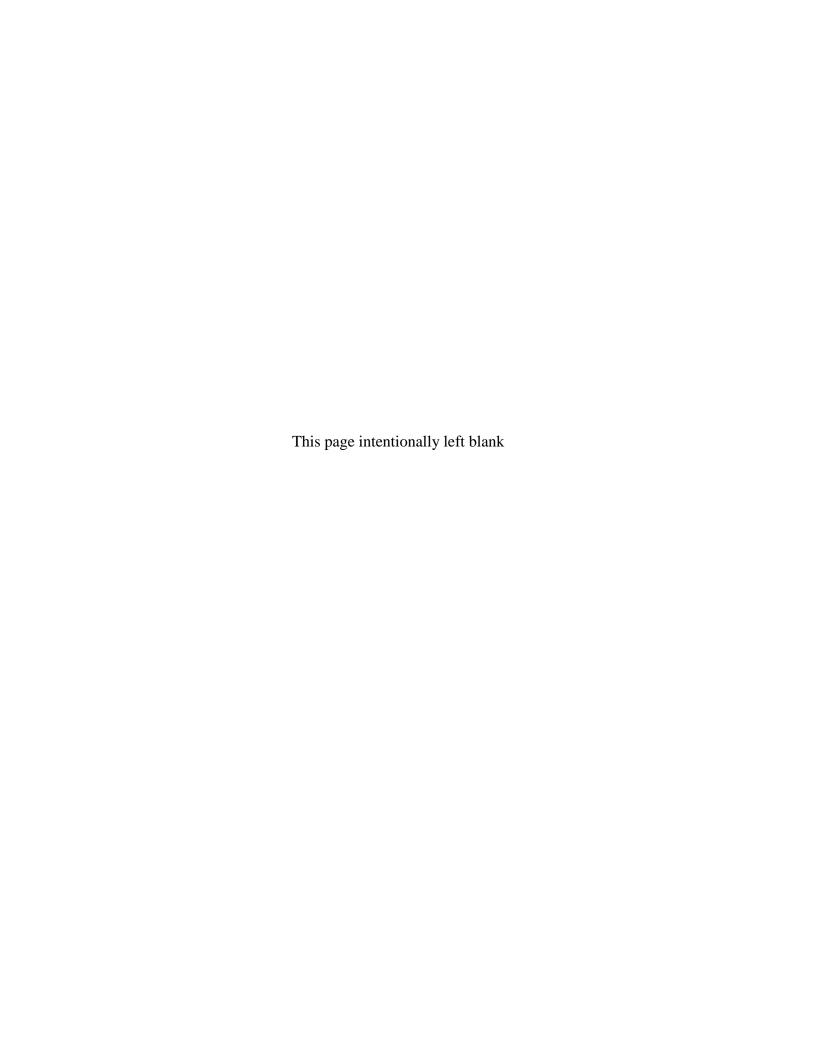
APPENDIX K

Yankee Fork Stream Survey



YANKEE FORK

OF THE SALMON RIVER



2010 Stream Survey Report Salmon-Challis National Forest Yankee Fork Ranger District



Prepared by: United State Department of Agriculture, Forest Service Stream Survey La Grande Ranger District- Wallowa-Whitman National Forest Kayla Morinaga

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Cover Photo: Near start of reach 2, River Mile 4.4, sequence order number 45 (approximately), photo orientation downstream (Photo courtesy of Bureau of Reclamation)

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CHAPTER 1: STREAM SURVEY

OVERVIEW

Dates Surveyed: September 13th – 19th, 2010

Survey Type: Region 6 Stream Inventory Methodology, Version 2.10, Level II

Mouth Location: 044° 16' 12" N, 114° 44' 5.999" W Headwater Location: 044° 31' 4.8" N, 114° 36' 7.2" W USGS Quadrangle: Sunbeam, Custer, Elevenmile Creek

Subbasin (4th field): Upper Salmon Watershed (5th field): Yankee Fork

Subwatershed (6th field): Lower Yankee Fork, Middle Yankee Fork, Upper Yankee

Fork

Tributary To: Salmon River

NFS Watershed No.: 170602010505, 170602010502, 170602010501

Stream Class at Mouth: I Distance Surveyed: 14.4 miles

Stream Length: 29.8

Surveyors: Chris Mello, Sam Fiorito and Andrew Flynn

SUMMARY

The Yankee Fork flows approximately 30 miles from its headwaters to the confluence of the Salmon River at State Highway 75. The section of river surveyed in September of 2010 was a mix of private land and National Forest Land administered by the Salmon-Challis National Forest. The survey began at a pullout on National Forest Road 013 just downstream of the confluence with Polecamp Creek near river mile (RM) 2.9. The channel was surveyed upstream over 14 miles and ended at an unnamed tributary (RM 17.1) on the right bank less than two miles upstream of the confluence with Eightmile Creek. National Forest Road 013/Yankee Fork Road follows the river on the lower half of the survey and it changes to National Forest Road 070 upstream of the West Fork Yankee Fork confluence through the end of the survey. Developed and dispersed recreation sites are along the Yankee Fork and adjacent to National Forest Road 013. The East Basin Fire of 1985, the Rankin Fire of 2000, and the Potato Fire of 2006 burned approximately 26,500 acres within the Yankee Fork watershed. The Yankee Fork currently contains rearing habitat for juvenile spring Chinook salmon (Oncorhynchus tshawytscha), spawning and rearing habitat for summer steelhead (Oncorhynchus mykiss), cutthroat trout (Oncorhynchus clarki lewisi) plus fluvial and resident bull trout (Salvelinus confluentus) populations.

The mainstem Yankee Fork was dredge mined starting at about RM 3.2 and ended about 60 meters above where Jordan Creek enters the river near RM 9.2. The dredge began operating in the summer of 1940 and ceased work for the final

time in 1952. The dredge resides near the confluence with Jordan Creek and is now open to the public for tours (Stephens 1991).

The survey began at the downstream end (of reach 1) near RM 2.9 and continued upstream continuously through reach 10 near RM 17.1. The channel and floodplain was re-walked after the survey was complete to locate possible missed side channels and special cases such as off channel habitat and manmade structures not on the main channel of the Yankee Fork.

We conducted a Level II stream habitat survey protocol which is part of the Pacific Northwest Stream Inventory Program (USDA 2010). Many parameters were added to the basic Level II protocol for this survey. Bank orientation in the data is all facing downstream, except in some photographs and the orientation is captioned. Global Positioning System (GPS) coordinates were saved for numerous points throughout the survey including the start and end of reaches, measured habitat units, pools greater than three feet deep, side channels, large pieces of wood and Wolman Pebble Counts. GPS points are displayed on the survey maps (see Appendix B). Each habitat unit (fast water, slow water, etc.) is designated a sequence order (SO) number during the survey. Those numbers are used to reference specific habitat units throughout this report.

The riparian management objectives (RMOs) derived from PACFISH (although some were modified and added by the biological opinions) were not met for pool frequency, large woody debris. The width/depth ratio RMO was met in designated Rosgen stream type C reaches 5, 6, 9 and 10, with a ratio of less than 28. Reach 7, which is a Rosgen stream type B, met the RMO for width/depth ratio being less than 27. All other reaches did not meet the RMO for width/depth ratio. The RMO for bank stability was met with the banks being greater than 90% stable in every reach except for reach 8 which exceeded this standard. The RMO for temperature was not addressed because the temperature readings taken on this survey were instantaneous and are not applicable to be used toward state water quality standards. The RMO for lower bank angle and sediment were also not addressed because bank angle information is not collected as part of the NR9 Stream Inventory protocol.

A discharge measurement was taken at the beginning of the survey (RM 2.9) and was calculated to be 83.46 ft³/second on September 13, 2010. A Marsh McBernie Flowmate was the instrument used to collect the data.

The Yankee Fork stream survey is within three sixth field hydrologic unit codes (HUC). Level one (i.e. 17) is the region level and level six (i.e. 05) is the subwatershed level. The start of the survey through the confluence with West Fork Yankee Fork (end of reach 3) near RM 7.0 is within the Lower Yankee Fork subwatershed (HUC6# 17,06,02,01,05,05). From there upstream to the confluence with Eightmile Creek (end of reach 9) near RM 16.3 is the Middle Yankee Fork

subwatershed (HUC6# 17,06,02,01,05,02). All of reach 10 and upstream is within the Upper Yankee Fork subwatershed (HUC6# 17,06,02,01,05,01).



Small community of Dredge Camp and dredge tailings, approximately RM 4.3, SO 45, upstream photo orientation (Photo courtesy of Bureau of Reclamation)

BASIN DESCRIPTION

Watershed and Flow Regime

General Characteristics

- Location: The Yankee Fork basin is located northeast of Stanley, Idaho, and southwest of Challis, Idaho. The Yankee Fork enters the Salmon River just below the old Sunbeam Dam. From that point, the Yankee Fork runs upstream along National Forest Road 013/Yankee Fork Road and then along National Forest Road 070. The surveyed length runs nearly parallel to the road.
- Stream Order: Strahler method (Handbook 2010)
 - Sixth order from the start of the survey through the confluence with West Fork Yankee Fork (the end of reach 3)

- Fifth order from West Fork Yankee Fork through the confluence with Eightmile Creek (end of reach 9)
- o Fourth order from Eightmile Creek through the end of the survey
- Flow: A discharge measurement was taken at the beginning of the survey with a Marsh McBirney flow meter. The accuracy of the Marsh McBirney Flo-Mate Model 2000 is ± 2% of the reading (Marsh-McBirney 1990).
 - The discharge was calculated to be 83.46 ft³/second on September 13, 2010.
 - The location of the flow was N 44° 17.892' W 114° 42.954', at the start of the survey.
- Elevation and General Gradient: The survey began at 6,102 feet in elevation and ended at 6,83 feet, making the gradient for the entire survey 1.00%.
 - Elevation and length values used to determine gradient were derived from the Digital Elevation Model (DEM) and the measure tool in ArcMap 9.3.1.
- Sinuosity: The sinuosity for the length of the survey was 1.08.
 - Mapped channel length and valley length were determined using the measure tool in ArcMap 9.3.1.
- Rosgen Channel and Valley Type: Every reach was Rosgen channel type
 C except for reach 7 which was a B channel. The Rosgen valley type for
 each reach was type V (moderately steep valley slopes, "U" shaped glacial
 trough valleys) except for reach 7 which was valley type II (moderately steep,
 gentle sloping side slopes often in colluvial valleys) (Rosgen 1996).
 - Rosgen channel and valley types were determined using gradient, sinuosity, width/depth ratio and entrenchment ratio for each reach.

Interim Riparian Management Objectives

 Interim Riparian Management Objectives (RMOs) from PACFISH applies to all watersheds with anadromous fish bearing streams. For general habitat conditions to be considered good for anadromous fish the following objectives must be met or exceeded (USDA 1995). **Table 1.1.** Summary of interim riparian management objectives (RMOs) (USDA 1995).

Habitat		Interim Objectives (RMOS) (USDA 1995).										
Feature						,						
Pool	Varies	Varies by channel width, see below.										
Frequency												
(kf)												
(all systems)												
Wetted Width	10	20 25 50 75 100 125 150 200										
in Feet												
Number of	96	56	47	26	23	18	14	12	9			
Pools Per Mile												
Water							maximum					
Temperature							and rearin					
(sf)							eas within :					
(all systems)) is <45°F. ²			
		For bull trout, maximum water temperatures below 59°F within adult holding										
Large Woody		abitat and below 48°F within spawning and rearing habitats. ³ East of Cascade Crest in Oregon, Washington and Idaho.										
Debris (sf)		>20 pieces per mile; >12 inch diameter; >35 foot length.										
(forested												
systems)												
Bank	>90 pe	rcent sta	able (in a	a priority	watersh	ned)						
Stability ⁴ (sf)												
(non-forested												
systems)												
Lower Bank	>75 pe	rcent of	banks w	vith <90	degree a	angle (i.e.	undercut)					
Angle (sf)												
(non-forested												
systems)					5							
Width/Depth		•		as follo	wsˇ (mea	an wetted	width divid	ed by mea	n depth):			
Ratio (sf)	0		nnel: 21 nnel: 27									
(all systems)	0		inei. 21 nnel: 28									
Sediment ⁶				salmon,	steelhea	d, and bul	I trout spay	vn within p	riority			
	watersl	neds, <2	:0% surf	ace fine	sedime	nt which is	substrate	<0.25 in (6	6.4 mm) in			
							beddednes					
							ase over e					
							ctivities tha					
							wed (Land	Resource				
	ivianag	ement P	ian for t	ne Chall	is inatior	nal Forest)						

kf = key feature sf = supporting feature

¹ In this case, maximum water temperature is expressed as the 7-day moving average of daily maximum temperature measured as the average of the maximum daily temperature of the warmest consecutive 7-day period.

