

Summary of bull trout spawning surveys (redd counts) in index areas of the Yakima sub-basin, 1984-2010.

(R=Resident, F=Fluvial, F/R=Fluvial/Resident, AD=adfluvial). WDFW Files, Yakima, WA.

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<u>Yakima River (F)</u>																											
Keechelus to Easton Reach *																	2	1			1			3	1		
<u>Ahtanum Creek (R)</u>																											
N.F. Ahtanum Cr. (Shellneck Cr.)										9	14	6	5	7	5	7	11	20	17	12	8	6	7	8	1	3	0
M.F. Ahtanum Cr. *													1	1		0	10	1	6	8	11	5	6	5	3	9	15
S.F. Ahtanum Cr. *																	5	14	13	7	5	3	4	5	3	6	2
<u>Naches River (F)</u>																											
Rattlesnake Cr. * (L.Wildcat Cr., Shell Cr.)							2				4	26	38	46	53	44	45	57	69	54	32	15	40	13	37	36	64
American R. (Union Cr., Kettle Cr.)													25	24	31	30	44	36	27	30	40	35	55	31	22	29	47
Crow Cr.																19	26	6	9	9	6	4	8	8	2	5	9
<u>Rimrock Lake (AD)</u>																											
S.F. Tieton R. * (Bear Cr.)							32			38	167	95	226	177	142	161	144	158	141	178	178	205	189	152	266	259	194
Indian Cr. * (+spring tribs)	29	69	16	35	25	39	69	123	142	140	179	201	193	193	212	205	226	117	100	101	50	91	106	58	130	200	144
N.F. Tieton (upper)* (+unnamed trib)																					1		1	37	28	15	18
<u>Bumping Lake (AD)</u>																											
Deep Cr. *						17	15	84	78	45	12	101	46	126	98	107	147	51	120	57	97	73	95	130	145	178	199
Bumping River (upper)											1	0					0				0			0	0	2	0
<u>N.F. Teanaway River (F/R)</u>																											
NF Teanaway/DeRoux Cr. *													2									2	1	0	0	1	0
<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	15	8	19	8	8	2	8	21	30
Kachess R (upper) *															0		15	14	0	16	8	3	0	22	2	2	15
<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	31	9	20	7	8	6	40	29	23
<u>Cle Elum & Waptus Lks (AD)</u>																											
Cle Elum R.(up) & Waptus R*													0	0	0		0	0	0	0			0	0	0	0	0
<u>Summary</u>	36	75	40	50	37	59	134	232	239	247	404	446	595	615	593	630	704	504	548	490	475	457	531	478	687	795	760

* Incomplete survey; index area not fully defined or adequately monitored: Yakima R. 2000, 2001, 2003, 2006. M.F. Ahtanum 1996-2001, 2008. S.F. Ahtanum 2000, Rattlesnake 1990-1995, 2007, 2008. S.F. Tieton 1990-1993, 1995, 2010, Indian 1984-1987, Deep 1989-1990, N.F. Teanaway 1996, 2005, 2006, 2008. Kachess 1998, 2005, 2006 Cle Elum 1996, 2000-2002, 2006, 2007, Waptus 1997, 1998, N.F. Tieton 2004, 2006, 2010, Bumping 1994, 2000, 2004, 2008. Box 2007, Gold 2007, Crow 2008, 2010. (Redds in small tribs (parenthesis) included in total stream count.)

* S.F. Tieton redd counts outside of the standard index area not included in above totals: 1995=0, 1996=7, 1997=1, 1998-2002 not checked, 2003=14, 2004=2, 2005=6, 2006=22, 2007 & 2008 not checked, 2009=30

* Exploratory redd count surveys conducted in 2009: N.F. Little Naches - 0, Quartz & N.F. Quartz - 0, Nile - 0, upper Crow (above barrier falls) - 0

Stream: South Fork Tieton River
Date: 10/05/2010
Location: Lower Bakeoven Flats to Blue Slide
Water Temp: 40.1 F

Investigator: Jim Cummins
Start Time: 906
End Time: 1320

Redds: New
Definite 6
Probable 0
Possible 0

Bull Trout Observed:
Adults: 0
Sub-adults: 0
Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

This was the only survey in this reach.

Very likely some redds were missed because of a high water event that obscured some redds.

The upstream end point is WP 193 recorded on 10/3/2010.

I did the lower part of Bakeoven at the end of the survey. That is why the waypoints are not in correct order.

10/05/2010 S. F. Tieton	redd	1	262 redd	definite	46.5940181	-121.213185	Jim Cummins	WDFW
10/05/2010 S. F. Tieton	redd	1	263 redd	definite	46.5938077	-121.213404	Jim Cummins	WDFW
10/05/2010 S. F. Tieton	redd	1	264 redd	definite	46.5907974	-121.224784	Jim Cummins	WDFW
10/05/2010 S. F. Tieton	redd	1	265 redd	definite	46.5754821	-121.239882	Jim Cummins	WDFW
10/05/2010 S. F. Tieton	redd	1	266 start point		46.5976596	-121.209999	Jim Cummins	WDFW
10/05/2010 S. F. Tieton	redd	1	267 redd	definite	46.5963302	-121.210524	Jim Cummins	WDFW
10/05/2010 S. F. Tieton	redd	1	268 redd	definite	46.5969885	-121.210613	Jim Cummins	WDFW

Stream: South Fork Tieton River
 Date: 10/04/1902
 Location: Blue Slide to Minnie Meadows (near Corral Creek)
 Water Temp: 43.5 F

Investigator: Jim Cummins
 Start Time: 1010
 End Time: 1223

Redds:	New	Old	Total
Definite	3	63	66
Probable	0	0	
Possible	0	0	

Bull Trout Observed:
 Adults: 0
 Sub-adults: 0
 Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Flows moderate and clear. Good visibility. Flow considerably lower than on 9/22.
 Eric surveyed upstream reach and counted 3-4 redds that I may have counted in this reach last time, so I did not count those as old redds.
 Some redds were no longer visible. I missed old redds or flags were missing so the old redd count is less than on 9/22/2010.

possible old redds counted as new.
several more were missed.
69 last pass
69 will be final count for this section
EA.

10/04/2010 S. F. Tieton	redd	3	193 start point	46.575516	-121.2397513	Jim Cummins	WDFW	Blue Slide
10/04/2010 S. F. Tieton	redd	3	194 redd	definite 46.57531517	-121.2398447	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	195 redd	definite 46.57534341	-121.2398486	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	196 redd	definite 46.57533838	-121.239876	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	197 redd	definite 46.57529354	-121.2397992	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	198 redd	definite 46.57525633	-121.2398089	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	199 redd	definite 46.57521475	-121.239942	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	200 redd	definite 46.57521115	-121.23994	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	201 redd	definite 46.57521098	-121.239935	Jim Cummins	WDFW	
10/04/2010 S. F. Tieton	redd	3	202 redd	definite 46.57459759	-121.2405283	Jim Cummins	WDFW	

10/04/2010	S. F. Tieton	redd	3	203	redd	definite	46.57460882	-121.2405233	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	204	redd	definite	46.57461327	-121.2405873	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	205	redd	definite	46.57449047	-121.2404492	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	206	redd	definite	46.57450019	-121.240728	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	207	redd	definite	46.57412804	-121.2408283	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	208	redd	definite	46.57312573	-121.2415188	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	209	redd	definite	46.57313512	-121.2415478	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	210	redd	definite	46.57326277	-121.2415616	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	211	redd	definite	46.57289254	-121.2421777	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	212	redd	definite	46.57210892	-121.2427817	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	213	redd	definite	46.57210892	-121.2427802	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	214	redd	definite	46.57159519	-121.2432135	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	215	redd	definite	46.57146385	-121.2433237	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	216	redd	definite	46.57146452	-121.2433268	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	217	redd	definite	46.57120426	-121.2433285	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	218	redd	definite	46.57120661	-121.2433277	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	219	redd	definite	46.57096999	-121.2434182	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	220	redd	definite	46.57096856	-121.2434205	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	221	redd	definite	46.57087946	-121.2434024	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	222	redd	definite	46.57074971	-121.2433805	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	223	redd	definite	46.57075088	-121.2433853	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	224	redd	definite	46.57073789	-121.2433146	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	225	redd	definite	46.57062658	-121.2433313	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	226	redd	definite	46.57063312	-121.2433391	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	227	redd	definite	46.57049943	-121.243328	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	228	redd	definite	46.57049784	-121.2433291	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	229	redd	definite	46.5706151	-121.2435306	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	230	redd	definite	46.57054704	-121.2436468	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	231	redd	definite	46.57048543	-121.2426162	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	232	redd	definite	46.56999685	-121.2432813	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	233	redd	definite	46.56996106	-121.2436657	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	234	redd	definite	46.5649092	-121.2460592	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	235	redd	definite	46.5644611	-121.2461415	Jim Cummins	WDFW
10/04/2010	S. F. Tieton	redd	3	236	redd	definite	46.56399356	-121.2463887	Jim Cummins	WDFW

10/04/2010	S. F. Tieton	redd	3	237 redd	definite	46.56237896	-121.2481402	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	238 redd	definite	46.5623839	-121.2481475	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	239 redd	definite	46.56159282	-121.2485414	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	240 redd	definite	46.56139366	-121.2482878	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	241 redd	definite	46.56131538	-121.2480069	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	242 redd	definite	46.56110072	-121.2481129	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	243 redd	definite	46.5608729	-121.2478522	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	244 redd	definite	46.56074155	-121.2479827	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	245 redd	definite	46.56073325	-121.2480048	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	246 redd	definite	46.56071263	-121.2480124	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	247 redd	definite	46.5606605	-121.2479905	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	248 redd	definite	46.56049026	-121.2481829	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	249 redd	definite	46.56049227	-121.2481918	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	250 redd	definite	46.56051172	-121.248187	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	251 redd	definite	46.56064583	-121.248324	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	252 redd	definite	46.56055715	-121.2483176	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	253 redd	definite	46.55982994	-121.2488252	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	254 redd	definite	46.55981996	-121.2488824	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	255 redd	definite	46.55942073	-121.2491244	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	256 redd	definite	46.55930816	-121.2496739	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	257 redd	definite	46.55934177	-121.2499545	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	258 redd	definite	46.55899711	-121.2504139	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	259 redd	definite	46.55933063	-121.2505342	Jim Cummins	WDFW	
10/04/2010	S. F. Tieton	redd	3	260 end point		46.55935192	-121.2510502	Jim Cummins	WDFW	Minnie Meadows (Coral Creek)

Anderson, Eric (DFW)

From: Tim Resseguie [timr@yakama.com]
Sent: Monday, October 25, 2010 3:31 PM
To: Anderson, Eric (DFW)
Subject: RE: S.F. Ahtanum Bull Trout Redd Counts

Hi Eric,

We only found 2 redds this year. I'll send the spreadsheet and shapefiles shortly.

Tim

From: Anderson, Eric (DFW) [mailto:Eric.Anderson2@dfw.wa.gov]
Sent: Monday, October 25, 2010 8:53 AM
To: Tim Ressigue
Subject: S.F. Ahtanum Bull Trout Redd Counts

Hi Tim,

Do you have info on the S.F. Ahtanum bull trout redd counts for this year?

Eric

Eric Anderson
WDFW District Fish Biologist
Yakima & Kittitas Counties
509-457-9301
Eric.Anderson2@dfw.wa.gov

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JAN 13 2011

FISH PROGRAM

Date	Stream Name	Survey Type	Pass Number (1, 2)	Waypoint Number	Waypoint Description	Redd Status	Latitude	Longitude	Observer	Agency	Comments
09/09/2010	S.F Ahtanum	Redd	1	1	Redd 1	Definate	46.468343	-121.0218	Tresseguie	YN	1 bt about 14"
09/09/2010	S.F Ahtanum	Redd	1	2	Redd 2	Probable	46.465002	-121.04336	Tresseguie	YN	no fish

2 Redds

Stream: North Fork Ahtanum Creek
Date: 09/15/2010
Location: Bridge (WP 61) to Shellneck Creek and Shellneck Creek
Water Temp: N. F. Ahtanum - 45 F; Shellneck - 43.1 F

Investigator: Jim Cummins + Paul Huffman (Yakama Nation)
Start Time: 1000
End Time: 1201

Redds: New
Definite 0
Probable 0
Possible 0

Bull Trout Observed:
Adults: 0
Sub-adults: 0
Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):
Flows low and clear. Visibility excellent.
Paul Huffman (YN) has data for Gray Creek Trail to bridge. → Paul observed no redds or fish in this section.

09/15/2010 N. F. Ahtanur redd	1	61 start point	46.53025	-121.147	Jim Cummi WDFW	No redds
09/15/2010 N. F. Ahtanur redd	1	62 end point	46.52912	-121.165	Jim Cummi WDFW	Shellneck Cr confluence

Bull Trout Spawning Ground Survey Data Form

Stream: N. F. Ahtanum Creek

Date: Sep 27, 2010

Location: from Grey Rock Trail Foot Bridge crossing upstream to DNR Road Bridge crossing below Snow Cabin Campground

Water Temp.: 45.7 F

Investigator: Eric Anderson (WDFW)

Start Time: 0945 hrs

End Time: 1115 hrs

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

Bull Trout Observed:

Adults: 0

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): This was the second and final pass. There were no redds or adult bull trout observed in the index area this year. Jeff Trammell (Yakama Nation) surveyed the upstream section of the N.F. & Shellneck Creek (see Jeff's data).

