook activity spawning.
Blue flags from 9/6 survey by YIV Biologists marking Chinook redds.
12 Chinook redds observed.
115-1315 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: Che Elum R. (upper)
Date: 9/10/01
Location: Hyoc LK to downstream 3/4 mile
Water Temp.: 55.6°F @ 1030 Hrs.
Investigator: E. Anderson (WDFW), Steve Croci (USFWS), Heather Larson (BIA)
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 try on springs of River (side channel areas, etc.)
9/10/01
Upper Cle Elum R. Bull
Trout Spawning Survey
Spot check.
Hydr 1K to downstream 3/4m.
H2O Temp 55.6°F @ 1030 Hrs.
E. Anderson WDFW
S. Creel USFWS
H. Larson BR
(Heather)
No new reds or fish observed.
Last year’s reds present.
A few fry on fringes of river, backwater areas.
End 1300 Hrs.
Bull Trout Spawning Ground Survey

Stream: Chekum River
Date: 10/11/01

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

Water Temp.: 46°F

Investigator: Jim Cummins

Start Time: 11:15
End Time: 12:08

Redds:

<table>
<thead>
<tr>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite:</td>
<td>[ ]</td>
</tr>
<tr>
<td>Probable:</td>
<td>[ ]</td>
</tr>
<tr>
<td>Possible:</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Bull Trout Observed:

| Tagged: | [ ] |
| Untagged: | [ ] |
| Sub-adults: | [ ] |
| Juvenile: | [ ] |

Comments: Today was cool, rain showers 1" snow on ground.
Bull Trout Spawning Ground Survey

Stream: Box Canyon Creek
Date: 9/24/00
Location: Footbridge to falls (approx 0.8 miles)
Water Temp.: 53°F C 1320 below falls
Investigator: Jim Commins
Start Time: 1100
End Time: 1320

Redds:
   New       Old
   Definite:  0     
   Probable:  0     
   Possible:  0     

Bull Trout Observed:
   Tagged: 
   Untagged: 1
   Sub-adults: 1 "13"
   Juvenile: 

Comments: Reservoir was approximately 600' of the creek was put into a narrow channel last week constructed of trolley beds & plastic sheet. Creek is possible if find one willing to swim over black plastic in narrow channel. As good as it can be. Counted 15 trout 13" Billboard Saw several 11" & 8" salmonids. One area slough more than half way between foot bridge & lake may be impossible. Flow 60%. + of normal. The adult fish was in the pool below the cascade slightly less than nothing to main falls.
Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 10/9/81

Location: Roadend to lower end of Canyon, including upper 5 springs

Water Temp.: 39° F @ 1105

Investigator: Jim Cummins

Start Time: 1014
End Time: 1104

Redds: New Old
Definite: 0 0
Probable: 0 0
Possible: 0 0

Bull Trout Observed:
Tagged: 0
Untagged: 0
Sub-adults: 0
Juvenile: 0

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

Comments:

Comments:

Comments:
Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 10/19/90
Location: from Lower S. Spring to North Spring, Includes L.S. Spring
Water Temp.: 42°F at 1145
Investigator: Jim Cummins
Start Time: 1150
End Time: 1227

Redds: New Old
Definite: 1 3
Probable: 1
Possible: 3

Bull Trout Observed:
Tagged: 0
Untagged: 0
Sub-adults: 0
Juvenile: 0

Comments: No redds in Lower South Spring
Eric was able to North Spring & mainstream below North Spring.
Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 9/4/01

Location: Highway 12 Bridge to falls

Water Temp.: 48°F 10:12 AM 7°F 1:14 PM. Winter @ 1800(Thomas) 43°F N. Sony @ 12:00 U. Sony Spring 6°F.

Investigator: Cummins, East, Geerts, Lindhard, Reiss, Thomas, Torretta

Start Time: 1012    End Time: 1300

Redds:

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Probable</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Possible</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Bull Trout Observed:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tagged</td>
<td>1 orange</td>
</tr>
<tr>
<td>Untagged</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub-adults: 1' = 6".

Juvenile: A few dozen 4-5".

Comments: Cummins, East, Geerts - west to Highway 12. No fish, no redds +


Low S. Sony: 0 redds, 0 fish. Yuki & Kama. Mainstream from L.S. 10:12 AM, 7°F.