² The PACFISH environmental assessment established a riparian management objective for water temperature of <64°F in migration and rearing areas and <60°F in spawning areas. However, during consultation this standard was changed to <45°F in steelhead spawning areas within steelhead priority watersheds during the spawning and incubation period.

This standard was established by INFISH and is being applied to areas occupied by bull trout within the area covered by PACFISH.

⁴ The PACFISH environmental assessment established a riparian management objective for bank stability of 80%. However, during consultation this standard was increased to 90% within priority watershed.

These values are based on the mean values observed for streams in natural condition within the Salmon River (Overton et al. 1995)

⁶ The PACFISH environmental assessment did not include a riparian management objective for sediment was established within Chinook salmon, steelhead, and bull trout spawning areas within priority watersheds. In all other areas, the objective established by the Land Resource Management Plan for the Challis National Forest applies.

Reach Summaries

- Definition of Stream Classification: The Blue Mountain Stream Survey Program (Wallowa-Whitman, Malheur and Umatilla National Forests) uses the three-class system.
 - Classification I = municipal watershed and/or fish-bearing stream (perennial or intermittent).
 - o Classification III = non fish-bearing, perennial streams
 - o Classification IV = non fish-bearing, intermittent streams
- All of the reaches in the Yankee Fork stream survey are Class I streams.

Tributaries

• Access to Fish out of the Mainstem: Twenty two tributaries entered Yankee Fork throughout the survey. It is unknown if all of these tributaries contain tributaries or are periodically used by fish.



SO 100-103 (approximately) – Confluence with West Fork Yankee Fork from the right bank (upper left side of photo), RM 6.8, start of reach 4, photo oriented upstream (Photo courtesy of Bureau of Reclamation)

Table 1.2. Tributaries encountered on Yankee Fork.

Number/ Name		SO (Sequence Order)	River Miles (RM)	% Flow Contribution*	Tributary Temperature °C**	Downstream Bank Orientation	% Gradient At
			, ,				Mouth⁺
1 –	1	8	2.8	5	Not recorded	LB	15
Polecamp							
Cr							
2	1	17	3.1	2	Not recorded	RB	60
3	1	28	3.5	2	Not recorded	LB	1
4	1	32	3.7	2	10	RB	6
5 – Rankin Cr	1	44	4.3	2	8	RB	3
6	2	49	4.6	5	7	LB	3
7	3	81	6.2	2	8	RB	30
8	3	94	6.5	5	8.5	LB	0
9 – W. Fk. Yankee Fk.	3	102	6.9	50	10.5	RB	3
10 – Jordan Creek	4	143	9.1	10	13	RB	3
11	5	172	10.4	2	7	LB	8
12 – Swift Gulch	5	193	11.2	5	9	RB	20
13	6	212	11.8	2	8	RB	20
14	6	221	12.0	2	6	RB	3
15 – Fourth of July Cr	6	223	No coordinates	5	8	LB	6
16 – Fivemile Cr	7	307	13.2	5	8.5	LB	2
17	8	319	13.4	2	13	LB	1
18 –	8	358	14.3	5	7.5	LB	3
Greylock							
Cr			_				
19 –	8	367	14.4	5	8	LB	3
Sixmile Cr							
20	9	424	15.9	2	7	LB	1
21 – Eightmile Cr	9	443	16.3	20	9.5	RB	2
22	10	454	16.6	1	6.5	LB	20

^{* =} percent flow contribution for tributaries is determined by the observer estimating the percent of flow contributed by the tributary to the mainstem stream flow below the tributary (Handbook 2010).

** = temperature was measured with a handheld thermometer

† = gradient was measured with an abney level which is in compliance with the R6 Stream Inventory Protocol



SO 142-144 – Confluence with Jordan Creek from the right bank, RM 9.1 (Photo courtesy of Bureau of Reclamation)



• Fish were observed from above the surface of the water in reaches 1, 2, 4, 5, 6, 8 and 9. No fish were observed in reaches 3, 7 and 10.

SO 355-358 – Confluence with Greylock Creek from the right bank, RM 14.3

Special Cases

• Special Cases (culverts, dams, marshlands, waterfalls and chutes):
Special cases are designated as artificial structures for culverts and dams
(ARTIF), falls (WF), chutes (CH) and marshlands (CHUNITM). Information is
entered both on the channel unit form and the special cases form.

- Special case units comprised 0.5% of the total habitat units on the Yankee Fork survey.
- A total of three special case units were encountered throughout the survey.

Table 1.3. Special case units on Yankee Fork.

Reach #	Sequence Order #	Chan- nel Unit Type	River Mile (RM)	Type of Struc- ture	Length Of Structure (ft)	Diame- ter or Width (ft)	% Gradient	Jump Dis- tance (ft)	Spill Pool Depth (ft)	Height (ft)
7	277	WF1	12.8	Waterfall	6	24	100	6.0	4.0	6.0
7	288	WF2	13.0	Waterfall	12	15	58	7.0	18.0	7.0
7	302	CH1	13.1	Chute	121	20	3	0	6.0	0



• The two waterfalls encountered were not fish barriers due to fluvial bull trout successfully passing them.

SO 277, Waterfall #1, Lat = 44.4021 Long = -114.6605 (time lapsed photo)



SO 288 – Waterfall #2, Lat = 44.40345 Long = -114.657817

IN-CHANNEL HABITAT

Water Temperature

- The temperature was taken at the start of every day and at every measured unit on the main channel. Readings were taken with a handheld thermometer and were submerged for at least one minute to ensure an accurate reading.
- The range of temperatures recorded throughout the Yankee Fork survey was from 5.5°C to 12.5°C.

Table 1.4. Average and maximum temperature readings by reach.

Reach	Average Temp °C	Maximum Temp	Date(s) Temperature	Time Range Readings	Number of Readings
		°C	Collected	Collected In	
1	10.1	12.5	09/13/2010	1226-1657	7
2	8.6	10.0	09/14/2010	1021-1310	4
3	11.6	12.0	09/14/2010	1437-1844	6
4	7.8	9.5	09/15/2010	0957-1436	7
5	9.8	11	09/15/2010 -	1300-1758	9
			09/16/2010		
6	8.6	11	09/17/2010	1024-1541	10
7	9.8	11.5	09/17/2010 -	1052-1743	11
			09/18/2010		
8	10.7	11	09/18/2010	1555-1905	9
9	8.4	10	09/19/2010	1103-1615	14
10	7.4	8.5	09/19/2010	1641-1842	4

• These temperature readings are instantaneous and therefore cannot be used to relate to the RMOs and Idaho Department of Environmental Quality Surface Water Quality Standards.

Woody Debris

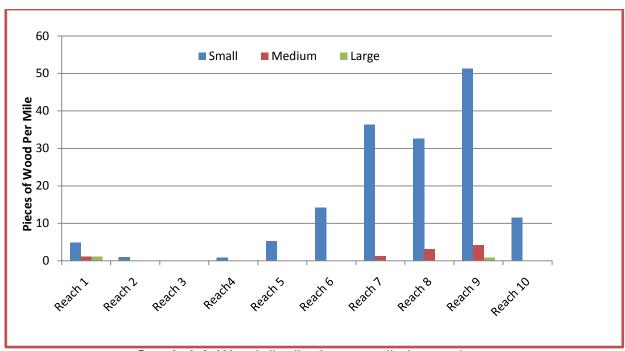
 Woody debris size categories for the east side of the Cascade Mountains can be found in the table below.

Table 1.5. Definitions of woody debris size categories (Handbook 2010).

Size	Diameter	Length
Small	>6 inches at 20 feet from large end	>20 feet or 2X bankfull width
Medium	>12 inches at 35 feet from large end	>35 feet or 2X bankfull width
Large	>20 inches at 35 feet from large end	>35 feet or 2X bankfull width

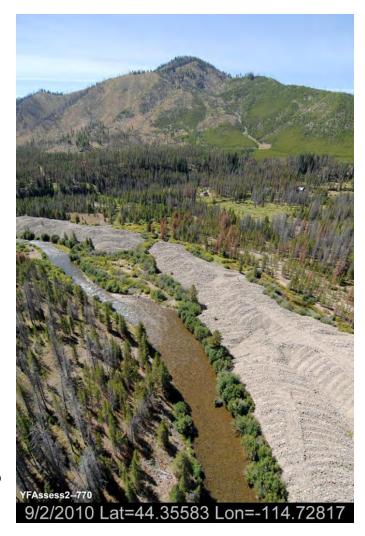


SO 370 (approximately) – Debris jams, RM 14.6, photo oriented from north/northeast (Photo courtesy of Bureau of Reclamation)



Graph 1.1. Wood distribution per mile by reach.

 The wood found in Yankee Fork did not meet the criteria for the RMO for large woody debris. To meet the RMO for wood there needed to be greater than twenty pieces of medium and large sized wood combined per mile of stream. See Wood Summary in Chapter 2.



SO 114-116 (approximately) – dredge tailings on left bank and lack of woody debris, RM 7.4, photo oriented upstream (Photo courtesy of Bureau of Reclamation)



SO 374 - Debris jam, reach 9, RM 14.7

- Of the countable wood found throughout this survey, 92% of the wood was small sized, 6% was medium and 2% was large.
- Note: Wood is not counted in side channels.

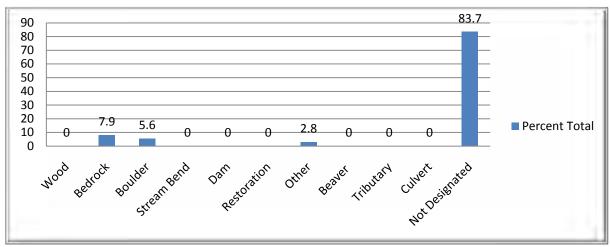
Pools

- A pool, or slow water unit, is defined as a portion of the stream that usually
 has reduced surface turbulence and has an average depth greater than fast
 water units when observed during low flow conditions. There is a hydraulic
 control on the downstream end of a pool, better known as the pool tail crest.
 This hydraulic control functions as a dam which will retain water in the pool
 even after streamflow has ceased (Handbook 2010).
- Pool Quality: The average residual pool depth, which is the difference between the maximum pool depth and the maximum depth along the pool tail crest, for this survey was 2.41 feet. This is the depth of water that would be persisting if water stopped flowing out of the pool.

Table 1.6. Pool Quality Data by Reach.

Reach	Pool Count	Pools Per Mile	Average Residual Pool Depth (Ft)	Average Wetted Width (Ft)
1	14	8.46	3.02	47
2	6	6.35	1.82	58
3	13	8.02	2.75	46
4	9	3.98	2.1	39
5	15	7.21	1.77	34
6	29	22.96	1.88	31
7	27	36.4	3.67	29
8	23	18.33	2.7	28
9	35	29.47	2.7	26
10	7	8.94	1.64	29

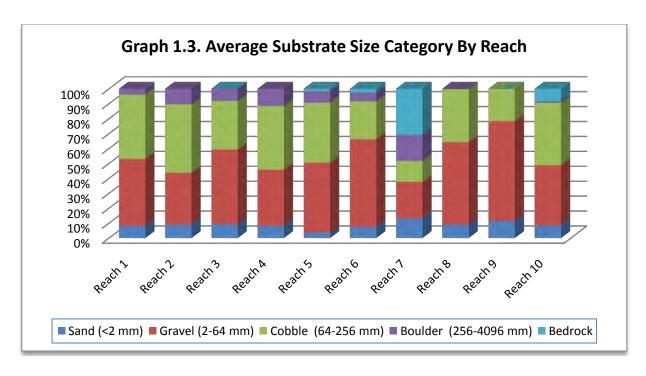
- The pool per mile criteria varies by channel width, but the RMO was not met for pool frequency. Reaches with an average wetted width of 25'-50' must have at least 47 pools per miles, and reaches with an average wetted width of 50'-75' must have at least 26 pools per mile to meet the RMOs. See Table 1.2 and Table 1.6 or the Pool Summary in Chapter 2.
- Pool Forming Forces: For each pool the major pool forming forces were noted, oftentimes with more than one factor playing a part (Graph 1.2). The options for pool forming features are those that most commonly form pools. Options are wood, bedrock, boulder, stream bend, dam, restoration, beaver, tributary, culvert, other and not designated.
 - The survey crews were unable to positively identify the pool forming features on many of the pools within the survey, especially in the dredged areas. This was due to the channel being fairly straight and there being no obvious features (stream bend, wood, boulder, etc.) creating them.



Graph 1.2. Average percent total of pool formation factors for survey.