Bull Trout Spawning Ground Survey Data Form

Stream: North Fork Ahtanum

Date: September 27, 2010

Location: Bridge below Snow Crk Campground to ~~Shelton Crk~~ and lower ~~Shelton Crk~~
Shellneck Crk

Water Temp.: _____

Investigator: Jeff Trammell

Start Time: 10:00 AM

End Time: 11:30 AM

Redds: New Old

Definite: 0 0

Probable: _____

Possible: _____

Bull Trout Observed:

Adults: 0

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): _____

Bull Trout Spawning Ground Survey Data Form

Stream: M. F. Ahtanum Creek

Date: Sep 15, 2010

Location: from 2 miles below Tree Phones Campground upstream to the road bridge culvert at upper end of Treephones C.G.

Water Temp.: No temp recorded for this section (see Yuki's data sheet for lower section).

Investigator: Eric Anderson (WDFW) & Yuki Reiss (Yakima Basin Fish & Wildlife Recovery Board) (Yuki did lower 1 mile & I did upper 1 mile - See Yuki's additional data for total count this section).

Start Time: 0954 hrs

End Time: 1152 hrs

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

Bull Trout Observed:

Adults: 4

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This was the first pass. GPS Waypoint 187 is nothing. GPS Redd Waypoints for this section are 188 - 192.

Bull Trout Spawning Ground Survey Data Form

Stream: MF Ahtanum Creek

Date: Sept 15, 2010

Location: Yuki did lower reach (1 mile) Eric did upper 1 mile

Water Temp.: 8 C @ 9:40 AM

Investigator: Yuki Reiss

Start Time: 9:40

End Time: 11:15

Redds: New Old

Definite: 4 _____

Probable: 2 _____

Possible: 2 _____

Bull Trout Observed:

Adults: One 8-10 inch fish – not positively identified as a bull trout, but likely

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): _____

Fresh beaver chew sticks throughout the reach, and one dam on a right bank tributary.

Stream: Middle Fork Ahtanum
 Date: 09/27/2010
 Location: About 2 miles downstream from Tree Phone CG to the CG
 Water Temp: 44.8 F

Investigator: Jim Cummins & David Child
 Start Time: 1000
 End Time: 1215

Redds:	New	Old	Totals
Definite	4	10	14
Probable	0	1	1
Possible	0	1	
Totals			15

possible 1 old redd counted as new + as old probable counted as new.

Bull Trout Observed:
 Adults:
 Sub-adults:
 Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc):

Flows low and clear. Good visibility.

David child has additional GPS data.

1 prob and 1 pos changed to new def

The start point GPS is in the middle of the index reach, David Child started downstream.

09/27/2010 M. F. Ahtanur redd	2	126 start point		46.49591759	-121.101438	Jim Cummi WDFW
09/27/2010 M. F. Ahtanur redd	2	127 redd	definite	46.4967256	-121.103791	Jim Cummi WDFW
09/27/2010 M. F. Ahtanur redd	2	128 redd	definite	46.49693859	-121.103734	Jim Cummi WDFW
09/27/2010 M. F. Ahtanur redd	2	129 redd	definite	46.49678646	-121.104325	Jim Cummi WDFW
09/27/2010 M. F. Ahtanur redd	2	130 redd	definite	46.49789982	-121.109572	Jim Cummi WDFW
09/27/2010 M. F. Ahtanur redd	2	131 redd	definite	46.49857105	-121.11232	Jim Cummi WDFW
09/27/2010 M. F. Ahtanur redd	2	132 end point		46.49707379	-121.121789	Jim Cummi WDFW

Bull Trout Spawning Ground Survey Data Form

Stream: Rattlesnake Creek

Date: Sep 8, 2010

Location: from Shell Creek upstream to Little Wildcat Creek
(plus lower Shell Creek from mouth to Burnt Mtn. Trail Crossing)

Water Temp.: (Shell Cr 45.1 F) (Rattlesnake Cr 43.7 F)

Investigator: Eric Anderson & Jim Cummins (WDFW)

Start Time: 1025 hrs

End Time: 1227 hrs

Redds: New  Old

Definite: 17 (includes 1 in Shell Cr.) _____

Probable: 0 _____

Possible: 0 _____

Bull Trout Observed:

Adults: 2

Sub-adults: 2

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): This is the first pass.

GPS Waypoint 93 @ Shell Cr/Burnt Mtn Trail Crossing. 1 redd in Shell Creek at Waypoint 94, Waypoint 95 was mouth of Shell Cr with Rattlesnake Cr.
Rattlesnake Creek Redd Waypoints 96 – 112 except Waypoint 99 was Rattlesnake Trail crossing at Rattlesnake Creek in lower Strawberry Meadows area.

Bull Trout Spawning Ground Survey Data Form

Stream: Rattlesnake Creek

Date: Sep 8, 2010

Location: from Little Wildcat Creek upstream to beaver ponds

Water Temp.: 43.7 F

Investigator: Eric Anderson (WDFW)

Start Time: 1227 hrs

End Time: 1327 hrs

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>21</u>	<u></u>
Probable:	<u>0</u>	<u></u>
Possible:	<u>0</u>	<u></u>

Bull Trout Observed:

Adults: 1

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This is the first pass.

GPS Waypoint 113 @ confluence of Little Wildcat Creek. Rattlesnake Creek Redd
Waypoints 114 – 136, except Waypoint 128 was Rattlesnake Trail crossing @ Rattlesnake
Creek & Waypoint 130 was lower beaver dam. Ended survey at Waypoint 137. There were
about a half dozen redds above the two beaver dams. Weather was overcast, rained heavy last
night.

Stream: Little Wildcat Creek
 Date: 09/08/2010
 Location: Mouth upstream about 1/2 mile to WP 1
 Water Temp: 44.6 F

Investigator: Jim Cummins
 Start Time: 1200
 End Time: 1315

Redds:	New	Old
Definite	1	
Probable		
Possible		

Bull Trout Observed:

Adults:	1
Sub-adults:	1
Juveniles:	

Comments (mortalities, tagged fish, H2O visibility, etc):

Eric Anderson has Rattlesnake Creek data.

Flow moderate and clear (higher than most years). Visibility very good.

09/08/2010 Little Wildcat redd	1	1 start point	46.73353	-121.231	Jim Cummi WDFW	Mouth upstream to end
09/08/2010 Little Wildcat redd	1	2 redd definite	46.73097	-121.233	Jim Cummi WDFW	
09/08/2010 Little Wildcat redd	1	3 end point	46.72521	-121.238	Jim Cummi WDFW	

Bull Trout Spawning Ground Survey Data Form

Stream: Rattlesnake Creek

Date: 09/09/10

Location: upper portion of the lower section, from 1114 trail intersection with MJB trail to Shell Creek

Water Temp.: 42 F

Investigator: Gary Torretta

Start Time: 1030 (left truck about 08:30)

End Time: 1350 (back to truck about 4:30)

Redds: New Old

Definite: 6 _____

Probable: 1 _____

Possible: 3 _____

Bull Trout Observed:

Adults: 1, about 18" in length, not on a redd

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): Conditions were excellent for the survey.

Redd Lat/Lon (I did not GPS "possibles")

46.74624; 121.19407	1 redd
46.74316; 121.20403	1 redd
46.74214; 121.20462	2 redds
46.74093; 121.20915	2 redds
46.73755; 121.21848	1 redd

Bull Trout Spawning Ground Survey Data Form

Stream: Rattlesnake Creek

Date: 09-21-10

Location: mainstem including Shell Creek, up to end of survey reach

Water Temp.: 5.4 C

Investigator: Pat Monk & Anderson

Start Time: 10:15 a.m.

End Time: 12:53 p.m.

Redds: New Old

Definite: 4 + 10 37 38 *last pass EA*

Probable: _____

Possible: _____

38 + 10 = 48

Bull Trout Observed:

Adults: _____

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): It was a crystal clear morning, and a cool, partly cloudy day. Recent rains created ideal trail conditions for a strenuous hike. Jim, Eric and I met on Bethel Ridge at about 7:15 a.m., dropped a truck off at the MJB trailhead, then headed back to Cash Prarie and hiked down via Burnt Mtn. trail. Cummins went downstream in the mainstem, to the 1114 trail crossing, then hiked out via MJB. I surveyed the upper reach with Anderson, we went downstream in Shell Creek from the Burnt Mtn trail crossing, then upstream in the mainstem Rattlesnake to a side channel area. After surveying the braided channel section, EA and I split up and he surveyed Little Wildcat Creek while I kept going upstream on the mainstem. I ended the survey upstream of the beaver ponds, hiked back and waited for EA at the Little Wildcat Creek trail crossing for

** Eric has one redd recorded on his GPS as waypoint 242*

Bull Trout Spawning Ground Survey Data Form

Stream: Little Wildcat Creek (Rattlesnake Creek population)

Date: Sep 21, 2010

Location: from mouth to upstream, approx. 3/4 mile

Water Temp.: 41.2 F

Investigator: Eric Anderson (WDFW)

Start Time: 1220 hrs

End Time: 1330 hrs

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

Bull Trout Observed:

Adults: none observed (spawning in Rattlesnake system appears to be complete)

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This was the second and final pass. GPS Redd Waypoints 243, 244, 245. Waypoint 242 was for a redd in a side channel of the main stem Indian Creek while accompanying Pat Monk (see Rattlesnake Creek, Pat Monk data sheet). Pat & I split up....I did Little Wildcat he continued on Rattlesnake survey.

Stream: Rattlesnake Creek
 Date: 09/21/2010 *downstream*
 Location: Shell Creek to trail 1116 (first downstream crossing below MJB Trail)
 Water Temp: 46 F at Trail 1116 crossing at 1317.

Investigator: Jim Cummins
 Start Time: 1000
 End Time: 1317

Redds:	New	old	total
Definite	5	7	12
Probable	1	0	1
Possible	0	2	2
Totals	6	7	13

*Total 10 redds
 last pass
 13 this
 pass
 OK
 em*

Bull Trout Observed:
 Adults: 0
 Sub-adults: 0
 Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):
 Flow moderate and clear. Good visibility
 Changed 2 old prob to new def.

09/21/2010	Rattlesnake	redd	2	116	redd	definite	46.738737	-121.2147412	Jim Cummins	WDFW
09/21/2010	Rattlesnake	redd	2	117	redd	definite	46.742223	-121.2048365	Jim Cummins	WDFW
09/21/2010	Rattlesnake	redd	2	118	redd	definite	46.7637008	-121.1710523	Jim Cummins	WDFW
09/21/2010	Rattlesnake	redd	2	119	end point		46.7718648	-121.1680236	Jim Cummins	WDFW

G. Torretta & P Monk have first pass GPs for additional redds,

Upper Bumping Snorkel Mission, Aug 30, 2010

W.A.
+ Redd count No Redds

After surveying Deep Creek during the day, the snorkel team (Yuki Reiss, William Meyer, Pat Monk, Scott Kline and Arden Thomas) went to the Upper Bumping River to collect bull trout genetics samples below the barrier falls. The objective is to find out if bull trout in this system are genetically distinct, or if it appears that they are primarily Deep Creek juveniles/sub-adults that are rearing and foraging in the lower Upper Bumping River.

We hiked in from the Swamp Lake trailhead, and dropped down to the river below the falls. This system changes a great deal annually, and this year the "old" main channel, which runs along the slope of the right bank talus field, was watered, and appeared to carry almost half of the current flow. The main channel is several hundred meters away, towards the left bank side of the floodplain. Both channels had a wetted width of 15-20 ft across.

We split into two teams. Pat and Yuki went down the right bank channel, and William, Scott and Arden went down the main channel. We walked downstream ~.3 mile, then snorkeled back up. Both teams came back together at the confluence, and snorkeled to the barrier falls together (another ~.1 mile). To exit, we walked up the falls and the main channel to the trail x-ing and hiked back out to the Swamp Lake trailhead.

Stream temp: 8.5 C

Start time: ~8:45 PM

End time: ~12 AM

Weather: cool, clear until 11:00 PM, then clouds moved in.

Fish observed: Rainbow, cutthroat, brook trout, sculpin species, tailed frog, white fish and bull trout. We did not collect data on individual sizes or numbers.

15 juvenile bull trout were captured and tissue samples were collected to be sent to the WDFW Genetics Lab in Olympia for analysis. Fork length was recorded as follows (in mm):

235, 195, 190, 235, 140, 175, 195, 140, 140, 150, 145, 150, 220, 155, 195

No small (age class 0+) fish were observed, and no adfluvial size adults holding.

SNORKEL MISSION II: September 20, 2010

+ Redd Count

Arden, William and Yuki returned to the Upper Bumping to attempt to collect ~10 more genetics samples. We have 6 samples from 2002, plus the 15 above, so we wanted to get our sample size close to 30.