North Sony: 6 def 5 pred, 4 poss. 2 fish +

A few juv. Thomas & Torretta. Mainstream from L.S. Sony, to falls. Yuki S. Sony: 0 redds, 0 adult B.C., more than a dozen juv. B.C. 1100.
Indian Creek  E. Anderson
Oct 23
Spot check for additions
Spawning - no fish observed
Spawning in mainstem below
or above N. Sprig for 1/2
or 1/2 N. Sprig.
Bull Trout Spawning Ground Survey

Stream: Indian Creek
Date: 10/3/01

Location: End of road, including S. Spring down to North Spring

Water Temp.: 44ºF

Investigator: Jim Cummins

Start Time: 1030
End Time: 1345

Redds: New Old
Definite: 2 1
Probable: 2 2
Possible: 2 2

Bull Trout Observed:
Tagged: 0
Untagged: 0
Sub-adults: 0
Juvenile: 1 10" fish in lower S. Spring, maybe EB.

Comments: Although I walked main Indian Creek below North Spring, Eric was 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 Terry Harvold was effective in getting bull trout into Indian Creek.

Eric also has North Spring data.
Bull Trout Spawning Ground Survey

Stream:        N. F. Ahtanum / Shellneck Creek
Date:          9/16/01

Location:      Grey Rock trail to Shellneck Creek and Shellneck Creek (3/4 mile)
Water Temp.:   44°F @ 1082, 44°F just above Shellneck Creek @ 1325 + Shellneck 43
Investigator:  Cummins, Tuck, Brandon Rogers (YN)
Start Time:    1032 (N.F.) / 1527 Shellneck
End Time:      1322 (N.F.) / 1445 Shellneck

Redds:

<table>
<thead>
<tr>
<th></th>
<th>N. F.</th>
<th>New Shellneck</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite:</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Probable:</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Possible:</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Bull Trout Observed:
- Tagged: 0
- Untagged: 2, Tuck says we saw 7.
- Sub-adults: 0
- Juvenile: 0

Comments: - Cutoff 1-8' plentiful, 1st read (working upstream) was just below gated road bridge (~ 1/2 mile above gray cr). And ready all other reads above Snow Cabin Ck, starting about 100 yards above Ck.
- Cows along stream... 4 cows,
Bull Trout Spawning Ground Survey

Stream: N.F. Ananum Cr. / Shellneck Cr.
Date: 9-12-01
Location: Grey Rock trail to Shellneck + Power 1/2 mile (Shellneck)
Water Temp.: N.F. 45.5°F C 1000 Hrs, 45.3°F C 1230 Hrs.
(WDFW) Investigator: E. Anderson, Brandon Rogers & Leon Gamalas (YN) & Bob Tuck (Consultant WDFW Commission)
Start Time: 1000 Hrs. N.F. 1230 Hrs. Shellneck
End Time: 1400 Hrs. N.F.

Redds:

Definite:
N.F. 2 New Shellneck 3 N.F. Old Shellneck 4
Probable:
Possible:

Bull Trout Observed:

Tagged:

Untagged:
2 (6” but not on redd) (14-15” on redd)
Sub-adults:
Juvenile:

Comments: Several cows observed along bank in the index area of N.F.
Cow parties on sandbars in middle of stream. Sand areas of riparian bent down & drowned by cutler. Few elk tracks or sign in riparian observed. One redd w/cattle tracks. Active logging in Shellneck drainage by Ananum Indigation District (AID)
- Probable wood jam/debris barriers (2-3 barriers) on Shellneck along road. Redds observed below lower barrier.

File name: G/bull trout bull trout spawning ground survey.wpd
Revision date: September 16, 1999

Only 1/2 mile of Lower Shellneck surveyed on this date.
9/24/05
N.F. Antonow C. Bull Trout
Spawner Survey
E. Anderson - WDFW
Brandon Rogers - Yakama Nation
H2O Temp 64.40°F @ 0950 Hrs.
Gray Rock T.R. Bridge to Shellneck Cr
Roads.

Old Def. HU III
Old Pos. - changed to new Def.
Old Prob. I

New Def. HU III
Old Pos. 1
End 1230 Hrs. lower 12f.

H2O Temp @ 1235 Hrs. 43.5°F
Old Def. NA
New Def. II 7 Shellrock w/hay
Old Pos II Rd. - probable
End 1305 Hrs.

+ 3 ft falls present
no structure in creek