Pebble Counts

- For each reach two Wolman Pebble Counts were performed, the first being approximately 1/3 and a second 2/3 of the way through each reach. The site chosen was in fast water and representative of what was perceived to be normal conditions for fast water units already observed.
- The procedure for performing a pebble count is that you randomly select at least one hundred pebbles (without bias) from the streambed along a transect that traverses the stream from the edge of the bankfull channel on one bank to that on the opposite bank. The first particle touched is measured and tallied for each sample. (Handbook 2010)
- The D16, D50 and D84 were determined for each reach. At bankfull flow particles smaller then the D50 (50th percentile) will be mobile. Substrate larger than the D84 (84th percentile) are considered immobile during bankfull flow (Handbook 2010). See Appendix 1A for these values.



Graphs representing each reach's pebble counts can be found in Appendix 1A.

The dominant substrate size class for each reach:

- Reach 1 Gravel (2-64 mm)
- o Reach 2 Cobble (64-256 mm)
- o Reach 3 Gravel (2-64 mm)
- Reach 4 Cobble (64-256 mm)
- Reach 5 Gravel (2-64 mm)
- o Reach 6 Gravel (2-64 mm)
- o Reach 7 Bedrock (>4096 mm)
- o Reach 8 Gravel (2-64 mm)
- Reach 9 Gravel (2-64 mm)
- o Reach 10 Cobble (64-256 mm)

Percent Substrate Composition

• The percent substrate composition is a visual estimate of the makeup of the substrate on measured units of the wetted channel. Size class categories are: sand (<2 mm), gravel (2-64 mm), cobble (64-256 mm) boulder (256 4096 mm) and bedrock (>4096 mm). All estimates were rounded to 10 percent in the raw data and the streambed substrate is to total 100 percent for each unit (Handbook 2010). Averages in the following table are rounded to the nearest tenth.

Table 1.7. Average perc	ent substrate composition per reach.
-------------------------	--------------------------------------

Reach	Sand	Gravel	Cobble	Boulder	Bedrock	
	<2 mm	2-64 mm	64-256 mm	256-4096 mm	>4096 mm	
1	36.7	19.2	19.2	13.3	11.7	
2	2.5	36.3	58.8	2.5	0	
3	8.0	36.2	51.7	4.2	0	
4*	9.2	21.8	43.2	23.3	4.2	
5	13.1	28.8	31.3	21.9	5.0	
6	12.5	29.0	29.5	22.5	6.5	
7	10.0	19.1	23.6	22.7	24.5	
8	11.1	58.9	29.4	0.6	0	
9	10.8	49.6	39.6	0	0	
10	10.0	50.0	40.0	0	0	

^{* =} There was a surveyor error on SO 119 in reach 4. The streambed substrate estimate totaled more than 100 and therefore made the averages also total more than 100.

Special Habitats

- **Side Channels:** A side channel is a secondary channel that flows roughly parallel to the mainstem channel with an island that will not be breached during bankfull condition between the two. Oftentimes woody plants and/or a well developed soil layer and vegetation are in indicator that an island is stable (Handbook 2010).
 - Side channels comprised 7.5% of the total habitat units on the Yankee Fork stream survey. See the Percent Area Habitat Summary in Chapter 2 for more detailed information by reach.



SO 410 – Side channel with beaver activity, Reach 9, RM 15.6



SO 90 – Side channel located behind dredge tailings, Reach 3, RM 6.5

Braided Channels: A braided channel is a series of three or more roughly
parallel channels structured during bankfull flow and separated from each
other by unstable islands. Braided channels appear distinct at flows less than
bankfull stage. At bankfull stage, the islands separating the multiple channels

are overtopped, and the channel appears to be a single broad channel. Vegetation on these unstable islands is typically non-woody annual plants, very young seedlings, or willow. A braided channel is the result of sediment supply that exceeds the power of the stream to transport all of the sediment through a specific channel segment. (Handbook 2010)

 Braided channel units made up 0.9% of the total habitat units on the survey.





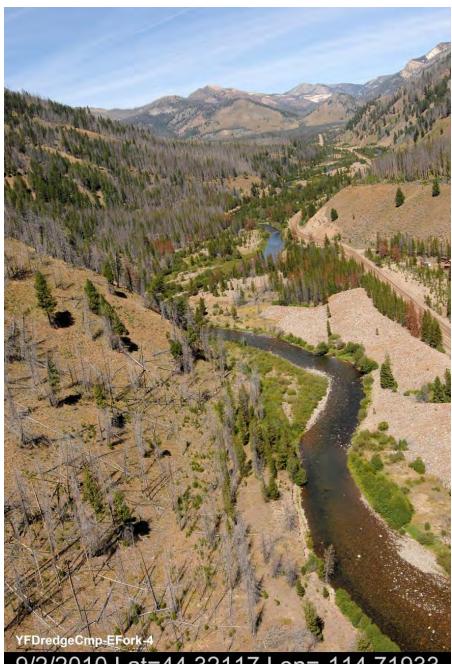
SO 357 - Braid #1, Reach 8, RM 14.3

SO 463 - Braid #3, Reach 10, RM 16.8

RIPARIAN HABITATS

Riparian Vegetation

- The riparian vegetation was noted on measured habitat units for the inner riparian zone only (100 feet on both banks). The class is broken down by diameter at breast height (dbh) and the classes are as follows (Handbook 2010):
 - NV = No Vegetation (bare rock/soil, dbh not applicable)
 - GF = Grassland/Forb Condition (dbh not applicable)
 - \circ SS = Shrub/Seedling Condition (1.0 4.9 in. dbh)
 - \circ SP = Sapling/Pole Condition (5.0 8.9 in. dbh)
 - ST = Small Trees Condition (9.0 20.9 in. dbh)
 - LT = Large Trees Condition (21 31.9 in. dbh)
 - MT = Mature Trees Condition (>32 in. dbh)



SO 50 (approximately) - Burnt riparian area and lack of stream side vegetation in areas, RM 4.6, photo oriented upstream (Photo courtesy of Bureau of Reclamation)

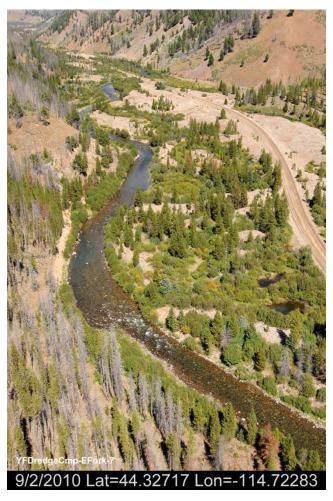
2/2010 Lat=44.32117 Lon=-114.71933

- The overstory vegetation is defined by the species that from an overhead view occupies the most overstory area along both banks. It is an average of both banks' condition.
- The understory is denoted by which species are growing in this lower vegetative layer. It too is an average of both banks' condition.

Table 1.8. Riparian vegetation classes and species observed.

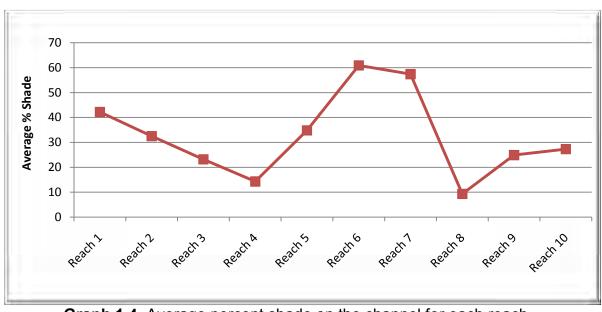
		arian vegetation classes and sp				
Reach	Riparian Class	Overstory	Understory			
1	Large treeSmall treeGrassland/forbs	 Douglas fir (<i>Pseudotsuga</i> menziesii) Alder (<i>Alnus</i> sp.) Grassland/forbs 	 Douglas fir (<i>Pseudotsuga menziesii</i>) Alder (<i>Alnus</i> sp.) Grassland/forbs 			
2	Alder (Alnus sp.)Willow (Salix sp.)	Sapling poleShrub/seedling	Shrub seedlingGrassland/forbs			
3	Small treeAlder (Alnus sp.)	Small treeSapling poleLodgepole pine (<i>Pinus contorta</i>)	Shrub seedlingAlder (<i>Alnus</i> sp.)			
4	Small tree	Alder (Alnus sp.)	Lodgepole pine (<i>Pinus</i> contorta)Grassland/forbs			
5	Small treeGrassland/forbs	 Lodgepole pine (<i>Pinus</i> contorta) Alder (<i>Alnus</i> sp.) Grassland/forbs 	 Lodgepole pine (<i>Pinus</i> contorta) Alder (<i>Alnus</i> sp.) Grassland/forbs 			
6	Small tree	 Lodgepole pine (<i>Pinus</i> contorta) Subalpine fir (<i>Abies</i> lasiocarpa) 	Alder (Alnus sp.)			
7	Large treeSmall tree	 Douglas fir (Pseudotsuga menziesii) Lodgepole pine (Pinus contorta) Subalpine fir (Abies lasiocarpa) 	Alder (Alnus sp.)Grassland/forbs			
8	Shrub/seedling	• Willow (Salix sp.)	Lodgepole pine (<i>Pinus</i> contorta)Grassland/forbs			
9	Small treeShrub/seedling	 Lodgepole pine (<i>Pinus</i> contorta) Willow (<i>Salix</i> sp.) 	 Lodgepole pine (<i>Pinus contorta</i>) Subalpine fir (<i>Abies lasiocarpa</i>) Willow (<i>Salix</i> sp.) Grassland/forbs 			
10	Small treeShrub/seedling	Lodgepole pine (<i>Pinus</i> contorta)Willow (<i>Salix</i> sp.)	Lodgepole pine (<i>Pinus</i> contorta)Willow (<i>Salix</i> sp.)			

Solar Radiation



- Solar radiation was taken at every measured unit with a solar pathfinder to determine the percent of shade and was normalized for the latitude in which it was used and the month of September. The surveyor stood in the middle of the channel while assessing the shade.
- The average percent of shade for the whole survey was 34.7%.

SO 58 (approximately) - Lack of shade on stream, RM 5.1, photo oriented upstream (Photo courtesy of Bureau of Reclamation)



Graph 1.4. Average percent shade on the channel for each reach.

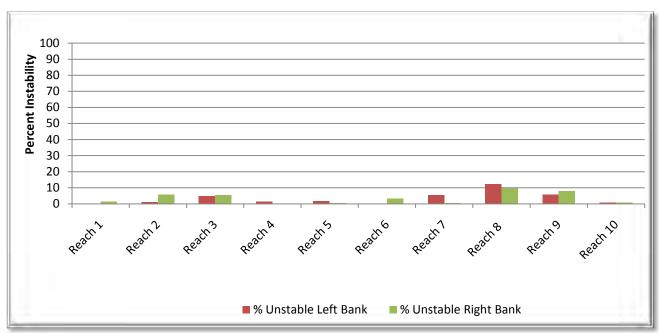
Bank Stability

- The banks on the Yankee Fork survey met the RMO for bank stability in all reaches except for reach 8, being more than 90% stable.
 - The average percent of instability for the entire survey was 3.3% of the left bank and 3.5% of the right bank.



SO 84 – Unstable right bank, Reach 3, RM 6.3

- For more detailed information by reach see Graph 1.5 and the Unstable Bank Summary in Chapter 2.
- Since the Yankee Fork watershed is a priority watershed, the RMO differs from the standard of 80% from PACFISH.



Graph 1.5. Percent of unstable banks observed by reach.

Note: Unstable banks were not measured on side channels.

MANAGEMENT ACTIVITIES / IMPACTS

Roads

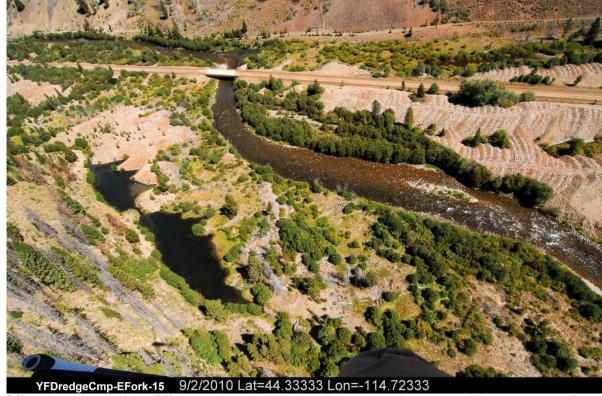
- National Forest Road 013 runs nearly parallel to the Yankee Fork for the lower half of the survey and then National Forest Road 070 runs near the channel for the upper end of the survey.
- All of the road crossings over the Yankee Fork throughout the survey were in the form of bridges and not culverts.

<u>Mining</u>

 Historically parts of the Yankee Fork were dredged for gold intermittently from 1940 to 1952. This dredging re-routed, straightened, and entrenched the channel and has confined the river between dredge piles. Therefore, at high flows in many areas, stream power and sediment transport capacity is increased. The dredge tailings have also disconnected or limited access to tributaries as well as disturbed historic fish habitat.