No Redds
EA.

We hiked in from the Swamp Lake trailhead again, and walked downstream from the trail x-ing. At the pool below the barrier falls we began a redd survey, and we covered all available habitat (main channel and side channels) down to the lake. **No redds or adult fish were seen.**

In the week prior to this survey there was a major rain event across the NW. The river was running quite high, and slightly colored by tannins. Visibility was not an issue, either for the redd surveys or snorkeling, but conditions were definitely more challenging than during the Aug survey. We found less bull trout and even pools were difficult to hold in, thus making capturing the fish harder. All bull trout seen were captured.

We began snorkeling close to the lake confluence. At the first channel split we went up the right bank side channel complex. When we reached the large abandoned beaver dam we found a fish that appeared to be missing a piece of caudal tissue, and we decided to not sample this fish in case it had been previously sampled. We also stopped snorkeling in this channel, and we hiked back downstream and snorkeled up the main channel until we reached the area where we began snorkeling on Aug 30.

Stream temp: 9 C

Start time: 7:30 PM

End time: 10:00 PM

Weather: cool, raining lightly

Snorkelers: Yuki Reiss, William Meyer

Fish observed: Rainbow, cutthroat, brook trout, sculpin species and bull trout. We did not collect data on individual sizes or numbers for any species other than bull trout.

Six juvenile bull trout were captured and tissue samples were collected to be sent to the WDFW Genetics Lab in Olympia for analysis. On this snorkel mission we found several <100 mm individuals that we believe are bull trout, in addition to 2 larger, sub-adult sized fish. Fork length was recorded as follows (in mm):

50, 55, 50, 60, 170, 240

No adfluvial size adults were seen holding in snorkeled reaches.

Stream: Crow Creek
Date: 09/14/2010
Location: Beaver Pond area to rock passage barrier
Water Temp: 45.3 F

Investigator: Jim Cummins & Eric Anderson
Start Time: 1023
End Time: 1400

Redds: New
Definite 9
Probable 0
Possible 0

Bull Trout Observed:
Adults: 0
Sub-adults: 0
Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc:
Went in at bottom and hiked to beaver pond area before starting upstream survey.
My GPS would not locate satellites so Eric has GPS data.
flows moderate, water clear, good visibility
This was the only survey this year. Scheduled latter survey cancelled.
Saw several dozen salmonids, fry to 6 inches that were presumed CT, Rb, and RBxCT.

09/14/2010 Crow redd 1 60 start point 47.01756 -121.267 Jim Cummins WDFW Beaver pond area. Eric has redd data, my GPS malfunctioned.

Bull Trout Spawning Ground Survey Data Form

Stream: American River

Date: Aug 31, 2010

Location: Mesatchee Creek Trail Crossing downstream to USFS spur road above
Lodgepole C.G.

Water Temp.: 44.2 F

Investigator: Eric Anderson (WDFW)

Start Time: 1000 hrs

End Time: 1210 hrs

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

Bull Trout Observed:

Adults: 2

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This is the first pass.

Observed 2 chinook redds & 1 otter in river. No GPS coordinates were taken on this pass.
David Child & Jeff Thomas also conducting surveys in Union Cr. & Pat Monk surveying Kettle
Creek.

Bull Trout Spawning Ground Survey Data Form

Stream: American River and Union Creek

Date: August 31, 2010

Location: Union Creek (mouth to falls); Mainstem American River from half mile below Union Creek to the mouth of Union Creek

Water Temp.: American River: 44.7 degrees F; Union Creek: 43 degrees F

Investigator: American River- David Child, Union Creek- Jeff Thomas

Start Time: 0945

End Time: 1045

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

Bull Trout Observed:

Adults: 18 (11 of them on redds)

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): Weather was cloudy and cool with light rain. Water clarity was excellent. ALL OF THE REDDS WERE OBSERVED IN UNION CREEK above the bridge. The fourth redd above the bridge may have actually been a pair but I did not want to get closer for a better look so as not to disturb the two bulltrout which were present. Advise second pass surveyor to examine. All of the redds except the one labeled "probable" had at least two fish on them. Seven bull trout not associated with redds were observed (five in Union Creek and two in the American River). David Child observed 10 chinook redds, all flagged by YN surveyors.

Bull Trout Spawning Ground Survey Data Form

Stream: Kettle Creek, trib to American River

Date: August 31, 2010

Location: Confluence to falls

Water Temp.: 6 C

Investigator: Pat Monk

Start Time: 10:00 a.m.

End Time: 1:00 p.m.

Redds: New Old

Definite: 4 _____

Probable: 2 _____

Possible: 2 _____

Bull Trout Observed:

Adults: 4 _____

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): I walked upstream in Kettle Ck to the falls which are marked with tape. The weather was cool, overcast, light rain. I saw what appeared to be (based on size and freshness) a bull trout redd in the American River while crossing to get to Kettle. The water temp in American River was 8 C, but Kettle Creek was cooler at 6 C. One possible redd was located near the end of the survey reach. To exit I walked back down the creek until I could hike up the ridge on the left bank. I walked back to American River through the woods down the ridge, which was easy. It was a very pleasant morning.

Bull Trout Spawning Ground Survey Data Form

Stream: American River

Date: Sep 9, 2010

Location: from mouth of Union Creek downstream approx 1/2 mile.

Water Temp.: 46.7 F

Investigator: Eric Anderson (WDFW) & Jeff Trammell (Yakama Nation)

Start Time: 1155 hrs

End Time: 1218 hrs

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

Possible:	<u>0</u>	<u></u>
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Bull Trout Observed:

Adults: None observed.

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This is the second pass. GPS Redd Waypoints 156 & 157. Waypoint 158 was the end of the survey.

Stream: American River
 Date: 09/09/2010
 Location: Lodgepole to Mesatchee Trail (see GPS data)
 Water Temp: 46 F

Investigator: Jim Cummins
 Start Time: 1015
 End Time: 1330

Redds:	New	Old	Total
Definite	→ 13	→ 2	→ 15
Probable	1		1
Possible			16

Bull Trout Observed:
 Adults: 0
 Sub-adults: 0
 Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):
 Flow moderate and clear. Good visibility.
 3 chinook redds.

09/09/2010	American	redd	2	4 start point		46.91310846	-121.39235	Jim Cummins	WDFW	Short distance upstream from Lodgepole CG
09/09/2010	American	redd	2	5 redd	definite	46.91178923	-121.39416	Jim Cummins	WDFW	
09/09/2010	American	redd	2	6 redd	definite	46.91319949	-121.39589	Jim Cummins	WDFW	
09/09/2010	American	redd	2	7 chinook redd	definite	46.91285608	-121.39649	Jim Cummins	WDFW	Near bull trout redd, may have failed to GPS bull trout redd at this location.
09/09/2010	American	redd	2	8 chinook redd	definite	46.91279967	-121.39646	Jim Cummins	WDFW	
09/09/2010	American	redd	2	9 chinook redd		46.91271225	-121.39656	Jim Cummins	WDFW	
09/09/2010	American	redd	2	10 redd	definite	46.91275634	-121.39649	Jim Cummins	WDFW	
09/09/2010	American	redd	2	11 redd	definite	46.91251008	-121.40044	Jim Cummins	WDFW	
09/09/2010	American	redd	2	12 redd	definite	46.91150417	-121.40069	Jim Cummins	WDFW	
09/09/2010	American	redd	2	13 redd	definite	46.9087668	-121.40394	Jim Cummins	WDFW	
09/09/2010	American	redd	2	14 redd	definite	46.90861568	-121.40415	Jim Cummins	WDFW	

09/09/2010	American	redd	2	15 redd	definite	46.90855642	-121.40609	Jim Cummins	WDFW	
09/09/2010	American	redd	2	16 redd	definite	46.9085358	-121.4061	Jim Cummins	WDFW	
09/09/2010	American	redd	2	17 redd	definite	46.90915648	-121.40654	Jim Cummins	WDFW	
09/09/2010	American	redd	2	18 redd	Prob	46.90805778	-121.40995	Jim Cummins	WDFW	Marked Prob because very large redd
09/09/2010	American	redd	2	19 redd	definite	46.90288204	-121.40996	Jim Cummins	WDFW	
09/09/2010	American	redd	2	20 redd	definite	46.90237066	-121.40959	Jim Cummins	WDFW	
09/09/2010	American	redd	2	21 redd	definite	46.90275371	-121.41005	Jim Cummins	WDFW	
09/09/2010	American	redd	2	22 redd	definite	46.90275145	-121.41004	Jim Cummins	WDFW	
09/09/2010	American	redd	2	23 end point		46.90119141	-121.41561	Jim Cummins	WDFW	Mesatchee Creek Trail crossing

Bull Trout Spawning Ground Survey Data Form

Stream: Union Creek (part of American River population)

Date: Sep 9, 2010

Location: Mouth of Union Creek upstream to barrier falls.

Water Temp.: 44.6 F

Investigator: Eric Anderson (WDFW) & Jeff Trammell (Yakama Nation)

Start Time: 1030 hrs

End Time: 1150 hrs

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>12</u>	<u>5</u>
Probable:	<u>0</u>	<u>1 changed to New Def</u>
Possible:	<u>0</u>	<u></u>

Bull Trout Observed:

Adults: 20

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This is the second pass.
GPS Redd Waypoints 138 - 155 except 140 was nothing. 2 redds were below the Hwy 410
bridge.

Bull Trout Spawning Ground Survey Data Form

Stream: Kettle Creek (2nd Pass)

Date: September 9, 2010

Location: Tributary of American River

Water Temp.: 45 degrees F

Investigator: Jeff Thomas (USFWS)

Start Time: 1015 hours

End Time: 1200 hours

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>1</u>	<u>4</u>
Probable:	<u>1</u>	<u>2</u>
Possible:	<u></u>	<u>2</u>

Bull Trout Observed:

Adults: 2 on a redd

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc):

Weather was cool and cloudy. Water clarity was excellent. Regarding some of the redds
observed on the first pass by Pat Monk- I judged one of the redds he marked as a "possible"
to be a "definite" and the other I did not believe was a redd but rather a hydraulic effect. One
of the redds he flagged as probable had two bull trout on it which is kind of strange since he
conducted his survey at the end of August. Whatever, there did not appear to be two redds at the

Bull Trout Spawning Ground Survey Data Form

Stream: American River

Date: 09-17-2010

Location: upper mainstem (access Road above Lodgepole CG to mesatelee Trail xing)

Water Temp.: 9.0 C

Investigator: Pat Monk

Start Time: 11:00 a.m.

End Time: 2:15 p.m

<u>Redds:</u>	New		Old
<u>Definite:</u>	1 count as old + flag missing?	→	13 12 + 1 on Cummins data sheet = 14 plus 2 not observed

Probable: _____

Possible: _____

Note: There were 16 redds in this section from previous pass on 9/9/10.

Bull Trout Observed:

Adults: _____

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): It was overcast and cool, good conditions for a survey. This was the last pass, we collected GPS points and took down flags. I didn't see any fish on this pass.

Stream: Union Creek & lower reach of American River
 Date: 09/17/2010
 Location: Mouth to Falls and American R downstream to WP 114.
 Water Temp: 46.4 F

Investigator: Jim Cummins
 Start Time: 1045
 End Time: 1230

Redds: Union Creek American below Union Lodepole
 Definite New ↘ 1 Old ↘ 17 New ↘ 0 Old ↘ 2 New ↘ 0 old ↘ 1
 Probable
 Possible

Bull Trout Observed:
 Adults: 1 in Union
 Sub-adults:
 Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc):
 Pat monk has most of data for Lodgepole to Mesatchee Creek reach.
 Flows low and clear

09/17/2010	Union Creek	redd	3	93 redd	definite	46.9327644	-121.358415	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	94 redd	definite	46.933453	-121.358846	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	95 redd	definite	46.9334616	-121.358712	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	96 redd	definite	46.9337797	-121.358967	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	97 redd	definite	46.9340474	-121.358936	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	98 redd	definite	46.9340307	-121.358801	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	99 redd	definite	46.9341025	-121.358781	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	100 redd	definite	46.9345928	-121.358478	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	101 redd	definite	46.9347273	-121.358313	Jim Cummins	WDFW
09/17/2010	Union Creek	redd	3	102 redd	definite	46.9348525	-121.35833	Jim Cummins	WDFW

09/17/2010	Union Creek	redd	3	103 redd	definite	46.9348484	-121.35833	Jim Cummins	WDFW	
09/17/2010	Union Creek	redd	3	104 redd	definite	46.9351924	-121.358462	Jim Cummins	WDFW	
09/17/2010	Union Creek	redd	3	105 redd	definite	46.9353109	-121.358886	Jim Cummins	WDFW	
09/17/2010	Union Creek	redd	3	106 redd	definite	46.9354738	-121.359008	Jim Cummins	WDFW	
09/17/2010	Union Creek	redd	3	107 redd	definite	46.9356534	-121.3593	Jim Cummins	WDFW	
09/17/2010	Union Creek	redd	3	108 redd	definite	46.9357896	-121.35929	Jim Cummins	WDFW	
09/17/2010	Union Creek	redd	3	110 redd	definite	46.9320928	-121.358159	Jim Cummins	WDFW	
09/17/2010	Union Creek	redd	3	111 redd	definite	46.9319485	-121.358287	Jim Cummins	WDFW	
09/17/2010	American	redd	3	112 redd	definite	46.9327065	-121.355275	Jim Cummins	WDFW	Below Union Creek
09/17/2010	American	redd	3	113 redd	definite	46.9331188	-121.353916	Jim Cummins	WDFW	
09/17/2010	American	redd	3	114 end point		46.9343386	-121.347916	Jim Cummins	WDFW	
09/17/2010	American	redd	3	115 redd	definite	46.9115598	-121.394017	Jim Cummins	WDFW	Upper reach. Pat Monk has additional GPS data

Bull Trout Spawning Ground Survey Data Form

Stream: Kettle Creek (part of American River population)

Date: Sep 17, 2010

Location: mouth to upstream at canyon/falls barrier area (approx 3/4 mile)

Water Temp.: 45.3 F

Investigator: Eric Anderson (WDFW)

Start Time: 1005 hrs

End Time: 1129 hrs

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>6</u>	<u>5</u>
Probable:	<u>0</u>	<u>3 changed to new def.</u>
Possible:	<u>0</u>	<u>1 changed to new def, 1 eliminated</u>

Bull Trout Observed:

Adults: None observed (spawning appears to be complete)

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): This was the 3rd & final pass. GPS Redd Waypoints 230 - 240. Ended survey at Waypoint 241.

N.F. Teanaway was snorkeled that night by team lead by William Meyer from DeRoux Creek confluence to barrier falls, not Bull Trout were seen.

DeRoux Creek was also snorkeled by team lead by Yuki Reiss from confluence with NF to bridge at trail crossing. Water temperature in DeRoux at 1930 was 4.5°C.

Bull Trout Spawning Ground Survey Data Form

Stream: Deep Creek

Date: Aug 30, 2010

Location: Copper River to falls

Water Temp.: Start (12:40) = 8 C, End (18:20) = 8 C, Copper River = 7C

Investigator: Yuki Reiss, Chris Frederiksen

Start Time: 12:40

End Time: 18:20

Redds: New Old

Definite: 77 (including 2 in Copper) 88

Probable: 11

Possible: 11 (1 in Copper)

Bull Trout Observed:

Adults: 59 (53 large, adfluvial fish, 6 resident size)

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): _____

Lots of redds that appeared to have multiple mounds – possibly multiple egg laying events, superimposition of redds??? Where there were obvious redd complexes, we tried to count them conservatively, but often debated the actual number of redds present.

Saw one small redd (~3 ft long with pit and mound) with a resident size (10-12 in) fish working it.

Most of the fish observed were on redds (43), 5 fish were “loose” resident/sub-adult fish and there was one pool with 11 fish.

One mort, a large (~26 in) male, in good condition, with bite/claw marks on side. Milt came out when squeezed.

Dewatered area seems to have shifted from last year, as we observed 09 redd flags in the currently dewatered area. Most of the spawning activity was below this area. It appeared that no fish were actually above this, but we did find 4 redds, 5 adfluvial size fish, all from the road culvert and above. The dewatered section itself was fairly short (est ~ .25 mile long).

We began to worry about running out of flagging, so redds in the upper section were marked using one flag for multiple redds. We attempted to clearly explain on the flag which redds were being marked, describing location where necessary.

Bull Trout Spawning Ground Survey Data Form

Stream: Deep Creek

Date: Aug 30, 2010

Location: USFS Road 1800 twin culverts to Copper Creek

Water Temp.: Start (12:15) = 7 C

Investigator: William Meyer, Scott Kline, Arden Thomas

Start Time: 12:15

End Time: 15:45

Redds: New Old

Definite: 14 _____

Probable: 3 _____

Possible: 3 _____

Bull Trout Observed:

Adults: 1 mort. Female (~25" long post-spawn)

Sub-adults: 1

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): _____

Weather: Cool, ~50°F, overcast, intermittent light drizzle occasionally; Stream: Clear and cold, excellent visibility. We started at the twin culverts on the 1800 road and walked to the confluence with Copper Creek. Scott and Arden took the right bank channels through the beaver catacombs and I took the left bank channel through the shale section. We observed 6 redds before splitting up. William observed a ~25" female mortality bull trout that was post spawn and took a genetic sample (vial #10 GB 1). The female bull trout had a turkey vulture on top of her, but was otherwise rather fresh and appeared to have been de-watered as she was in perfect condition – except for being dead! This is the newly aggraded section of stream/forest that accumulated lots of cobble and gravel in the 2009 flood event. Interestingly, we didn't observe any live adults, and had the feeling we were past peak spawn. The next day we walked the upper reach and observed several redds that had 2-5 males pestering a single female on a redd – also suggesting the peak of spawning had passed.

Bull Trout Spawning Ground Survey Data Form

Stream: Deep Creek

Date: 09-08-10

Location: upper mainstem from Copper Creek confluence to falls

Water Temp.: 7 C

Investigator: Pat Monk

Start Time: 11 a.m.

End Time: 3 p.m.

Redds: New Old

Definite: 8 66

Probable: 3 12

Possible: 3 6

Bull Trout Observed:

Adults: 6

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): Water clarity was excellent, it was overcast and cool. The surveyors on the first pass used pink flagging, I used orange. It appeared that some of the flags from the first pass were removed by wildlife. I found a few redds where the flag had been torn off leaving only the knot still tied to a branch. Because the pink flagging was used and these were pink knots, I assumed these were marked by the first pass and counted them as old redds rather than new ones.

88 on 1st pass
89 on 2nd pass
some flags torn off.
some new were probably old redds

Bull Trout Spawning Ground Survey Data Form

Stream: Deep Creek

Date: September 8, 2010

Location: Mouth to 1800 Rd. Culverts

Water Temp.: Near Mouth: 45.2 degrees F, Near Culverts: 44.9 degrees F

Investigator: David Child

Start Time: 1000

End Time: 1315 (took a 20 minute lunch too)

Redds: New Old

Definite: 8 12

Probable: 1 (also a 1st pass probable changed to Definite)

Possible: 1 (associated with one of the new redds, verify on the next pass)

Bull Trout Observed:

Adults: 3, two of them on a redd and the other seemed to be outmigrating, as I observed he/she moving downstream through 3 holes

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc):

Weather was cloudy and cool with light rain, likely 40 to 50 degrees F. The night before the survey heavy rains occurred, but the water clarity was excellent in Deep Creek. I surveyed moving upstream and found the hike/bushwhack to the mouth on the right bank doable.

Bull Trout Spawning Ground Survey Data Form

Stream: Deep Creek (2nd Pass)

Date: September 8, 2010

Location: 1800 Rd. Culverts to Copper Creek

Water Temp.: 45°F at 10:45 upstream of 1800 Rd.
44°F at 15:20 in Copper Creek

Investigator: Jeff Thomas and Scott Willey

Start Time: 10:47

End Time: 15:25

Redds: New Old

Definite: 31 16

Probable: 2 3 Prob. (1 Prob. changed to No by JT & flagged)
(1 Prob. upgraded to Definite w/fish by SW)

Possible: 0 4 Poss. (2 Poss. changed to No by JT & flagged)
(1 Poss. upgraded to Definite by JT & flagged)

Handwritten calculation:

$$\begin{array}{r} 31 \\ + 16 \\ \hline 47 \\ - 2 \\ \hline 45 \end{array}$$

Handwritten note: 3 - 2 = 1 old Prob.

Bull Trout Observed:

Adults: 17 adults on redds plus 3 additional individual fish observed

Sub-adults: 0

Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Weather was cloudy and cool with light rain, likely 40 to 50°F. The night before the survey heavy rains occurred, but flows had not increased appreciably and the water clarity was excellent in Deep Creek. Jeff Thomas and Scott Willey split through the braided section above the 1800 Rd. culverts. JT did the left side channels while SW did the right side braided channels. Tough to know if all braided channels were covered, but we spent a lot of time back tracking and checking to make sure as much habitat as possible was covered. The recent rains have resulted in a minimal surface connection between at least two of the braided channels and the single channel that emerges from the talus slope above the braided section. Several old redds marked either Probable or Possible were upgraded or downgraded as appropriate (see comments above).

Bull Trout Spawning Ground Survey Data Form

Stream: Deep Creek

Date: Sep 16, 2010

Location: from USFS Rd 1800 stream culvert to Copper Creek

Water Temp.: 44.8 F

Investigator: Eric Anderson & Jim Cummins (WDFW)

Start Time: 1056 hrs

End Time: 1410 hrs

Redds: New Old

Definite: 12 (some may have been older & flags missing) 25

Probable: 0 1 changed to new def.

Possible: 0 _____

Bull Trout Observed:

Adults: None observed (spawning appears to be complete)

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): This was the 3rd & final pass. GPS Redd Waypoints 193 - 229. This section contained numerous braids. Jim Cummins has more data for this section. The entire section was watered and passable although there were some low flow sections in the main stem near the braided area.

Stream: Deep Creek
 Date: 09/16/2010
 Location: 1800 Road to Copper Creek
 Water Temp: Eric has data
 Investigator: Jim Cummins & Eric Anderson
 Start Time:
 End Time:

*some may have been old
 + flags missing*

Redds:	New	Old
Definite	7	19
Probable	0	2
Possible	0	0
Bull Trout Observed:		
Adults:	0	
Sub-adults:	0	
Juveniles:	0	

Comments (mortalities, tagged fish, H2O visibility, etc):

Eric also has redd and GPS data.

This data needs to be combined with Eric's data to get totals.

09/16/2010	Deep Creek	redd	3	64 redd	definite	46.8303932	-121.309551	Jim Cummins	WDFW	Eric has GPS data that I don't have.
09/16/2010	Deep Creek	redd	3	65 redd	definite	46.8298803	-121.309768	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	66 redd	definite	46.8298305	-121.3094	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	67 redd	definite	46.829882	-121.309382	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	68 redd	definite	46.8299716	-121.309485	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	69 redd	definite	46.8298708	-121.309274	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	70 redd	definite	46.8297796	-121.309323	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	71 redd	definite	46.8288116	-121.309034	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	72 redd	definite	46.828799	-121.309166	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	73 redd	definite	46.8285044	-121.309229	Jim Cummins	WDFW	
09/16/2010	Deep Creek	redd	3	74 redd	definite	46.8286975	-121.30902	Jim Cummins	WDFW	

09/16/2010	Deep Creek	redd	3	75 redd	definite	46.8286684	-121.309177	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	76 redd	definite	46.8286301	-121.309269	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	77 redd	definite	46.8284833	-121.309303	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	78 redd	definite	46.8284652	-121.309263	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	79 redd	definite	46.8282703	-121.309156	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	81 redd	definite	46.8294354	-121.309938	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	82 redd	definite	46.8294994	-121.310071	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	83 redd	definite	46.8294951	-121.310228	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	84 redd	definite	46.8294938	-121.310225	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	85 redd	definite	46.8296338	-121.310334	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	86 redd	definite	46.8296364	-121.310328	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	87 redd	definite	46.830064	-121.310277	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	88 redd	definite	46.8301339	-121.310221	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	89 redd	definite	46.8301202	-121.310208	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	90 redd	definite	46.8304754	-121.310587	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	91 redd	definite	46.8304755	-121.310574	Jim Cummins	WDFW
09/16/2010	Deep Creek	redd	3	92 redd	definite	46.8304832	-121.310563	Jim Cummins	WDFW

Anderson, Eric (DFW)

From: Paul Huffman [huffmanp@yakama.com]
Sent: Wednesday, September 22, 2010 12:08 PM
To: Anderson, Eric (DFW)
Subject: Re: Deep Creek 9/16

I wrote down all that was on the flags. I added the time I found them, the coordinates, and sometimes the elevation. I wonder if all the flags that don't say probable or definite, or used the number code are definite. I guess that 12:41 11-12 is two definite redds. That would match the number series on the 8/30 redds that left off from #8. Looks like #6 or #7 8/30 was missing. I guess that at 14:45, the 9/8 3 Def DL flag meant 3 definite redds, because the flag also said mid channel & Rt. Bnk.

So maybe the totals are 8/30 12 definite, 1 probable
9/8 7 definite, 1 probable
9/16 1 probable

13
8
1

22

22 Redds
1800 Culvert to Lake

My uncalibrated altimeter read 3470 ft. at the mouth, while Bumping full pool is 3425.9 ft.

Some maps show Deep Creek branching with two mouths at the lake. Is there anything in that western branch?

On 9/22/2010 10:35 AM, Anderson, Eric (DFW) wrote:
Thanks Paul. So what was the final count for definite redds, probables?
Eric

From: Paul Huffman [mailto:huffmanp@yakama.com]
Sent: Monday, September 20, 2010 3:36 PM
To: Anderson, Eric (DFW)
Subject: Deep Creek 9/16

Deep Creek Bull Trout survey, mouth to Road 1800

Walked to the mouth down the right bank. Got stuck in a swamp within spitting distance of the beach for a long time. Attacked by a big black hornet with a white face. Retreated rapidly and saw there had been a paper wasp nest above my head.