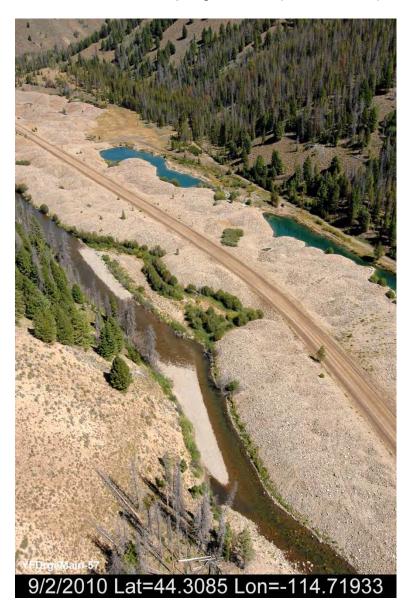
SO 139 (approximately) – Dredge tailings and stream, RM 8.9, photo oriented downstream (Photo courtesy of Bureau of Reclamation)



YFDredgeCmp-EFork-15 9/2/2010 Lat=44.33333 Lon=-114.72333
SO 69 (approximately) – Off channel ponds, RM 5.6, photo oriented upstream (Photo courtesy of Bureau of Reclamation)

Stream Enhancement Projects

No restoration has been attempted on the main stem surveyed portion of Yankee Fork. The Shoshone-Bannock Tribes, with funding from Bonneville Power Administration, increased rearing habitat by adding several off-channel holding ponds. Four series of dredge/settling ponds were added into the dredged portion of the Yankee Fork. These ponds now provide effective rearing habitat to hatchery out-planted and naturally produced juvenile Chinook salmon and steelhead. Implementation of this work began in the fall of 1987 and was completed in the fall of 1988, with some re-vegetation work finalized in the spring of 1989. (Vacirca 2006).



SO 31 (approximately) – Off channel ponds and dredge tailings, RM 3.6, photo oriented upstream (Photo courtesy of Bureau of Reclamation)

Grazing

• The Garden Creek Allotment contains the Yankee Fork within its boundary from approximately Fivemile Creek upstream through the end of the survey. However, the portion of the allotment within the Yankee Fork watershed currently is not grazed and has not been grazed for several years.

CHAPTER 2: STREAM SURVEY SUMMARY REPORTS

Hydrology Summary

Stream Name: Yankee Fork Hydrologic Unit Code: 170602010505, 170602010502

Protocol Name: R6 Eastside Aquatic Inventory

Date: 09/13/2010-09/19/2010

				Average	Average	Dominant	Rosgen	
		Mapped	Mapped	Width/Depth	Entrench-	Substrate	Stream	
Reach	Valley Form	Gradient	Sinuosity	Ratio	ment Ratio	Size Class	Class	Remarks
						Gravel		Survey begins at a pullout on County Road 013 just downsteam of the Shoban Tribes screw trap and ends at
1	9	0.8	1.03	33.4	1.3	(2-64 mm)	C4	the confluence with Rankin Creek on the right bank
						Cobble (64-		
2	9	0.6	1.11	41.0	1.5	256 mm)	C3	Reach 2 ends where Jerry's Creek would enter from the left bank, but does not connect to the main channel
						Gravel		
3	9	0.7	1.14	30.2	1.5	(2-64 mm)	C4	Reach 3 ends at the confluence with West Fork Yankee Fork from the right bank.
						Cobble (64-		The fourth reach ends at the confluence with Jordan Creek from the right bank. The dredge tailings end just
4	9	1.0	1.04	30.2	1.5	256 mm)	C3	upstream of the end of this reach and the valley floor narrows.
						Gravel		
5	9	1.1	1.07	20.7	1.3	(2-64 mm)	C4	Reach 5 ends at the confluence with Swift Gulch from the right bank.
	0	4.4	4.00	40.0		Gravel		The sixth reach ends at the confluence with a small tributary from the left bank that was dry at the time of the
О	8	1.4	1.08	16.6		,	C4	survey. Upstream of the reach break the valley floor becomes more confined and the gradient increases.
_	_	0.0	4.00	40.0		Bedrock	D.4	Reach 7 ends at the confluence with Fivemile Creek from the left bank. This reach had a very confined valley
/	5	3.0	1.00	18.2	1.5	(>4096 mm)	В1	floor with lots of bedrock and deeps pools.
						Gravel		
8	9	1.0	1.07	40.6	2.6	,	C4	Reach 8 ends at the confluence with Sixmile Creek from the left bank.
						Gravel		
9	9	0.5	1.27	26.8	2.3	(2-64 mm)	C4	Reach 9 ends at the confluence with Eightmile Creek from the right bank.
						Cobble (64-		The tenth reach ends at the confluence with a tributary from the right bank that was dry at the time of the
10	9	1.1	1.12	15.5	1.3	256 mm)	C3	survey.
Average		1.1	1.09	27.3	1.6			

Hydrology Summary (continued)

Stream Name: Yankee Fork Hydrologic Unit Code: 170602010505, 170602010502

Protocol Name: R6 Eastside Aquatic Inventory

Date: 09/13/2010-09/19/2010

Reach	Surveyed Length in Feet	Mapped Channel Length in Feet	Mapped Minimum Elevation in Feet	Mapped Maximum Elevation in Feet	Stream Order	Discharge Cubic Feet per Second	Average Corrected Wetted Width	Average Bankfull Depth in Feet	Average Bankfull Max Depth in Feet	Average Bankfull Width in feet	Average Floodprone Width in Feet	Mapped Valley Width in Feet	Mapped Valley Length in Feet
1	8,740	8,773	6102	6174	6	83.46	47.3	2.58	3.10	72.0	92	316	8,539
2	4,988	5,998	6174	6203	6	-	57.7	2.23	2.55	92.0	140	507	5,383
3	8,563	7,585	6203	6253	6	-	46.3	2.20	2.63	66.3	100	510	6,652
4	11,930	11,935	6253	6368	5	-	39.8	1.88	2.15	54.3	90	457	11,477
5	10,980	11,066	6368	6493	5	-	34.0	2.25	2.43	46.3	58	346	10,391
6	6,670	6,793	6493	6588	5	-	31.0	2.64	3.27	41.0	59	293	6,267
7	3,916	3,988	6588	6706	5	-	29.4	2.17	2.55	38.5	57	108	3,969
8	6,626	6,667	6706	6772	5	-	28.0	1.89	2.23	54.3	128	360	6,211
9	9,598	9,731	6772	6818	5	-	25.8	2.12	2.45	56.0	121	417	7,670
10	4,135	4,145	6818	6863	4	-	28.6	1.93	2.10	30.0	38	457	3,702
Average	76,147	76,681				83.46	36.8	2.19	2.55	55.1	88	377.1	70,261

Percent Habitat Area Summary

Stream Name: Yankee Fork Hydrologic Unit Code: 170602010505, 170602010502

Protocol Name: R6 Eastside Aquatic Inventory

Date: 09/13/2010-09/19/2010

							Number of						
		Number of		Number of	Fast		Side		Number of		Number		
	% Slow	Slow Water	% Fast	Fast Water	Water/Slow	% Side	Channel	% Special	Special	% Braided	Braided		Number of
Reach	Water	Units	Water	Units	Water Ratio	Channel	Units	Case	Cases	Units	Units	% Tributary	Tributaries
1	29.5	13	50.0	22	1.69	9.1	4	0.0	0	0.0	0	11.4	5
2	28.6	6	66.7	14	2.33	0.0	0	0.0	0	0.0	0	4.8	1
3	35.1	13	51.4	19	1.46	5.4	2	0.0	0	0.0	0	8.1	3
4	22.0	9	65.9	27	3.00	9.8	4	0.0	0	0.0	0	2.4	1
5	30.0	15	54.0	27	1.80	12.0	6	0.0	0	0.0	0	4.0	2
6	50.9	29	43.9	25	0.86	0.0	0	0.0	0	0.0	0	5.3	3
7	47.4	27	42.1	24	0.89	3.5	2	5.3	3	0.0	0	1.8	1
8	38.3	23	48.3	29	1.26	6.7	4	0.0	0	1.7	1	5.0	3
9	46.1	35	38.2	29	0.83	13.2	10	0.0	0	0.0	0	2.6	2
10	26.9	7	46.2	12	1.71	15.4	4	0.0	0	7.7	2	3.8	1
Total /													
Average	35.5	177	50.7	228		7.5	36	0.5	3	0.9	3	4.9	22

Slow water (pool) = A habitat unit with a hydraulic control, usually with reduced surface turbulence and has an average depth greater than riffles when viewed during low flow conditions.

Fast Water = A habitat unit without a hydraulic control, usually with relatively fast velocity and usually relatively shallow.

Side Channel = A lateral (i.e., secondary) channel with an axis of flow roughly parallel to the mainstem channel. This secondary channel transports water from an upstream confluence with the mainstem channel to a downstream confluence with the mainstem channel.

Special Habitats = A category for other habitats, waterfalls, chutes, culverts, marshes, braids, dry sections, man-made dams and structures.

Braid = A braided channel is a series of three or more roughly parallel channels structured during bankfull flow and separated from each other by unstable islands. Vegetation on these unstable islands is typically non-woody annual plants, very young seedlings, or willow.

Tributary = A secondary channel system that occupies a distinct drainage basin and has a unique headwater origin. The drainage basin of a tributary is a portion of the larger drainage basin of the mainstem channel.

Wood Summary

Stream Name: Yankee Fork Hydrologic Unit Code: 170602010505, 170602010502

Protocol Name: R6 Eastside Aquatic Inventory

Date: 09/13/2010-09/19/2010

			Nur	nber of Pieces			
Reach Miles			Large	Medium	Small	Total	Frequency of Large Pieces of Wood*
1	1.66		1.21	1.21	4.83	7.25	0.011
2	0.94		0	0	1.06	1.06	0
3	1.62		0	0	0	0	0
4	2.26		0	0	0.89	0.89	0
5	2.08		0	0	5.29	5.29	0
6	1.26		0	0	14.25	14.25	0
7	0.74		0	1.35	36.4	37.75	0
8	1.26		0	3.19	32.67	35.86	0
9	1.81		0.84	4.21	51.36	56.41	0.003
10	0.78		0	0	11.49	11.49	0
Total	14.41	Average	0.205	1.0	15.824	170.25	0.0014

^{*} Frequency of Wood = Number of Large Pieces of Wood/(Corrected Channel Length/Average Corrected Wetted Channel Width).

Pool Summary

Stream Name: Yankee Fork Hydrologic Unit Code: 170602010505, 170602010502

Protocol Name: R6 Eastside Aquatic Inventory

Date: 09/13/2010-09/19/2010

								Percentage of Pools Formed By										
Reach	Miles	Number of Pools	Number of Pools/Surveyed Mile of Stream	Frequency of Pools*	Number of Pools > 3 feet Deep/Surveyed Mile of Stream	Frequency of Pools > 3 Feet Deep *	Average Residual Pool Depth**	Beaver	Wood	Bedrock	Boulder	Stream Bend	Tributary	Culvert	Dam	Restoration	Other	Not Designated
1	1.66	14	8.5	0.076	7.83	0.07	3.02				57							43
2	0.94	6	6.4	0.069	5.32	0.058	1.82											100
3	1.62	13	8.0	0.07	7.41	0.065	2.75											100
4	2.26	9	4.0	0.03	1.33	0.01	2.1											100
5	2.08	15	7.2	0.046	2.4	0.015	1.77											100
6	1.26	29	23.0	0.135	11.9	0.07	1.88			3.5	7						3.5	86
7	0.74	27	36.4	0.203	32.43	0.18	3.67			44							15	41
8	1.26	23	18.3	0.097	11.9	0.063	2.7											100
9	1.81	35	19.3	0.094	11.6	0.056	2.7											100
10	0.78	7	8.9	0.048	3.85	0.021	1.64											100
Total/ Average	14.41	178	14.0	0.0868	9.597	0.0608	2.41	0	0	24	32	0	0	0	0	0	9.3	87

^{*} Frequency of Pools = Number of Pools/(Corrected Channel Length/Average Corrected Wetted Channel Width).