12:20 Mouth 3350 ft. altimeter, not calibrated.
12:41 8/30 11-12 46° 50.587N 121° 18.975W
12:54 8/30 46° 50.552N 121° 18.941W
13:01 9/16 Probable 46° 50.553N 121° 18.920W
13:10 8/30 Definite 46° 50.546N 121° 18.918W
13:21 8/30 Definite 46 50.525N 121 18.880W
13:29 9/8 1 Definite, 1 Possible DL 46 50.512N 121 18.847W
13:40 8/30 #8 46 50.492N 121 18.855W
13:47 8/30 PM Def 46 50.458N 121 18.830W 3400ft. altimeter
13:58 8/30 #5 46 50.391N 121 18.781W 3410 ft.
14:02 9/8/10 DL 46 50.386N 121 18.776W left bank across from above
14:16 8/30 Probable, Game crossing 46 50.286N 121 18.803W
14:24 9/8 under log 46 50.248N 121 18.748W I would have missed.
1 - 2009 flag
14:32 8/30 #4 Def PM 46 50.222N 121 18.734W Not visible
14:39 8/30 #3 46 50.188N 121 18.725W Not visible
14:47 9/8 1 Def 46 50.144N 121 18.702W
14:45 9/8 3 Def DL 46 50.095N 121 18.703W
14:57 8/30 PM 46 50.093N 121 18.700W 3440 ft. altimeter

15:03 8/30 PM

46 50.041N 121 18.690W 3440 ft. altimeter

I experimented with my Spot to see if it would be useful to send coordinates back to the website, but it took too long to run two different GPS devices.
<http://www.spotadventures.com/trip/editmap?trip id=226453>

--
This signature line intentionally blank.

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 9.0.851 / Virus Database: 271.1.1/3152 - Release Date: 09/21/10 23:34:00

--
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15:03 8/30 PM

46 50.041N 121 18.690W 3440 ft. altimeter

I experimented with my Spot to see if it would be useful to send coordinates back to the website, but it took too long to run two different GPS devices.
<http://www.spotadventures.com/trip/editmap?trip id=226453>

--
This signature line intentionally blank.

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 9.0.851 / Virus Database: 271.1.1/3152 - Release Date: 09/21/10 23:34:00

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Bull Trout Spawning Ground Survey Data Form

Stream: Deep Creek

Date: September 16, 2010

Location: Copper Creek to the Deep Creek Falls

Water Temp.: 45.7 degrees F

Investigator: David Child

Start Time: 1030

End Time: 1500 (took a 20 minute lunch too)

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>11</u>	<u>84 (2 in Copper Crk.)</u>
Probable:	<u>1</u>	<u>16</u>
Possible:	<u>1</u>	<u>2 changed to definite, 5 remain</u>

Bull Trout Observed:

Adults: 0

Sub-adults: _____

Juveniles: several small salmonids observed in pools, species unknown

Comments (mortalities, tagged fish, H2O visibility, etc):

The weather was cloudy and cool with light rain, likely 40 to 50 degrees F. Two of the old redds were in Copper Creek. I took GPS waypoints at all definite and probable redd sites and can provide the location information when needed. Within 1/2 mile of the culverts the creek appeared to go subsurface for a distance of approximately 1/8th of a mile until the springs that emerge from the talus slope add significant flow. I don't remember there being many redds in this dewatered reach. The fish must know when to scoot in or out and build viable redds in suitable locations.

Bull Trout Spawning Ground Survey Data Form

Stream: Kachess River/Mineral Creek

Date: 10/19/2010

Location: Kachess Lake to the falls

Water Temp.: 7 degrees C

Investigator: Jeff Thomas and Pat Monk, USFWS

Start Time: 1045

End Time: 1330

Redds: New Old

Definite: 1 _____

Probable: _____

Possible: _____

Bull Trout Observed:

Adults: Three hanging out, one on the only redd observed

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): Weather was sunny and warm. Water clarity was excellent. We began walking downstream from the trail crossing. The stream had good flow for a while but it became obvious that it was losing water as we got closer to the lake. About a quarter mile from the lake it went completely sub-surface. We walked back to the trail crossing and began surveying upstream. About a quarter mile from the falls we observed three adult bull trout which were not associated with a redd. We also observed one redd that had an adult immediately adjacent to it. I was not able to get a GPS signal at the site of the redd.

Bull Trout Spawning Ground Survey Data Form

Stream: Upper Kachess River

Date: Oct. 28, 2010

Location: from trail crossing upstream to barrier falls,
+ from trail crossing downstream to reservoir bed

Water Temp.: 42.0 F

Investigator: Eric Anderson (WDFW) & David Child (Yakima Irrigation District)

Start Time: 1039 hrs

End Time: 1200 hrs (at falls) & 1435 hrs (at reservoir bed)

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>12</u>	<u>1</u>
Probable:	<u>0</u>	<u></u>
Possible:	<u>1</u>	<u></u>

Bull Trout Observed:

Adults: 16 (12 actively spawning)

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): GPS Waypoints 293 & 294
disregard. Redd Waypoints 295 – 307. All of the bull trout & redds observed during this
survey were from the trail crossing upstream to the barrier falls. There were no redds
downstream to the reservoir bed (this is typical). Stream flows were good throughout.
Observed approx. a dozen adult kokanee spawning in the stream near the reservoir bed (est. 9-11
inch kokanee).

Bull Trout Spawning Ground Survey Data Form

adults likely still spawning very near complete.
SA

Stream: Kachess River - Incomplete survey

Date: November 4th, 2010

Location: Reservoir to Old USFS Rd; Mineral/Kachess confl. To falls

Water Temp.: 5.0°F @ 13:00 on Kachess River near high lake elevation; Spring channel temperature 12°C

Weather.: ~50°F, Sunny, high clouds

Investigator: Leslie Sekora (WDFW), Greg Lippert (WDFW), William Meyer (WDFW)

Start Time: 11:40 a.m. @ trail

End Time: 2:40 p.m. at falls

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>2</u>	<u>13</u>
Probable:	<u>0</u>	<u></u>
Possible:	<u>0</u>	<u></u>

Bull Trout Observed:

Adults: 9 adults observed total. 2 pairs still actively spawning

Sub-adults: 0

Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc): The water was high from recent rains, but clear. We walked to the reservoir bed and started the survey at the confluence of the lake and river. The lake appeared to be about 3 feet higher in elevation than years past, but this is a late survey. Observed some bald eagles and heron on the flats of the reservoir near the spring channel – later observed kokanee still actively spawning in this area and lots of whitewash near stumps around the spring channel. Observed 30-35 kokanee in the spring channel, and lots of redds. We also observed another 10-15 kokanee spawning in the mainstem river, just below the high pool elevation – a sight I haven't seen before. Took a gps point of these redds. Observed some beaver chews along the main channel, but old. We all walked up to the old USFS road, then Greg and Leslie took that road back to the car, as they only had leg waders. Leslie and I re-met at the trail crossing and finished the upper survey. All the adult bull trout observed were in the Kachess fork, and in the vicinity of the redds from this season. We took gps points of all the old redds. Observed 2 new definite redds with fish spawning. The redds seemed a bit higher in the system this year as compared to earlier years. Possibly

Bull Trout Spawning Ground Survey Data Form

Stream: Box Canyon Creek

Date: September 29, 2010

Location: Kachess Campground up to falls

Water Temp.: _____

Investigator: Jeff Trammell and Arden Thomas

Start Time: 10:00 AM

End Time: 13:00 AM

Redds: New Old

Definite: 2 0

Probable: _____

Possible: _____

Bull Trout Observed:

Adults: 4

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): _____

One redd had two fish and the other two were seen loose. Visibility was perfect.

Bull Trout Spawning Ground Survey Data Form

Stream: Box Canyon Creek (2nd Pass)

Date: October 8, 2010

Location: Box Canyon Campground to Falls (with check of reservoir bed)

Water Temp.: 47°F at 9:15 at Box Canyon Campground

Investigator: Scott Willey and Arden Thomas

Start Time: 9:15

End Time: 12:25

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>21</u>	<u>2</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>0</u>

Bull Trout Observed:

Adults: 3 adults on or near redds plus 2 additional individual fish observed

Sub-adults: 1

Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Weather was cloudy and cool, likely 40 to 45°F. Water flow was excellent in Box Canyon Creek as a result of some recent rain. Water clarity was also considered excellent with no signs of turbidity. Water temperatures were relatively high at 47°F. Reservoir elevations were very high. As a result there were no observed passage problems through the reservoir bed into the creek.

Bull trout redds were GPS'd for this 2nd pass survey in case high water flows prevented a 3rd pass from occurring. 5 bull trout were observed at the upper end of the survey reach and were still spawning. 3 of these fish were on redds and one was seen actively digging.

Bull Trout Spawning Ground Survey Data Form

Stream: Box Canyon Creek (3rd Pass)

Date: October 19, 2010

Location: Box Canyon Campground to Falls (with check of reservoir bed)

Water Temp.: 9.5 C at 10:00 at Box Canyon Campground

Investigator: Yuki Reiss and Maureen Small

Start Time: 10:00

End Time: ~13:00

Redds:	New	Old
Definite:	<u>87</u>	<u>23</u>
Probable:	<u>0</u>	<u>0</u>
Possible:	<u>0</u>	<u>0</u>

Bull Trout Observed:

Adults: 2 adults on redd (1 male, 1 female) plus 1 additional individual fish observed

Sub-adults: 1

Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Weather was clear and cool (~35-40°F). Water flow was excellent in Box Canyon Creek, higher than expected. Water clarity was excellent with no signs of turbidity. Just as with the last pass, there were no observed passage problems through the reservoir bed into the creek. We also did not see any redds or fish in this section.

Only one redd was observed below the slot canyon, in the pool with the waterfall that is directly below. There was a female and a very large male associated with this redd, but no active digging was observed. Due to high flows we climbed out of the stream at this point and dropped back down above the narrow canyon reach. Passage (for humans) was tricky in several other places as well!

Sadly, technology failed us and we could not get GPS coordinates on the observed new redds. However, we have notes on the locations and most were in the vicinity of old redds, so I believe I will be able to map these accurately based on Scott and Arden's GPS data.

One loose fish was seen in a pool in the upper portion of the spawning area. It had unusual coloring, with a very dark caudal and back end. One sub-adult/juvenile was also observed.

Anderson, Eric (DFW)

From: Yuki Reiss [yreiss@ybfwrb.org]
Sent: Friday, October 22, 2010 4:07 PM
To: Anderson, Eric (DFW)
Subject: Opps on Box data

Hi Eric – I am going through my notes to enter my redds into Scott's spreadsheet and it looks like I made a mistake on my survey report. I only found 7 new redds, not 8, so the total number of redds should be 30. Sorry about that!

Have a good weekend!

Yuki

Yuki Reiss
Salmon Recovery Coordinator
Yakima Basin Fish and Wildlife Recovery Board
1110 W Lincoln Ave Yakima, WA 98902
(509) 453-4104 x3
(509) 961-5635 (cell)
yreiss@ybfwrb.org

Anderson, Eric (DFW)

From: Gary D Torretta [gtorretta@fs.fed.us]
Sent: Wednesday, September 15, 2010 10:04 AM
To: Anderson, Eric (DFW)
Subject: nf tieton BT redd data

Eric, here is redd count data from NF Tieton

Mainstem

September 14, 2010
Water temp 44 F @1000 (start)
Water temp 44 F @ 1330 (end, at falls)
Surveyors: Torretta, Child, Thomas
Start Survey location 46.56364;121.36348 (same as last year with Jim C. Hung a ribbon)

Redds
Def- 11

BT on redds-11
Other BT-5

LLID
1213830465500

No morts

Tributary (mouth at 46.55023;121.38227)

No water temp taken
Stopped survey at falls a ways above trail, same as last year (46.55337;121.38500)

Redds
Def-1

BT on redds-0
Other BT-1

Gary Torretta - Fisheries Biologist
Okanogan-Wenatchee National Forest
Naches Ranger District
(509) 653-1433
email: gtorretta@fs.fed.us

Stream: North Fork Tieton River
 Date: 09/24/2010
 Location: Unnamed trib to falls
 Water Temp: 43.3F

Investigator: Jim Cummins & Joel Hubble
 Start Time: 1008
 End Time: 1217

Redds:	New	old
Definite	0	7
Probable		
Possible		

Bull Trout Observed:
 Adults: 0
 Sub-adults: 2
 Juveniles: 0

*High water event
 between 1st +
 2nd pass,
 no 3rd pass
 except unnamed
 trib.*

*missed 3
 Flagged
 redds
 should be 10
 in this
 section
 plus 1 that I found
 in lower section
 = 11
 Eric*

Comments (mortalities, tagged fish, H2O visibility, etc):

Evidently missed several flagged redds. Most flagged redds were not visible.
 Flow moderate and clear. Evidence of high water event the flattened the flagged redds.
 New redds may not have been visible, so this we likely missed some redds this year.
 The unnamed trib confluence where we started is the trib where bull trout were spawning.
 The two fish listed as subadults were in a small side channel and were displaying spawning behavior, but no redd. They were 10-11 inches in length.
 Eric has data for downstream reach and for the unnamed trib.