^{**} Residual Pool Depth = Maximum Depth – Depth at Pools Tail Crest

Unstable Bank Summary

Stream Name: Yankee Fork Hydrologic Unit Code: 170602010505, 170602010502

Protocol Name: R6 Eastside Aquatic Inventory

Date: 09/13/2010-09/19/2010

		Sum		Sum		
		Unstable Left	% Unstable	Unstable	% Unstable	% Unstable
Reach Miles		Bank	Left Bank	Right Bank	Right Bank	Both Banks
1	1.66	0	0.0	125	1.4	1.4
2	0.94	50	1.0	280	5.6	6.6
3	1.62	400	4.7	460	5.4	10.0
4	2.26	170	1.4	20	0.2	1.6
5	2.08	180	1.6	50	0.5	2.1
6	1.26	0	0.0	218	3.3	3.3
7	0.74	212	5.4	20	0.5	5.9
8	1.26	806	12.2	656	9.9	22.1
9	1.81	541	5.6	763	8.0	13.6
10	0.78	30	0.7	30	0.7	1.5
Total/Average	14.41	2389	3.3	2622	3.5	6.8

Count of Special Habitat Units

Stream Name: Yankee Fork Hydrologic Unit Code: 170602010505, 170602010502

Protocol Name: R6 Eastside Aquatic Inventory

Date: 09/13/2010-09/19/2010

Reach	Number of Waterfalls	Maximum Height of Waterfalls (ft)	Number of Chutes	Number of Braids	Number of Marshes	Number of Dams	Number of Dry Channels	Total Length of Dry Channels	Number of Culverts
1	0		0	0	0	0	0	0	0
2	0		0	0	0	0	0	0	0
3	0		0	0	0	0	0	0	0
4	0		0	0	0	0	0	0	0
5	0		0	0	0	0	0	0	0
6	0		0	0	0	0	0	0	0
7	2	7	1	0	0	0	0	0	0
8	0		0	1	0	0	0	0	0
9	0		0	0	0	0	0	0	0
10	0		0	2	0	0	0	0	0
Total	2		1	3	0	0	0	0	0

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Stephens, George C., 1991. A History of Gold Mining on the Yankee Fork River, Custer County, Idaho *in* Guidebook to the Geology of Central and Southern Idaho: Idaho Geological Survey Bulletin 27, 223-226p.

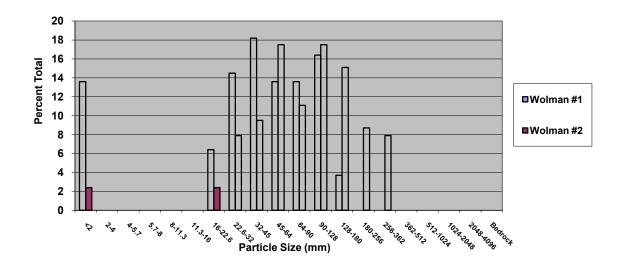
- U.S. Department of Agriculture (USDA), Forest Service. 2010 Region 6 Stream Inventory Training Reference Materials for NR9.
- U.S. Department of Agriculture (USDA), Forest Service. 2010. Region 6 Stream Inventory Handbook, Level II, Version 2.10. 114p.
- U.S. Department of Agriculture (USDA), Forest Service & U.S Department of the Interior, Bureau of Land Management. 1995. Appendix C *Description of Alternatives Considered in Detail. In* Decision Notice/Decision Record Finding of No Significant Impact Environmental Assessment: for the Interim Strategies for Managing Anadromous Fish-producing Watershed in Eastern Oregon and Washington, Idaho, and Portions of California. Washington D.C. 72p.

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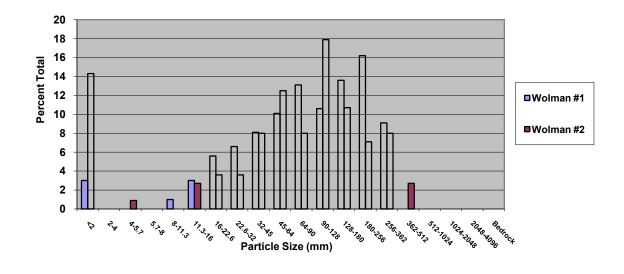
APPENDICES

APPENDIX A: Wolman Pebble Count Graphs by Reach

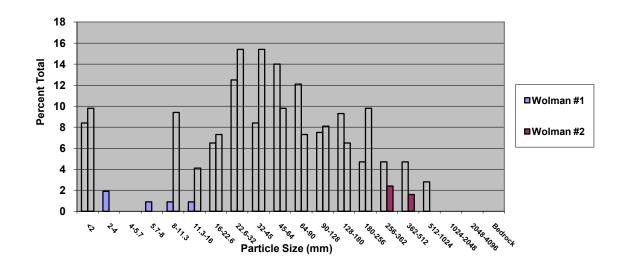
Reach 1 D16 – 27 mm D50 – 65.5 mm D84 – 141.5 mm



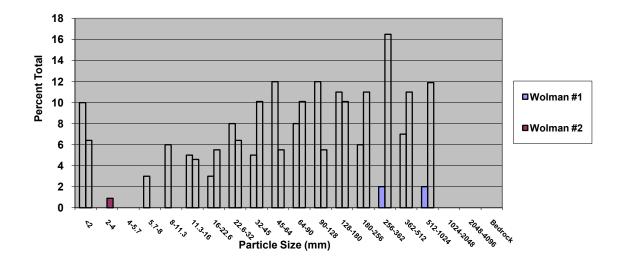
Reach 2 D16 – 19 mm D50 – 77 mm D84 – 190.5 mm



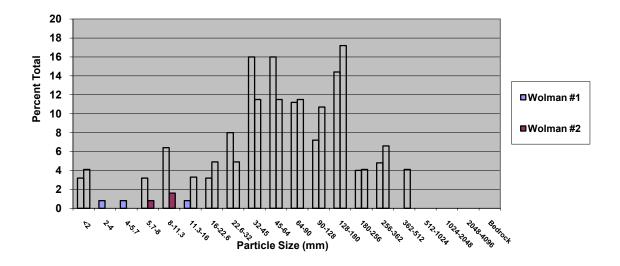
Reach 3 D16 – 17.5 mm D50 – 49.5 mm D84 – 176.5 mm



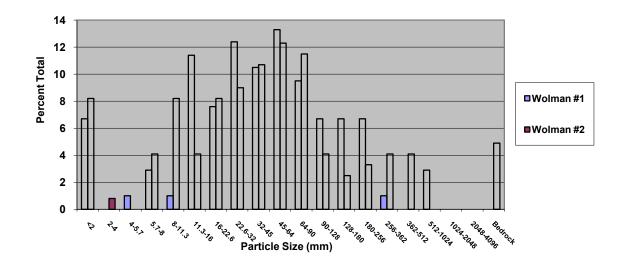
Reach 4 D16 – 15.5 mm D50 – 75.5 mm D84 – 208 mm



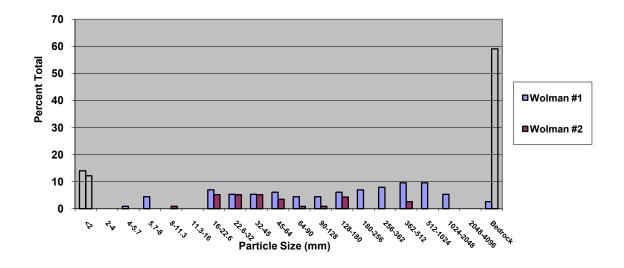
Reach 5 D16 – 20.5 mm D50 – 64.5 mm D84 – 164.5 mm



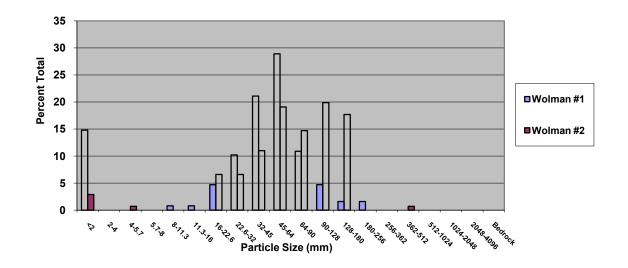
Reach 6 D16 – 11 mm D50 – 38.5 mm D84 – 125.5 mm



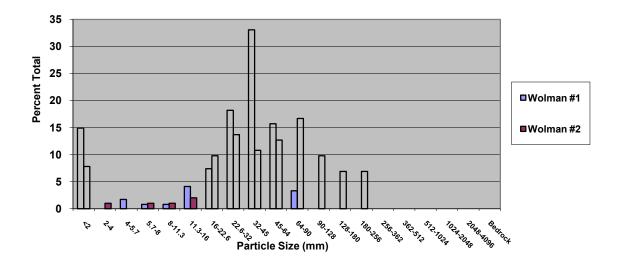
Reach 7 D16 – 3.5 mm D50 – 63 mm D84 – 316 mm



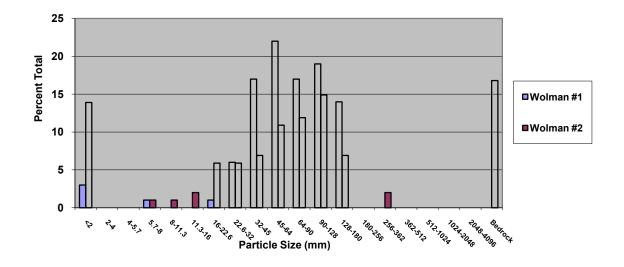
Reach 8 D16 – 22 mm D50 – 56 mm D84 – 102 mm



Reach 9 D16 – 11.5 mm D50 – 41 mm D84 – 83 mm

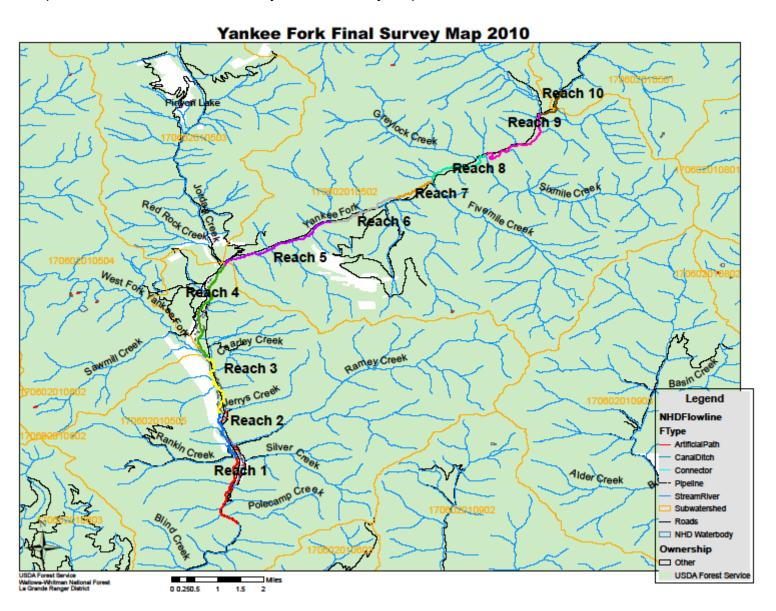


Reach 10 D16 – 18.5 mm D50 – 58.5 mm D84 – 119 mm

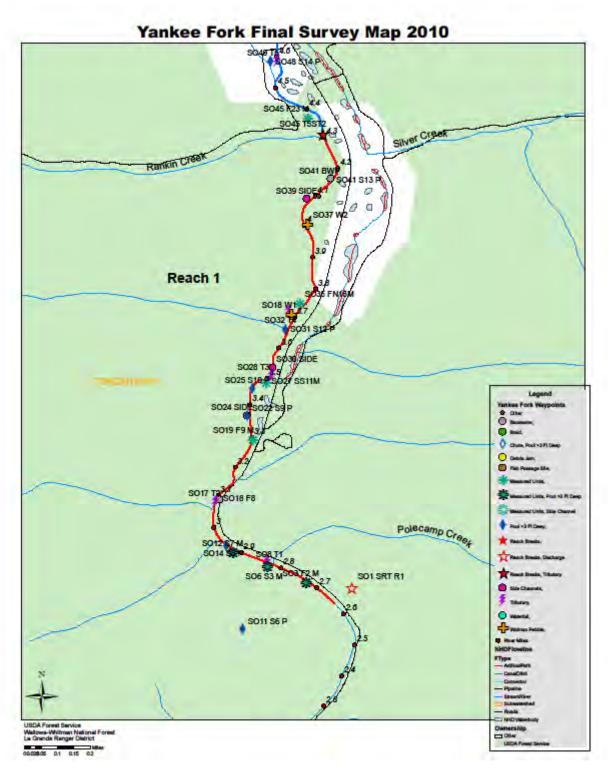


APPENDIX B - Maps

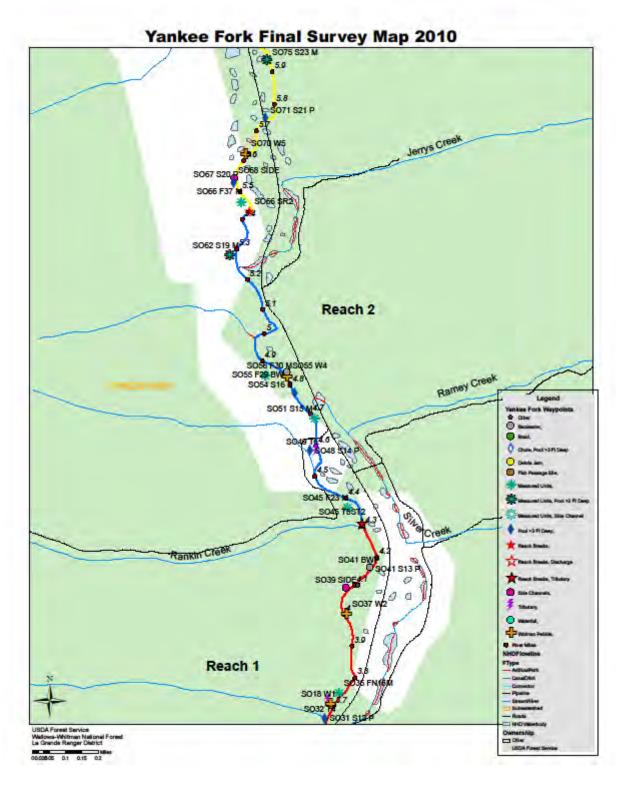
Map 1. Yankee Fork Stream Survey – Final Survey Map