09/24/2010	N. F. Tieton	redd	2	120 start point	46.5501884	-121.382388	Jim Cummins	WDFW	Start at unnamed trib that has redds.
09/24/2010	N. F. Tieton	redd	2	121 redd	46.5394095	-121.390339	Jim Cummins	WDFW	Lost satellite signal in upper reach. All redds not GPS'ed
09/24/2010	N. F. Tieton	redd	2	122 redd	46.5383873	-121.39067	Jim Cummins	WDFW	
09/24/2010	N. F. Tieton	redd	2	123 redd	46.5365546	-121.391085	Jim Cummins	WDFW	
09/24/2010	N. F. Tieton	redd	2	124 redd	46.5365604	-121.391071	Jim Cummins	WDFW	
09/24/2010	N. F. Tieton	redd	2	125 redd	46.5361556	-121.390239	Jim Cummins	WDFW	

Could not get satellite signal at falls.

Bull Trout Spawning Ground Survey Data Form

Stream: North Fork Tieton, Unnamed tributaries tributary *J.M.*

Date: October 4, 2010

Location: Deep in the woods

Water Temp.: Forgot my thermometer

Investigator: Jeff Thomas, USFWS

Start Time: 1125

End Time: 1330

Redds: New Old

Definite: 2 6

Probable: _____

Possible: _____

Bull Trout Observed:

Adults: 2 on a redd, one resident sized fish hanging out

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): It was a nice day for a walk in the Woods. Took about an hour and 10 minutes to get to the first unnamed creek. Starting downstream at the trail crossing I almost immediately observed a new redd with about a 16 inch female and a small (resident-size) male on it. This redd was just a few feet from the one we observed on the first pass on this creek on September 14. No other new redds were observed downstream of the trail crossing. I observed another new redd upstream of the crossing about 100 meters or so. Both of these redds were flagged. In that general vicinity I saw another resident-size male but not particularly close to that redd. These were the only bull trout observed in the creek. I then began my trek to the "other" unnamed creek but turned back after 30 minutes of hiking the increasingly vague trail. Just shortly before I turned around I did encounter a wetted streambed that was very steep. It had obviously had some flow in it recently and no doubt does during the runoff and significant rainfall events. It may have had flowing water further down it's course. Hard to say but I wasn't up to the bushwhack to find out. All flags were left.

Stream: Gold Creek
Date: 09/28/2010
Location: See start WP to Avalanche
Water Temp: 49.1 F

Investigator: Jim Cummins & Pat Monk
Start Time: 1000
End Time: 1227

Redds: New
Definite 18
Probable 1
Possible 0

19 Redds

Bull Trout Observed:
Adults: 3
Sub-adults: 0
Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Flow moderate and clear. Flows higher than most years. No passage problems below Avalanche.
We did not walk up to the falls. Paul James started at the I-90 Bridge and walked up to where we started.
Paul James reported that Gold Creek was flowing all the way to where we started, so there are no passage issues.
Paul James flagged 6 redds on 9/18. Those redds were reflagged.

09/28/2010	Gold Creek	redd	1	133 start point	47.41470837	-121.365004	Jim Cummins	WDFW
09/28/2010	Gold Creek	redd	1	134 end point	47.43244666	-121.351287	Jim Cummins	WDFW

Bull Trout Spawning Ground Survey Data Form

Stream: Gold Creek

Date: September 28, 2010

Location: Reach: I-90 Bridges upstream to about 0.5 above cabins

Water Temp.:

Investigator: Paul James, CWU

Start Time: 11:30

End Time: 1:30

Redds: New Old

Definite: _____

Probable: _____

Possible: _____

Bull Trout Observed:

Adults: None

Sub-adults: None

Juveniles: None

Comments (mortalities, tagged fish, H2O visibility, etc): Good visibility and water was flowing enough that the entire lower reach was passable by fish. Kokanee appeared to have just begun spawning as there were 100's of fish but none looked "ragged" yet. No signs of any bull trout redds in Gold Creek or the Pond outlet channel.

Bull Trout Spawning Ground Survey Data Form

Stream: Gold Creek
 Date: October 12, 2010
 Location: Reach: I-90 Bridges upstream to the bottom of the of avalanche
 Water Temp.: Did not measure but it was plenty cold
 Investigator: Paul James, CWU
 Start Time: 9:30
 End Time: 12:30

Redds: New
 Definite: 2
 Probable: _____
 Possible: _____

Old
 _____12_____
 _____1_____

→ 15 Total Redds in this reach
Some missed as there were 19 Redds on last pass according to J. Cummins data.
[Signature]

Bull Trout Observed:

Adults: None
 Sub-adults: None
 Juveniles: None

Comments (mortalities, tagged fish, H2O visibility, etc): The weather was clear and sunny as soon as some morning fog burned off. The creek was flowing well and fully connected from top to bottom. Water clarity was excellent and the stream appeared to have risen about 4 inches in the past few days based on algae marks on rocks underwater. Kokanee were spawning as far downstream as the Coal Creek – Gold Creek confluence in the lake bed and upstream past the first few visible cabins. I took GPS coordinates for each of the existing redds that were flagged as well as the two new redds. No bull trout redds were found in the lower section from the Pond to the bridges. No fish were seen and it appeared that all spawning activity had ended.

Bull Trout Spawning Ground Survey Data Form

Stream: Gold Creek

Date: October 12, 2010

Location: Reach: Beginning of avalanche zone to the falls

Water Temp.: Did not measure but it was plenty cold

Investigator: Jeff Thomas, USFWS

Start Time: 1015

End Time: 1240

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

Bull Trout Observed:

Adults: None

Sub-adults: None

Juveniles: None

Comments (mortalities, tagged fish, H2O visibility, etc): The weather was clear and sunny as soon as some morning fog burned off. The creek was flowing well and fully connected from top to bottom. Water clarity was excellent. I took GPS coordinates for the two pre-existing redds which were together and marked with one flag. These redds were in the avalanche zone a short distance from where I started and were about 5 yards from where the first pass survey had ended (there was a flag marking that location). I also got coordinates for the first of the two new redds before my GPS batteries quit me. However, the second redd was about 100 yards upstream of Silver Creek. It is now possible to exit the creek at the trail crossing below Silver Creek and walk all the way out through the avalanche zone. The Forest Service has cleared a trail through the area.

Anderson, Eric (DFW)

From: Thomas, Jeff [JThomas4@usbr.gov]
Sent: Wednesday, October 13, 2010 9:04 AM
To: Anderson, Eric (DFW)
Cc: Paul James; David Child
Subject: RE: Thursday, Gold Creek

Eric,

Paul and I surveyed Gold Creek yesterday. Paul will send you his report for the section from the bridge to the beginning of the avalanche zone. I surveyed from there to the falls. I found one flag from the previous survey marking two redds just upstream from where I started. As far as I know that was the only flag they hung because they ended the survey there. I found two new redds, both above the avalanche zone. Neither Paul or I saw any bull trout during our surveys so it is probably not necessary to conduct another survey except that we did not pull any flags. I got GPS coordinates for the old redd I found and the first of the two new ones. My GPS batteries quit me after that but the other new redd was located about 100 yards above Silver Creek. Paul got coordinates for all of the redds he saw, both old and new. The creek was flowing well and connected from top to bottom.

Do you still need a survey form for the reach I did?

JT

From: Anderson, Eric (DFW) [mailto:Eric.Anderson2@dfw.wa.gov]
Sent: Wednesday, October 13, 2010 8:50 AM
To: Thomas, Jeff; David Child
Cc: Paul James
Subject: RE: Thursday, Gold Creek

Did Gold Creek get surveyed yesterday or is there plans to do it soon?
Eric

From: Thomas, Jeff [mailto:JThomas4@usbr.gov]
Sent: Wednesday, October 06, 2010 12:20 PM
To: David Child
Cc: Anderson, Eric (DFW); Paul James
Subject: RE: Thursday, Gold Creek

David,

If you can't get another body or two for Gold Creek tomorrow (I doubt you will at this late date), Paul James has indicated that he (and probably Jamie) could go up with me next Tuesday. Three should be enough. Paul is supposed to get back to me later today. I suspect we will do it even if there are just the two of us. Done it before and it's no big deal.

Jeff

From: David Child [mailto:dcconsult@dreamflyfishing.com]
Sent: Wednesday, October 06, 2010 11:18 AM
To: Thomas, Jeff
Subject: FW: Thursday, Gold Creek

Jeff,

From an earlier email from you it sounds like you are back from the Gulf, but busy tomorrow, right?

If I can't pull a crew together for Thursday I'm hoping folks can coordinate without me for next week. I'm not available next week.

David

Sent from my HTC PURE™, a Windows® phone from AT&T

From: Willey, Wendall S <WWilley@usbr.gov>
Sent: Wednesday, October 06, 2010 7:44 AM
To: 'DC Consulting LLC' <dcconsult@dreamflyfishing.com>
Subject: RE: Thursday, Gold Creek

David,

Unfortunately, Arden and I are not available to help with the Gold Creek survey on Thursday. However, Jeff Thomas is back in town if you want to give him a try. I see that he is on the schedule for that day.

Scott

From: DC Consulting LLC [mailto:dcconsult@dreamflyfishing.com]
Sent: Wednesday, October 06, 2010 6:51 AM
To: Kline, Scott T; Willey, Wendall S
Subject: FW: Thursday, Gold Creek

Any chance you gents could help me on Gold Creek on Thursday. Dr. James and Jamie can't and Jeff is still gone. Let me know, David Child

From: DC Consulting LLC [mailto:dcconsult@dreamflyfishing.com]
Sent: Tuesday, October 05, 2010 7:46 PM
To: 'Anderson, Eric (DFW)'
Cc: 'jamesp@cwu.EDU'; 'LampertJ@cwu.EDU'
Subject: RE: Thursday, Gold Creek

Eric,

My schedule is shot next week. I can still go this Thursday and will make a couple of calls/emails to see if I can get another surveyor or two. If I can't line up a survey crew for Thursday I'll need to have Dr. James or Jamie take the lead on coordinating the 2nd pass. I'll keep you all posted.

Till Soon, David Child

From: Anderson, Eric (DFW) [mailto:Eric.Anderson2@dfw.wa.gov]
Sent: Tuesday, October 05, 2010 9:09 AM
To: David Child
Subject: RE: Thursday, Gold Creek

David,

I'm a bit worried about the potential for high water by the time the last scheduled survey (Oct 18) rolls around. For that reason it would be good to get a complete survey on Gold on the next pass.....including the area above the avalanche up to the falls.

If you can work something out with Paul James or Jamie or whoever by early next week, that would be good.

Please let me know.

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek

Date: Sep 10, 2010

Location: from Hwy 12 bridge upstream to N. Spring

Water Temp.: 45.5 F

Investigator: Eric Anderson (WDFW) & Alex Conley (Yakima Basin Fish & Wildlife Recovery Board)

Start Time: 1012 hrs

End Time: 1257 hrs

Redds:	New	Old
Definite:	<u>15</u>	<u>0</u>
Probable:	<u>0</u>	<u></u>
Possible:	<u>0</u>	<u></u>

Bull Trout Observed:

Adults: 12

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This was the first pass. GPS Redd Waypoints 159 – 172. Also walked the reach below the Hwy 12 bridge downstream to Rimrock Reservoir/N.F. Tieton River. There were no redds or bull trout observed in this lower reach, but we dismantled three recreation (rock) dams adjacent to Indian Creek Campground. Rock barrier dams are a problem in this lower reach. Noted the presence of some large 3-4 ft boulders placed in / near the stream next to the private cabin in the area below the Hwy 12 bridge. As we surveyed upstream to the N. Spring we observed increasing amounts of new sediment deposition (fine & coarse) from a flash flood event that occurred earlier in the spring/summer in the N. Spring. Most bull trout were not utilizing these areas of deposition for spawning.

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek (N. Spring)

Date: Sep 10, 2010

Location: mouth of N. Spring upstream to source

Water Temp.: none recorded.

Investigator: Eric Anderson (WDFW) & Alex Conley (Yakima Basin Fish & Wildlife Recovery Board)

Start Time: 1258 hrs

End Time: 1405 hrs

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>6</u>	<u></u>
Probable:	<u>0</u>	<u></u>
Possible:	<u>0</u>	<u></u>

Bull Trout Observed:

Adults: 3

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This was the first pass. GPS Redd Waypoints 173 – 177. We met Jim Cummins (JC) at N. Spring and worked this section together. JC has more data for N. Spring, S. Spring & Indian Cr above N.Spring.

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek (1st Pass)

Date: September 10, 2010

Location: Trailhead Crossing to Falls

Water Temp.: 43°F at 10:00 near trail crossing
41°F at 10:25 in Upper South Spring Channel

Investigator: Scott Willey and Arden Thomas

Start Time: 10:00

End Time: 14:20

Redds: New Old

Definite: 22 in Indian Creek _____
11 in Upper South Spring _____

Probable: 0 _____

Possible: 0 _____

Bull Trout Observed:

Adults: 10 adults on redds plus 8 additional individual fish observed

Sub-adults: 1

Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Weather was cloudy and cool with some sun breaks, likely 45 to 55°F. Three days prior to the survey heavy rains occurred, but flows had not increased substantially and the water clarity was excellent in Indian Creek. The recent rains have augmented flows so that there is no passage impediments into and through the upper section from the trail crossing all the way to the falls. The Upper South Spring channel had redds all the way along and past the talus slope. The survey ended in this channel where the channel width was reduced to about 1-2 ft wide. The survey on the main channel went all the way to the falls. Fish and redds were observed all the way up to a small barrier falls about 300-400 ft downstream of the major falls.

Stream: Indian Creek
 Date: 09/10/2010
 Location: Trail crossing down the North Spring confluence & North Spring
 Water Temp: 43 F *plus lower S. Spring*

Investigator: Jim Cummins
 Start Time: 1000
 End Time: 1400

Redds: New
 Definite 31
 Probable
 Possible 1

Bull Trout Observed:
 Adults: 31
 Sub-adults: 2
 Juveniles: 1

Comments (mortalities, tagged fish, H2O visibility, etc):

Flows moderate and clear. Visibility excellent. No passage issues. There is sometimes little or no upstream adult bull trout passage in the reach depending on flows. Scott Willie has upstream data and Eric Anderson has downstream data. Heavy silt load in North spring due to a very large mudslide caused by thundershowers in August. Need to check data of that event.

09/10/2010	Indian	redd	1	24 start point	46.66380501	-121.2864646	Jim Cummins	WDFW	Trail 1147 near lower South Spring - worked down
09/10/2010	Indian	redd	1	25 redd definite	46.66342448	-121.2871208	Jim Cummins	WDFW	Lower South Spring
09/10/2010	Indian	redd	1	26 redd definite	46.66385296	-121.2872212	Jim Cummins	WDFW	Lower South Spring
09/10/2010	Indian	redd	1	27 S. Spring end	46.66418077	-121.2883621	Jim Cummins	WDFW	Lower South Spring
09/10/2010	Indian	redd	1	28 redd definite	46.66418949	-121.2884198	Jim Cummins	WDFW	Lower South Spring
09/10/2010	Indian	redd	1	29 redd definite	46.66334166	-121.286868	Jim Cummins	WDFW	Lower South Spring
09/10/2010	Indian	redd	1	30 redd definite	46.66242594	-121.2859796	Jim Cummins	WDFW	Main channel of Indian Creek
09/10/2010	Indian	redd	1	31 redd definite	46.66235327	-121.2859636	Jim Cummins	WDFW	
09/10/2010	Indian	redd	1	32 redd definite	46.6616253	-121.2855437	Jim Cummins	WDFW	
09/10/2010	Indian	redd	1	33 redd definite	46.66172823	-121.2856209	Jim Cummins	WDFW	

09/10/2010	Indian	redd	1	34 redd	definite	46.66151851	-121.2853022	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	35 redd	definite	46.65981682	-121.2832869	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	36 redd	definite	46.65979804	-121.282951	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	37 redd	definite	46.65821638	-121.2807789	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	38 redd	definite	46.65821403	-121.2807913	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	39 redd	definite	46.65800926	-121.2804655	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	40 redd	definite	46.65774498	-121.2804309	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	41 redd	definite	46.65751733	-121.2808166	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	42 redd	definite	46.65778454	-121.2811913	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	43 redd	definite	46.65696882	-121.2798454	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	44 redd	definite	46.65697695	-121.2798334	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	45 redd	definite	46.65692691	-121.2796535	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	46 redd	definite	46.65693051	-121.2796721	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	47 redd	definite	46.65687427	-121.279361	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	48 redd	definite	46.65649641	-121.2782434	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	49 redd	definite	46.65622928	-121.2783991	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	50 redd	definite	46.65649013	-121.2780722	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	51 redd	definite	46.65657797	-121.2783415	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	52 redd	definite	46.66015411	-121.2809774	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	53 redd	definite	46.65989385	-121.280998	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	54 redd	definite	46.66035519	-121.2809447	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	55 redd	definite	46.66074185	-121.2809091	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	56 redd	definite	46.66074847	-121.2809116	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	57 redd	definite	46.66097411	-121.2809793	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	58 redd	definite	46.66128407	-121.2811269	Jim Cummins	WDFW
09/10/2010	Indian	redd	1	59 end point		46.66125926	-121.2811039	Jim Cummins	WDFW

North Spring

Main channel of Indian Creek

North Spring at beaver pond

North Spring

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek

Date: Sep 20, 2010

Location: Hwy 12 bridge to N. Spring

Water Temp.: 46.0 F

Investigator: Eric Anderson (WDFW) & Jeff Trammell (Yakama Nation)

Start Time: 0955 hrs

End Time: 1209 hrs

Redds:	New	Old
Definite:	<u>4</u>	<u>15</u>
Probable:	<u>0</u>	<u></u>
Possible:	<u>0</u>	<u></u>

Bull Trout Observed:

Adults: 15

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): There were no GPS waypoints recorded during this survey. Hundreds of adult kokanee were observed actively spawning (est. size 9 – 11 inch koks). Cloudy, light rain, some stream turbidity.

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek (N. Spring)

Date: Sep 20, 2010

Location: mouth of N. Spring upstream to source

Water Temp.: 43.9 F

Investigator: Eric Anderson (WDFW) & Jeff Trammell (Yakama Nation)

Start Time: 1210 hrs

End Time: 1306 hrs

<u>Redds:</u>	<u>New</u>	<u>Old</u>
Definite:	<u>15</u>	<u>7</u>
Probable:	<u>0</u>	<u></u>
Possible:	<u>0</u>	<u></u>

Bull Trout Observed:

Adults: 14

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): No GPS Redd waypoints were recorded during this survey. We met David Child (DC) at N. Spring and worked this section together. DC has more data for Indian Creek above the N. Spring. We noted that nearly all spawning in the N. Spring occurred above the new sediment deposition created by the flash flood that occurred earlier in the year.

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek

Date: 09-20-10

Location: upper section from trail crossing to water falls

Water Temp.: 44.3 F

Investigator: Pat Monk

Start Time: 10:20 a.m.

End Time: 1:15 p.m.

Redds:	New	Old
Definite:	<u>15</u>	<u>26</u>
Probable:	<u>2</u>	
Possible:	<u>1</u>	

some may be old redds
some missing
(There were 33 old redds last pass)
ED

Bull Trout Observed:

Adults: 10

Sub-adults: _____

Juveniles: _____

26
15
41

Comments (mortalities, tagged fish, H2O visibility, etc): Conditions were overcast, light rain, water clarity was excellent. I surveyed the reach alone, David Child went downstream from the trail crossing, while Eric Anderson and Jeff Trammel hiked upstream from the Hwy 12 bridge to the trailhead.

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek

Date: September 20 2010

Location: Parking Lot Trail Downstream to N. Spring

Water Temp.: 44.3 degrees F

Investigator: David Child

Start Time: 1020

End Time: 1220 met up and assisted with the N. Spring Survey with Eric A and Jeff T

Redds: New Old

Definite: 10 22

Probable: _____

Possible: 1 _____

Bull Trout Observed:

Adults: 3

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc):

The weather was cloudy and cool with light rain, likely 40 to 50 degrees F. The data I collected in N. Spring has already been provided to the surveyors in the field (Eric Anderson and Jeff Trammell). The significant sediment runoff events have altered the lower half of the N. Spring, making previous redd locations not viable for construction, at this point. I took pictures of the sediment input and can provide them when/if needed. Upstream of this point on my survey section, I did not note similar geomorphic activity.

some of these may be old redds, GA 30 old on last pass

*22
10
32 GA*

Stream: Indian Creek
 Date: 09/30/2010
 Location: Highway 12 to North Spring
 Water Temp: 45.1 F

Investigator: Jim Cummins
 Start Time: 936
 End Time: 1157

Redds:	New	Old	Total
Definite	2	19	21
Probable	0	0	
Possible	0	0	

Bull Trout Observed:
 Adults: 0
 Sub-adults: 0
 Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Flow moderate and clear. Higher than most years. Good visibility.
 Large number of kokanee spawning, but few above the first old redd (see GPS data)
 Kokanee 8-10 inches. Not counted but hudsons if not more than a thousand were observed.
 At wp 137 saw 3 kokanee. None above that point. Most kokanee below log jam at WP 135.
 Rest of Indian Creek and North Spring done by other surveyors.

09/30/2010	Indian	redd	3	135	Kokanee	46.64915177	-121.26	Jim Cummins	WDFW	Log jam stopped most kokanee	
09/30/2010	Indian	redd	3	136	redd	definite	46.64950339	-121.261	Jim Cummins	WDFW	
09/30/2010	Indian	redd	3	137	redd	definite	46.65071407	-121.263	Jim Cummins	WDFW	Last kokanee (3) near this redd
09/30/2010	Indian	redd	3	138	redd	definite	46.65066412	-121.264	Jim Cummins	WDFW	
09/30/2010	Indian	redd	3	139	redd	definite	46.65061131	-121.265	Jim Cummins	WDFW	
09/30/2010	Indian	redd	3	140	redd	definite	46.65062145	-121.265	Jim Cummins	WDFW	
09/30/2010	Indian	redd	3	141	redd	definite	46.6510387	-121.266	Jim Cummins	WDFW	
09/30/2010	Indian	redd	3	142	redd	definite	46.65164379	-121.267	Jim Cummins	WDFW	

09/30/2010	Indian	redd	3	143 redd	definite	46.65316796	-121.269	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	144 redd	definite	46.65347658	-121.27	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	145 redd	definite	46.65311222	-121.269	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	146 redd	definite	46.65306503	-121.269	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	147 redd	definite	46.6530937	-121.27	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	148 redd	definite	46.65313468	-121.27	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	149 redd	definite	46.65304592	-121.27	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	150 redd	definite	46.65352419	-121.27	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	151 redd	definite	46.654426	-121.272	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	152 redd	definite	46.65501122	-121.273	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	153 redd	definite	46.65517811	-121.274	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	154 redd	definite	46.65518381	-121.274	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	155 redd	definite	46.65518473	-121.274	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	156 redd	definite	46.65515305	-121.274	Jim Cummins	WDFW
09/30/2010	Indian	redd	3	157 redd	definite	46.65517501	-121.274	Jim Cummins	WDFW

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek (3rd Pass)

Date: September 30, 2010

Location: Trailhead Crossing to Falls including Upper South Spring

Water Temp.: 45°F at 10:00 near trail crossing
42°F at 10:50 in Upper South Spring Channel

Investigator: Scott Willey and Paul Huffman

Start Time: 10:00

End Time: 14:20

<u>Redds:</u>	<u>New</u>	<u>Old</u>
<u>Definite:</u>	<u>6 in Indian Creek</u> <u>0 in Upper South Spring</u>	<u>29 in Indian Creek</u> <u>11 in Upper South Spring</u>

a couple new redds may have been old. S.A.

Probable: 0 1

Possible: 0 0

29
11
6
1

47

Bull Trout Observed:

Adults: 3 adults on redds plus 2 additional individual fish observed

Sub-adults: 0

Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Recent rains have augmented flows so that there is no passage impediments into and through the upper section from the trail crossing all the way to the falls. The Upper South Spring channel had redds all the way along and past the talus slope. The survey ended in this channel where the channel width was reduced to about 1-2 ft wide. The survey on the main channel went all the way to the falls. 3 fish were observed on two redds and appeared to still be spawning. One female was observed actively digging on one of the redds. No fish were observed in Upper South Spring. All redds were GPS'd by both Paul Huffman and Scott Willey.

Bull Trout Spawning Ground Survey Data Form

Stream: Indian Creek Middle Section down to North Spring

Date: 9/30/2010

Location: Middle Section down to North Spring *Trail xing down to N. Sp.*

Water Temp.: Indian Creek 7.5°C / North Spring 7.0°C *SL*

Investigator: Pat Monk, Arden Thomas

Start Time: 09:53

End Time: 13:00

Indian Creek Redds: New

Definite: 4 + 1 Pos upgrade to def

Probable: 1

Possible: 0

Old

45

1

0

32 last pass, either not enough redds counted & marked last pass or S. Spring was skipped.

N. Spring Redds: New

Definite: 6 *4 may be old, not flagged SL*

Probable: 0

Possible: 0

Old

18 *- 22 last pass SL*

0

0

count these as total 45 4+1 1 Total 52

Bull Trout Observed:

Adults: 2 on redd in Indian Creek, 2 on red in N. Spring

Sub-adults: _____

Juveniles: _____

*18
6
24 Total N. Spring*

Pat Monk

Comments (mortalities, tagged fish, H2O visibility, etc): Good visibility, sunny and warm. High flows in last 2 weeks may have smoothed out some redds

Bull Trout Spawning Ground Survey Data Form

Stream: SF Teton River and Bear Creek

Date: September ¹³ 8, 2010

Location: Falls to Bear Creek (Jeff) and Bear Creek (David)

Water Temp.: Near Falls: 42 degrees F, Bear Creek 45.5 degrees F

Investigator: Jeff Thomas and David Child

Start Time: 1000

End Time: 1315 on SF Tieton and 1250 on Bear Creek (took a 20 minute lunch too)

Redds: New Old

Definite: 16 on SF 29 on Bear _____

Probable: 3 on SF and 2 on Bear _____

Possible: 1 on Bear _____

Bull Trout Observed:

Adults: Jeff observed 2 fish on redds in the SF Tieton River and one loose fish and I observed 40 adults in Bear Creek, many on redds, but some loose fish.