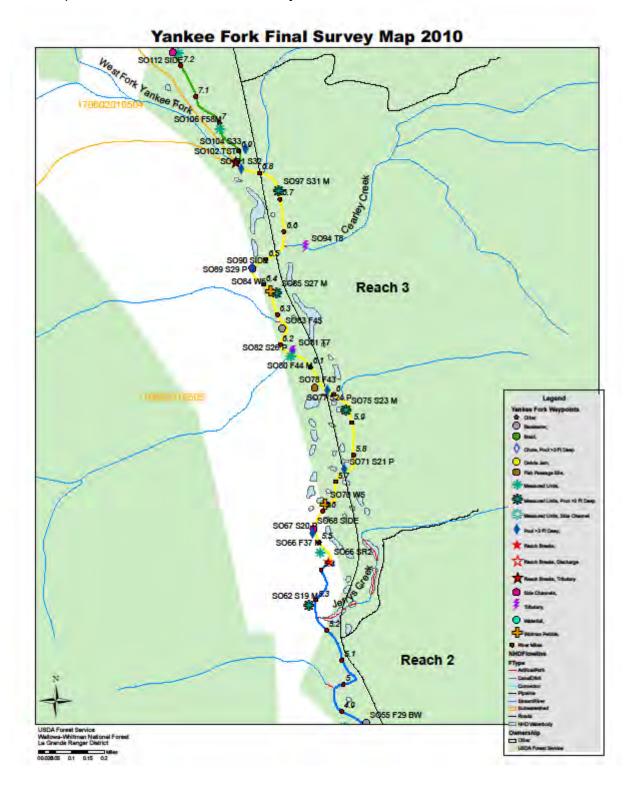
Map 2. Yankee Fork Stream Survey - Reach 1



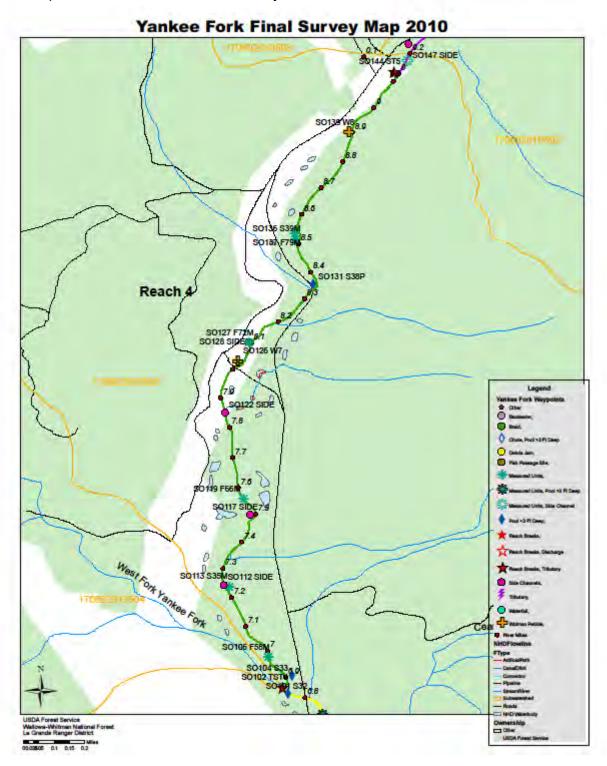
Map 3. Yankee Fork Stream Survey - Reach 2



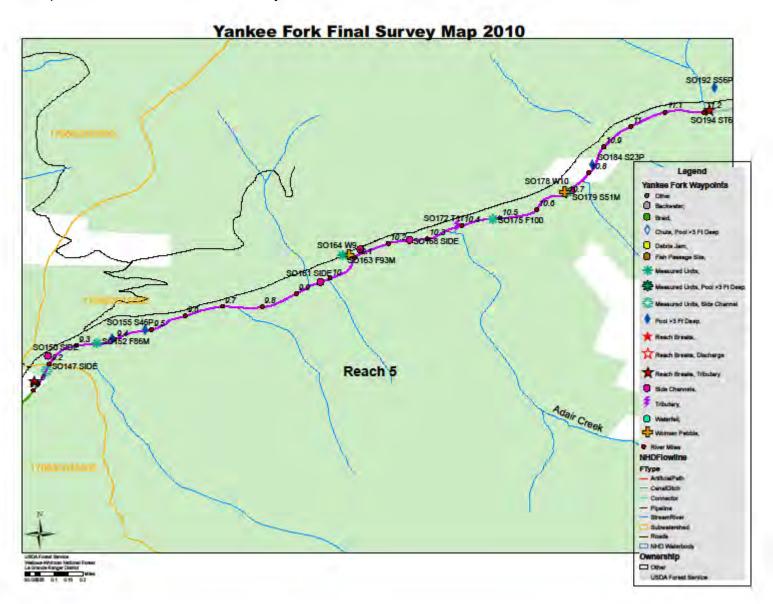
Map 4. Yankee Fork Stream Survey – Reach 3



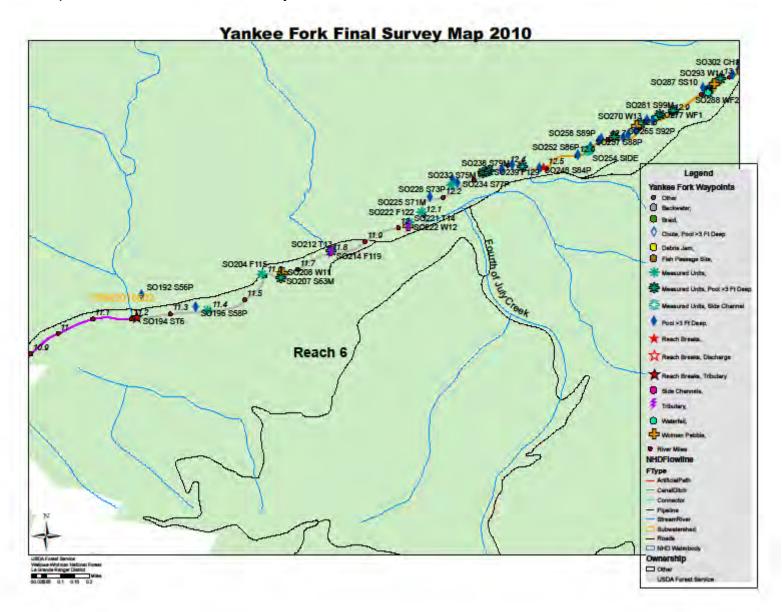
Map 5. Yankee Fork Stream Survey - Reach 4



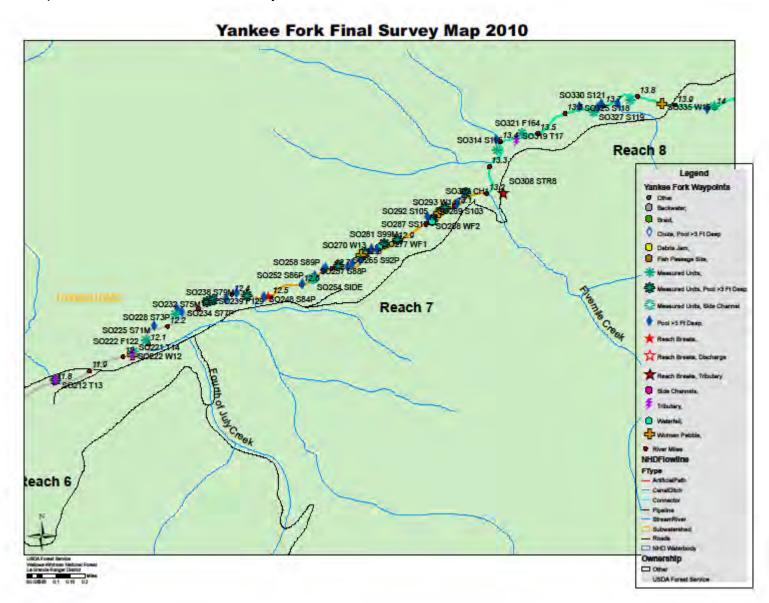
Map 6. Yankee Fork Stream Survey – Reach 5



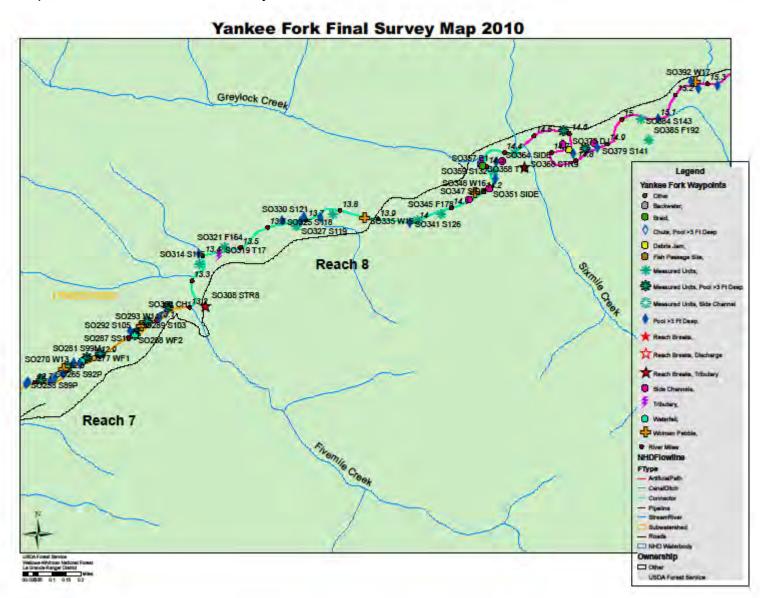
Map 7. Yankee Fork Stream Survey - Reach 6



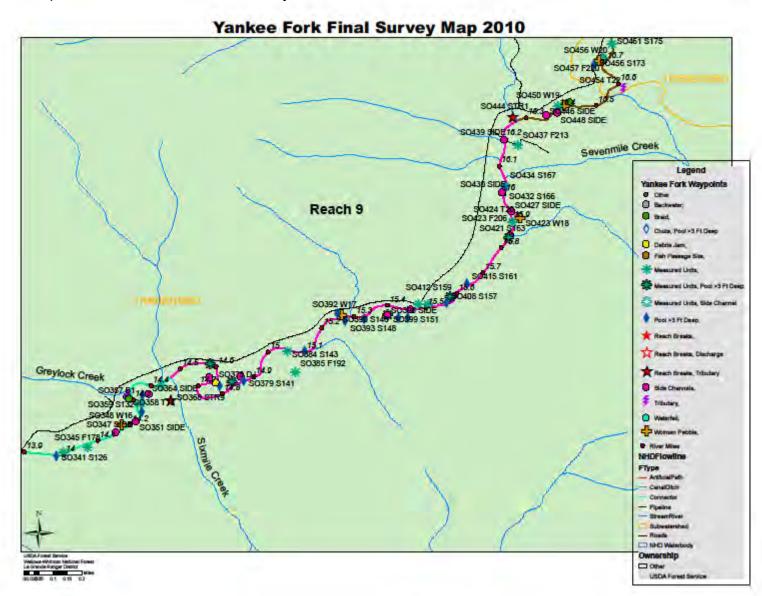
Map 8. Yankee Fork Stream Survey – Reach 7



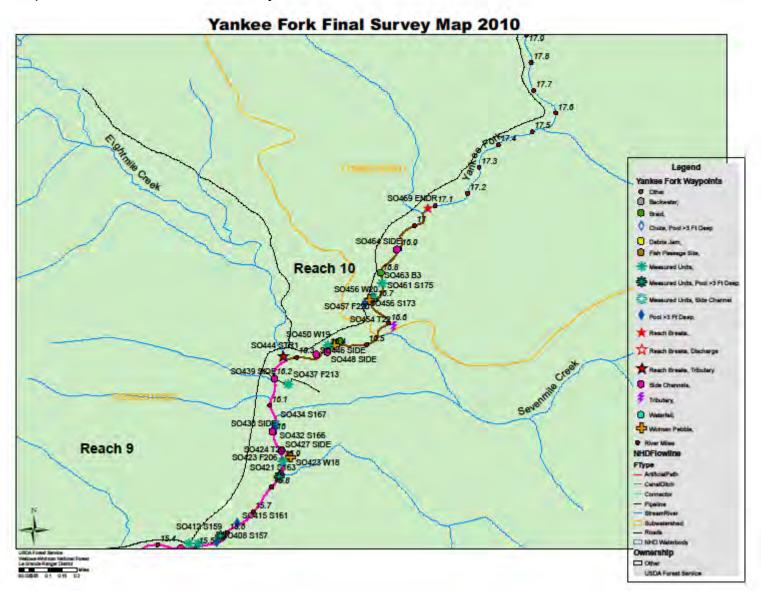
Map 9. Yankee Fork Stream Survey - Reach 8



Map 10. Yankee Fork Stream Survey - Reach 9



Map 11. Yankee Fork Stream Survey – Reach 10



APPENDIX C – Photos & Raw Data Sheets

YANKEE FORK

STREAM SURVEY PHOTOS

September 13th – 19th, 2010

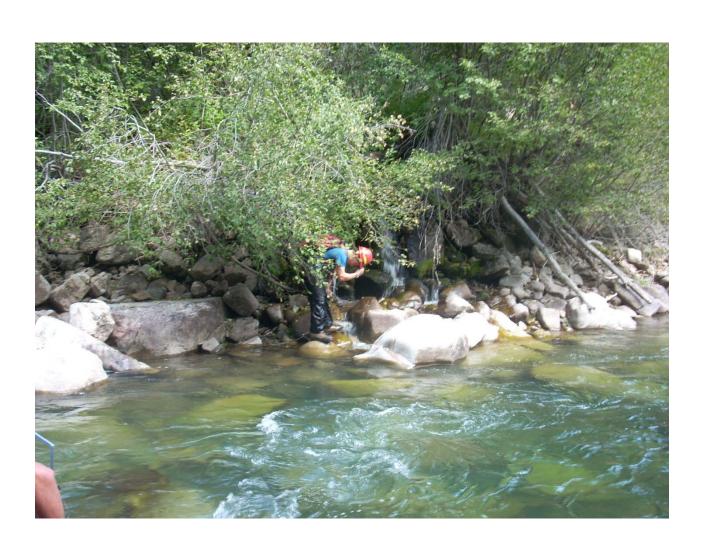
SO 1 – Start of survey, upstream



SO 1 – Start of survey, downstream



SO 8 – Tributary #1, left bank



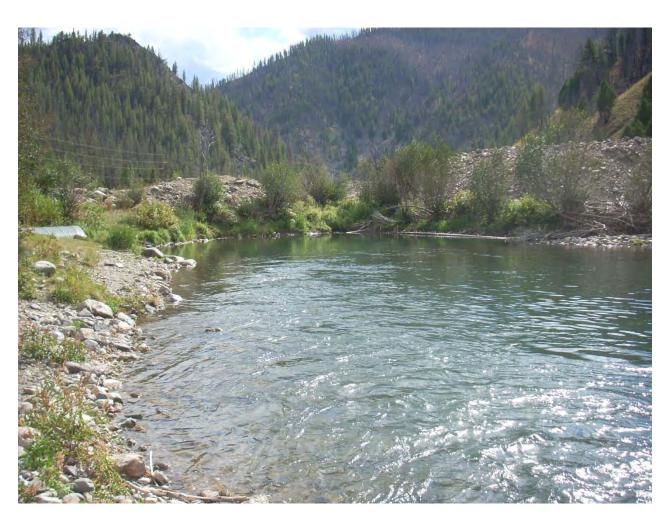
SO 9 – Pool, 3' deep



SO 17 – Tributary #2, right bank (downstream)



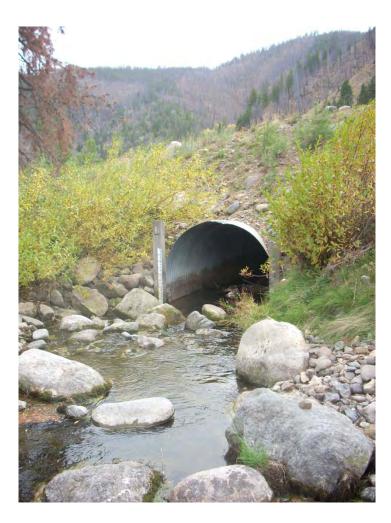
SO 27, 28 – Tributary #4, flows from culvert on left bank



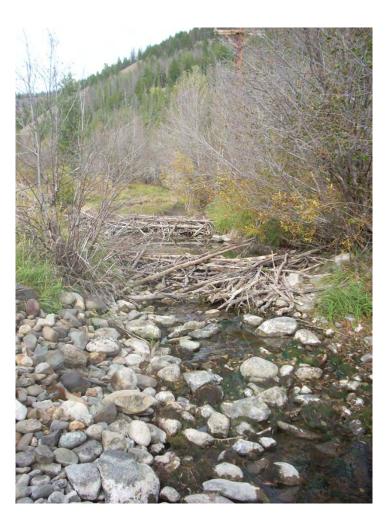
SO 28 – Tributary #3, LB, looking upstream at culvert



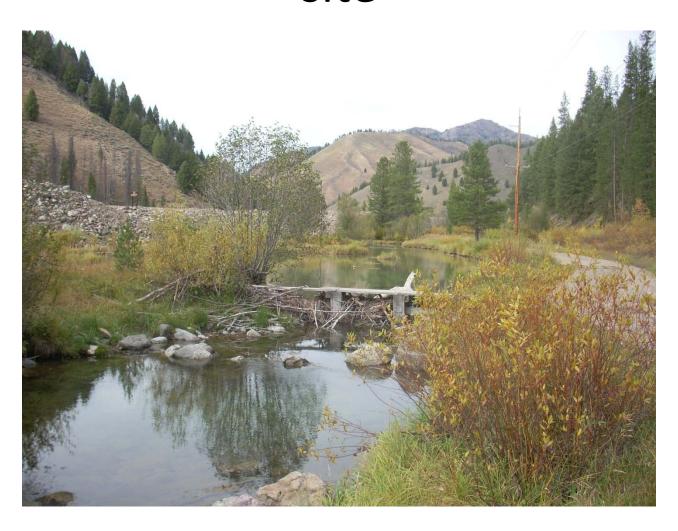
SO 28 – Tributary #3, looking downstream at culvert



SO 28 – Tributary #3, passage is available for first 3000'



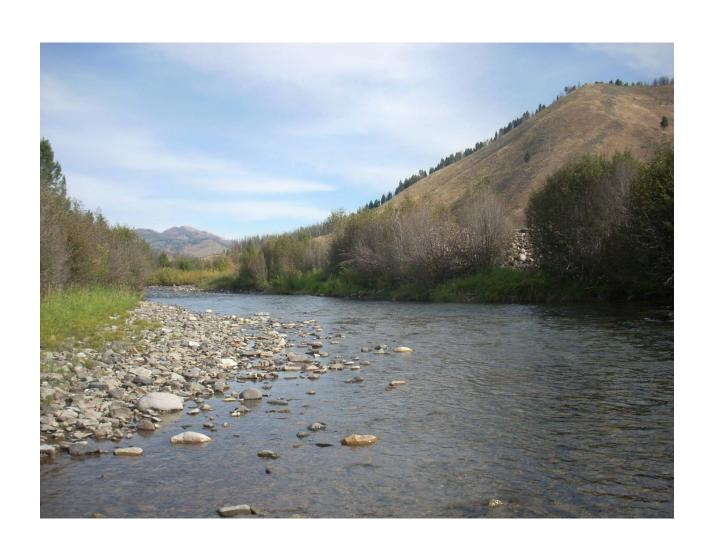
SO 28 – Up tributary #3, fish passage site



SO 32 – Tributary #4, right bank



SO 45 – Start of reach 2



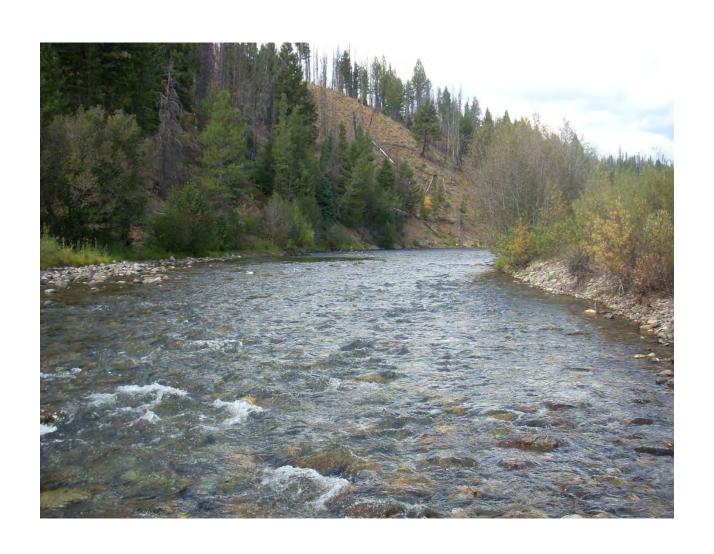
SO 46 – Unstable, right bank



SO 49 – Tributary #6, left bank



SO 66 – Start of reach 3



SO 68 – Of side channel, downstream below fish passage site



SO 68 – Side channel, downstream near exit at SO 78



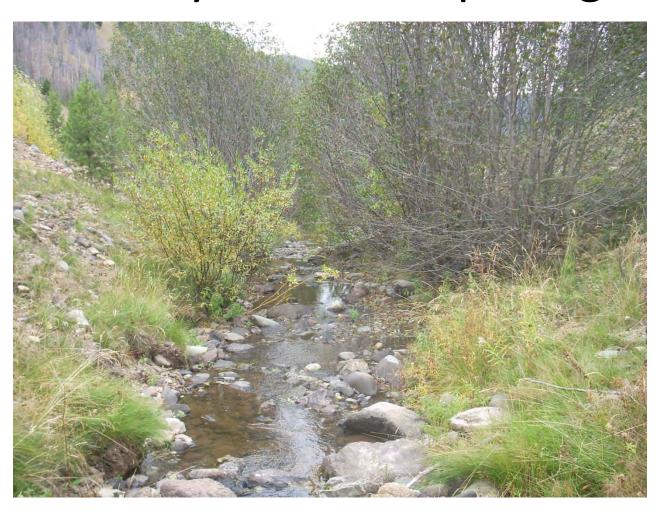
SO 68 – Of side channel, downstream at ponds and fish passage site



SO 68 – Of side channel, downstream at ponds below passage site



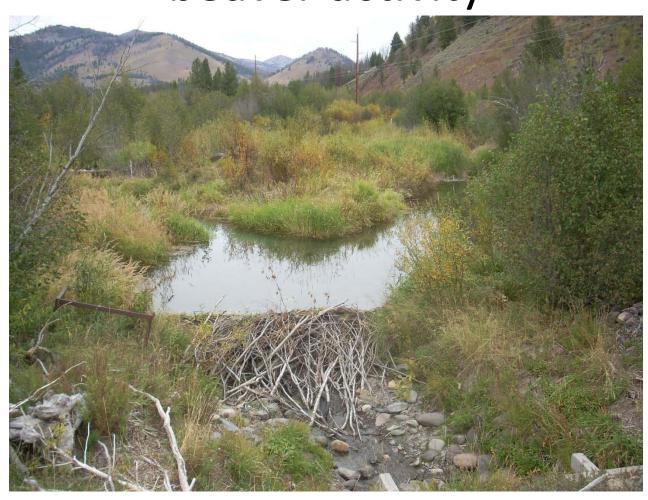
SO 68 – Of side channel, downstream immediately below fish passage site



SO 68 – Of side channel, upstream at passage site



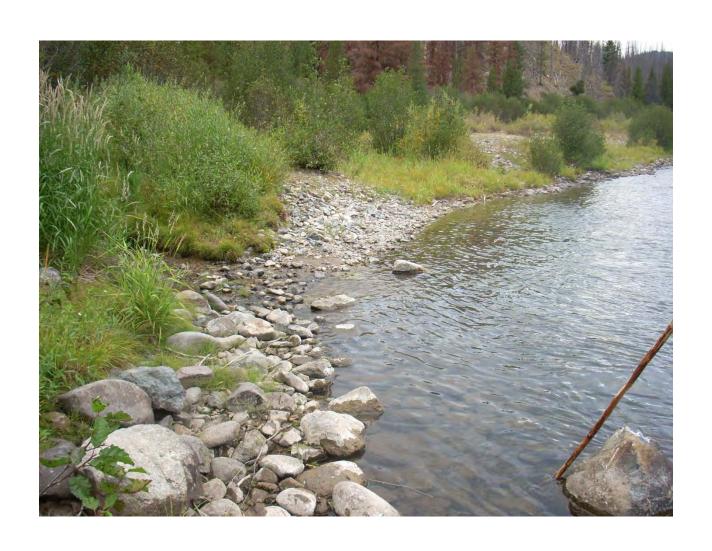
SO 76 – side channel, exits SO 93, with beaver activity