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc):

Weather was sunny and nice, likely around 60 degrees F. In Bear Creek I thought it was interesting that a couple of the redds were in these back swirling eddies. The fish would position so that they'd build the redd and be facing up current, but they were clearly in a back eddy with a current swing.

Stream: South Fork Tieton River
Date: 09/13/2010
Location: Minnie Meadows to Bear Creek
Water Temp: 44.2 F

Investigator: Jim Cummins
Start Time: 952
End Time: 1345

Redds: New
Definite 58
Probable
Possible 1

Bull Trout Observed:
Adults: 14
Sub-adults: 0
Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):
Flows moderate and clear. Visibility excellent.

No GPS data.

Bull Trout Spawning Ground Survey Data Form

Stream: South Fork Tieton River (2nd Pass)

Date: September 22, 2010

Location: Mainstem from Minnie Meadows to Bear Creek

Water Temp.: 41°F at 10:00 at Minnie Meadows

Investigator: Scott Willey

Start Time: 10:05

End Time: 13:30

Redds:	New	Old
Definite:	<u>6</u>	<u>48</u>
Probable:	<u>1</u>	<u>0</u>
Possible:	<u>0</u>	<u>2</u>

58 last pass missed 10?

*48
6
1
—
55*

Bull Trout Observed:

Adults: 1 adult fish on redd

Sub-adults: 0

Juveniles: 0

3 missing

Comments (mortalities, tagged fish, H2O visibility, etc):

Sunny and warm conditions. Recent rains have increased discharge in the mainstem South Fork. Water was relatively high and turbid for this survey reach. Higher flows with turbid water made for unusually low visibility. Old redds that were flagged during the 1st Pass were often difficult to identify. Despite poor visibility conditions, it seems that we were able to locate new redds. However, only a few new redds were found in all reaches surveyed on this date. Yuki Riess surveyed a portion of this reach after she finished her survey of Bear Creek. Redds found in the mainstem below Bear Creek by Yuki are included in this survey form. One redd identified as a Possible on the 1st Pass was updated to a Definite by Yuki.

Stream: South Fork Tieton
Date: 09/22/2010
Location: Blue slide to Minnie Meadows (near Corral Creek)
Water Temp: 41 F

Investigator: Jim Cummins
Start Time: 1004
End Time: 1220

Redds:	New	Old	Total
Definite	3	66	69
Probable	0	0	0
Possible	0	0	0

Bull Trout Observed:

Adults: 0
Sub-adults: 0
Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Flow moderate and clear. Lower the previous survey but slightly higher than most years.

*62 recorded last year
Total count as 69 (7 new)
E.A.*

*OK
Jim*

Bull Trout Spawning Ground Survey Data Form

Stream: S.F. Tieton River

Date: 9/22/10

Location: confluence of Bear Creek up to falls

Water Temp.: _____

Investigator: Jeff Trammell

Start Time: _____

End Time: _____

Redds:	New	Old
--------	-----	-----

Definite:	<u>1</u>	<u>18</u>
-----------	----------	-----------

Probable:	_____	_____
-----------	-------	-------

Possible:	_____	_____
-----------	-------	-------

Bull Trout Observed:

Adults:	<u>4</u>
---------	----------

Sub-adults: _____

Juveniles: _____

Comments (mortalities, tagged fish, H2O visibility, etc): _____

Two old redds were observed with one fish on them, each. The flags had previously
not identified any fish on the redds. High water increased turbidity and made
navigation rather difficult.

19 last pass
19 Total
ET

Bull Trout Spawning Ground Survey Data Form

Stream: Bear Creek

Date: 9-22-10

Location: SFT drainage

Water Temp.: 5.5 C

Investigator: Yuki Reiss

Start Time: 10:05

End Time: _____

Redds: New Old

Definite: 8 25

Probable: 1 1 (other old prob now Def)

Possible: _____ 1 (other old poss now Def)

31 last pass

Bull Trout Observed:

Adults: 6

Sub-adults: 0

Juveniles: 0

*25
+ 10

35
Total*

Comments (mortalities, tagged fish, H2O visibility, etc): All fish seen were associated with redds. Water was higher than usual, but unlike the mainstem, redds in Bear Creek were still visible. When I finished surveying Bear Creek, I walked down the the mainstem SFT and surveyed downstream until meeting up with Scott Willey. My notes on this section are included with his report.

Bull Trout Spawning Ground Survey Data Form

Stream: S.F. Tieton

Date: 10/1/10

Location: 1050 rd Bridge to Bear Creek, + Bear Creek

Water Temp.: 7.0°C

Investigator: Pat Monk, Arden Thomas, + Jim Cummins on Bear Creek

Start Time: 10:38

End Time: 13:10

S.F. Tieton Redds: New Old

Definite: 1 26

Probable: 0 0

Possible: 1 Prob downgrade to Pos 0

Bear Creek Redds: New Old

Definite: 5 37

Probable: 0 1

Possible: 0 0

Bull Trout Observed:

Adults: 0

Sub-adults: 0

Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc): Sunny, warm, good visibility. High flows between pass 1 and pass 2 smoothed out some redds.

E. Anderson also counts for this section on Oct 4
has this section as Bear Creek
count to minnie meadows

Erics-Minnie meadows to 1050 = 36
1050 to Bear = 27

$$\begin{array}{r} 36 \\ + 27 \\ \hline 63 \end{array}$$

For minnie meadows to Bear

35 last pass, some missed?
adjusted

$$\begin{array}{r} 37 \\ + 5 \\ \hline 42 \end{array}$$

43

E.A.

Anderson, Eric (DFW)

From: Cummins, James L (DFW)
Sent: Friday, October 08, 2010 1:34 PM
To: Anderson, Eric (DFW)
Subject: FW: BT dataforms
Attachments: SFTieton_100110.doc; IndianCreek093010.doc

Disregard my data for Bear Creek on 10/1. Arden Thomas and Pat Monk summarized my data and their data on their data form.

From: Anderson, Eric (DFW)
Sent: Tuesday, October 05, 2010 1:52 PM
To: Cummins, James L (DFW)
Subject: FW: BT dataforms

FYI

From: Thomas, Arden C [mailto:acthomas@usbr.gov]
Sent: Tuesday, October 05, 2010 10:38 AM
To: Anderson, Eric (DFW)
Subject: BT dataforms

Hi Eric,

Please see the attached data forms for SF Tieton and Indian Creek from last week.

Cheers,
Arden

From: Anderson, Eric (DFW) [mailto:Eric.Anderson2@dfw.wa.gov]
Sent: Tuesday, October 05, 2010 9:01 AM
To: Willey, Wendall S; Thomas, Arden C
Subject: Box Canyon

Scott & Arden,
Schedule adjustment for Jim & I.
Looks like just the two of you on Box Canyon this Friday.
Is that ok?
You might walk the whole stretch from the lake up to the falls to make sure passage is ok.
Eric

P.S. Please GPS any redds you see on this pass.....just in case high water knocks us out at a later date.

Stream: South Fork Tieton River
 Date: 10/01/2010
 Location: Bear Creek to Falls
 Water Temp: 43 F

Investigator: Jim Cummins
 Start Time: 1001
 End Time: 1159

Redds:
 Definite New Old 0 14
 Probable 0 3
 Possible 0 0
 Totals 0 17

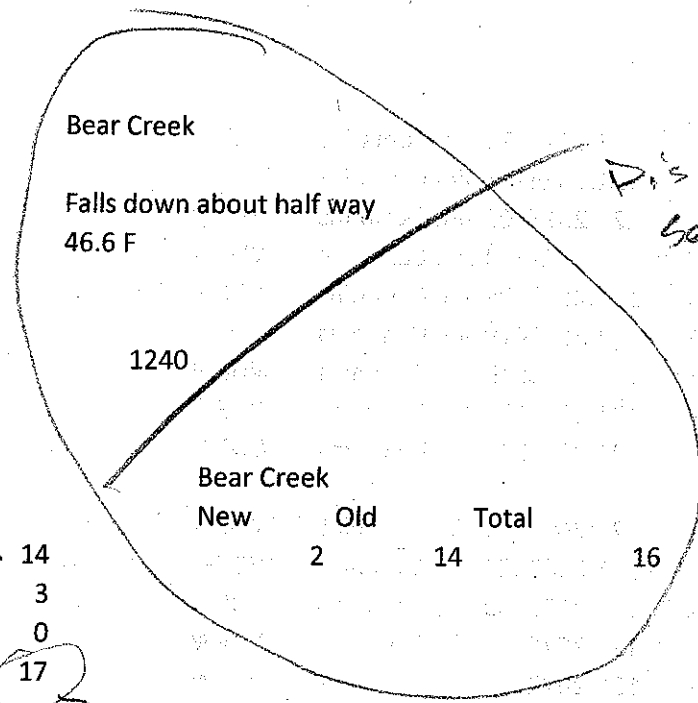
Bull Trout Observed:
 Adults: 0
 Sub-adults: 0
 Juveniles: 0

Comments (mortalities, tagged fish, H2O visibility, etc):

Flows moderate and clear. Good visibility.

Pat Monk or Arden Thomas have additional data, including GPS for Bear Creek.

I did upper part of Bear Creek Creek from the falls down to where Pat and Arden surveyed.



Disregard this Bear Creek Data. see attached Note.

19 noted on last pass
2 missed

10/01/2010	S. F. Tieton	redd	2	159	redd	definite	46.52254354	-121.2616754	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	160	redd	definite	46.52608339	-121.260998	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	161	redd	definite	46.52683659	-121.2610073	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	162	redd	definite	46.52880591	-121.2594961	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	163	redd	definite	46.52880114	-121.2594552	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	164	redd	definite	46.5315566	-121.2581216	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	165	redd	definite	46.53325721	-121.2576389	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	166	redd	definite	46.53325344	-121.2576066	Jim Cummins	WDFW

10/01/2010	S. F. Tieton	redd	2	167	redd	definite	46.53343759	-121.2575071	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	168	redd	definite	46.53358117	-121.2574103	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	169	redd	definite	46.53370162	-121.2576003	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	170	redd	definite	46.5356178	-121.257773	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	171	redd	definite	46.53560674	-121.2578389	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	172	redd	definite	46.53574278	-121.2591429	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	173	redd	definite	46.53594528	-121.2590959	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	174	redd	definite	46.536716	-121.2594673	Jim Cummins	WDFW
10/01/2010	S. F. Tieton	redd	2	175	redd	definite	46.53805459	-121.2600211	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	176	start point		46.53761965	-121.2693409	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	177	redd	definite	46.53782652	-121.2682862	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	178	redd	definite	46.53758822	-121.2679309	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	179	redd	definite	46.53761521	-121.2679482	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	180	redd	definite	46.5370097	-121.2672192	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	181	redd	definite	46.5370496	-121.2671538	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	182	redd	definite	46.53696259	-121.2670143	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	183	redd	definite	46.5369729	-121.2670004	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	184	redd	definite	46.53711037	-121.2669691	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	185	redd	definite	46.53670468	-121.2663688	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	186	redd	definite	46.53707206	-121.266013	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	187	redd	definite	46.53705982	-121.2659976	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	188	redd	definite	46.53700777	-121.2661471	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	189	redd	definite	46.5369641	-121.2660813	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	190	redd	definite	46.53696628	-121.266071	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	191	redd	definite	46.53691758	-121.2658191	Jim Cummins	WDFW
10/01/2010	Bear	redd	2	192	redd	definite	46.53679102	-121.2656587	Jim Cummins	WDFW

About 150 feet below falls.

P. Monk has more Bear Creek GPS data.

Bull Trout Spawning Ground Survey Data Form

Stream: S.F. Tieton River

Date: Oct. 4, 2010

Location: from Corral Cr Campground (Minnie Meadows) upstream to USFS Rd 1050 Bridge

Water Temp.: 43.5 F

Investigator: Eric Anderson (WDFW)

Start Time: 1015 hrs

End Time: 1143 hrs

Redds:	New	Old
Definite:	<u>1</u>	<u>35</u>
Probable:	<u>0</u>	<u> </u>
Possible:	<u>0</u>	<u> </u>

Bull Trout Observed:

Adults: none - spawning appears to be complete

Sub-adults:

Juveniles:

Comments (mortalities, tagged fish, H2O visibility, etc): This was the third and final pass. GPS Waypoint coordinates 254 & 255 unknown. Redd Waypoints 256 – 292. Redds looked old & some not recognizable due to earlier rains & high water. Jim Cummins has more data for the section between Blue Slide & Corral Cr C.G. Redds GPSed on earlier survey.