SO 76 – Side channel



SO 81 – Tributary #7, right bank



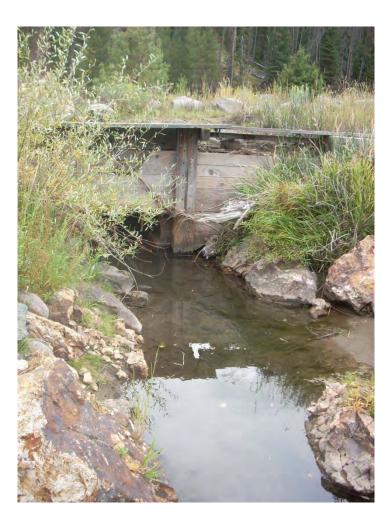
SO 90 – Debris jam in side channel



SO 90 – Side channel on other side of dredge tailings near SO 101



SO 90 – Of side channel, fish passage site downstream



SO 90 – Of side channel, intermittent flow upstream



Side channel, exits SO 93



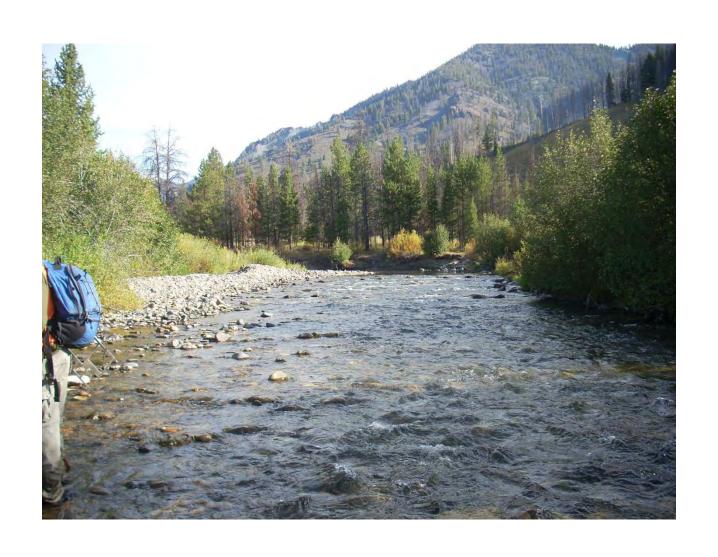
SO 94 – Tributary #8, flows into side channel on left bank



SO 102 – Tributary #9, right bank, West Fork Yankee Fork, fish trap



SO 103 – Start of reach 4



SO 142, 143 – Pool and tributary #10, right bank, and end of reach 4



SO 144 – Start of reach 5



SO 146 – Debris jam



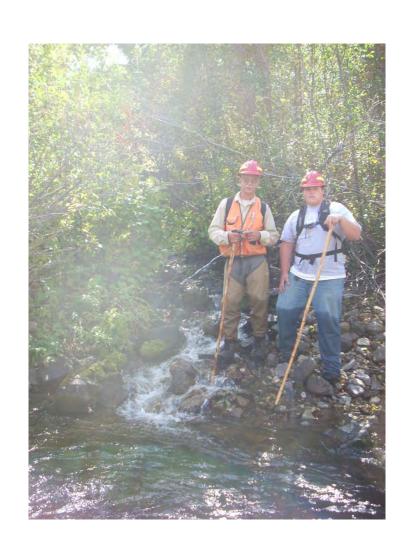
SO 148 – Debris, looking downstream



SO 165 – Heavy equipment crossing



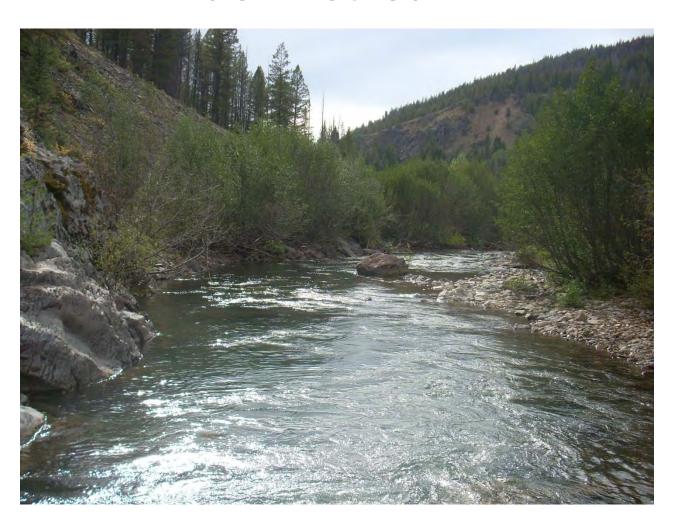
SO 172 – Tributary #11, left bank



SO 192 - Pool



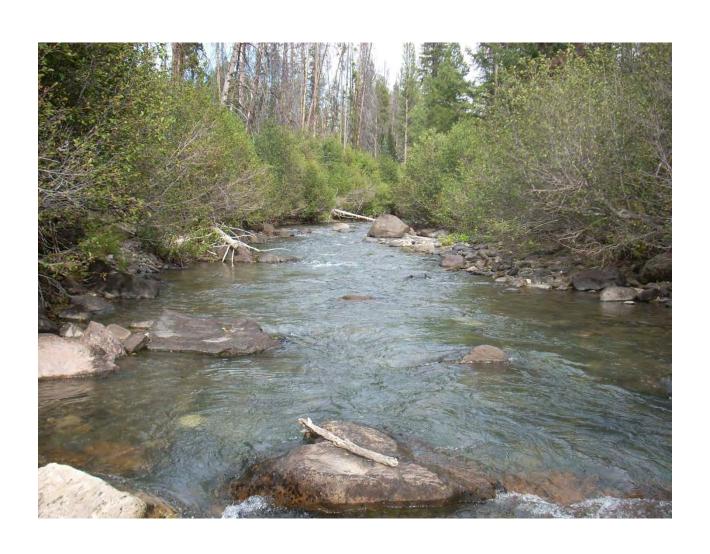
SO 192, 193 – End of reach 5, downstream



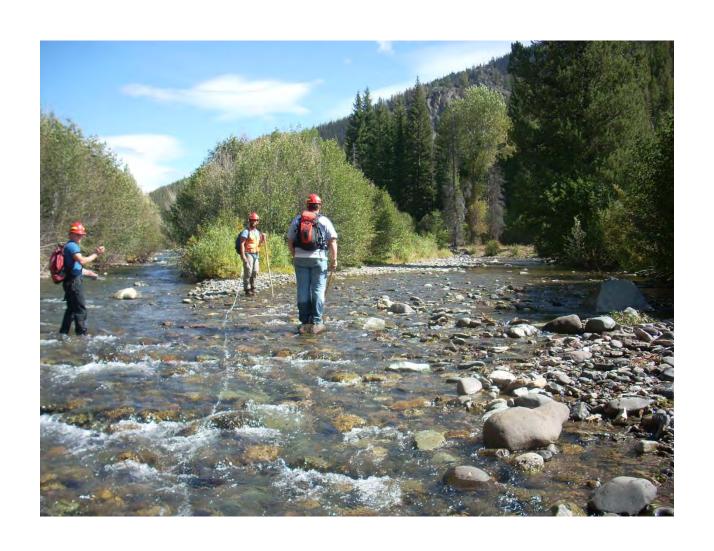
SO 193 – Tributary #12, right bank, end of reach 5



SO 194 – Start of reach 6



SO 195, 196



SO 212 – Tributary #13, right bank



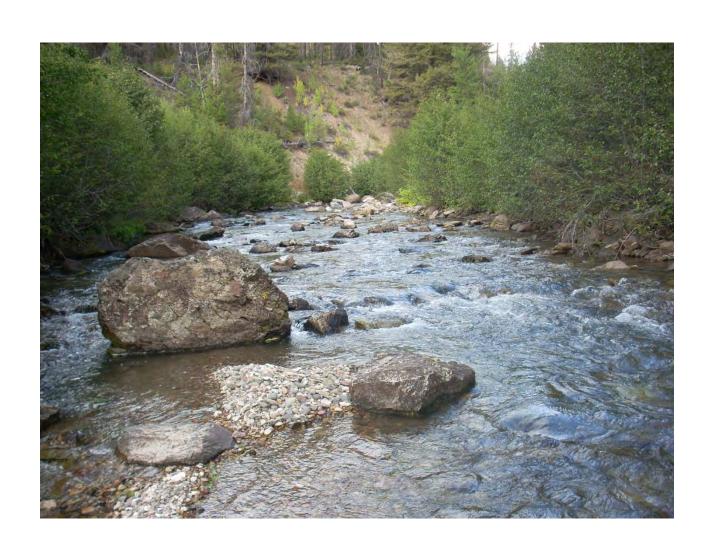
SO 223 – Tributary #15, left bank, Fourth of July Creek



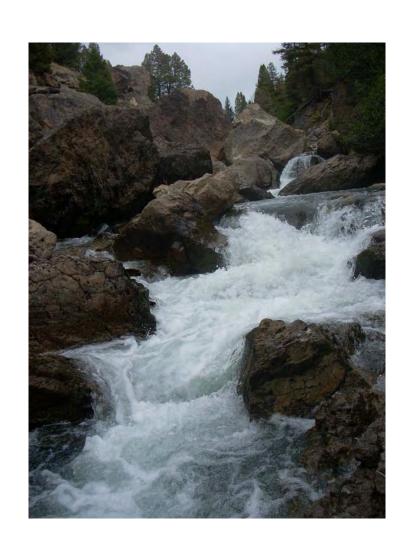
SO 250 – Dry tributary, left bank, end of reach 6



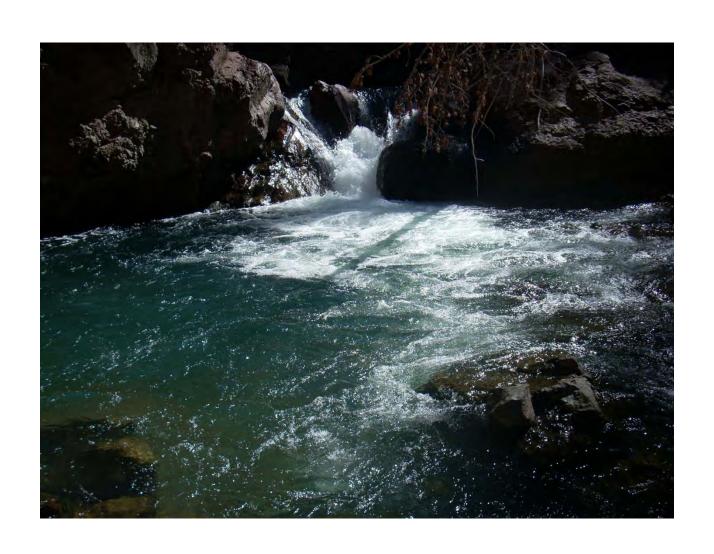
SO 251 – Start of reach 7



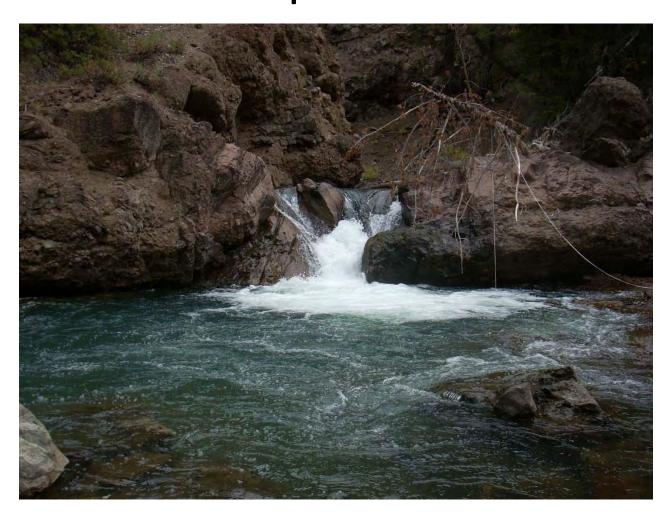
SO 274 – Cascade



SO 287 – 18' deep pool



SO 288 – Waterfall #2 plunges in to 18' pool



SO 295 - Pool



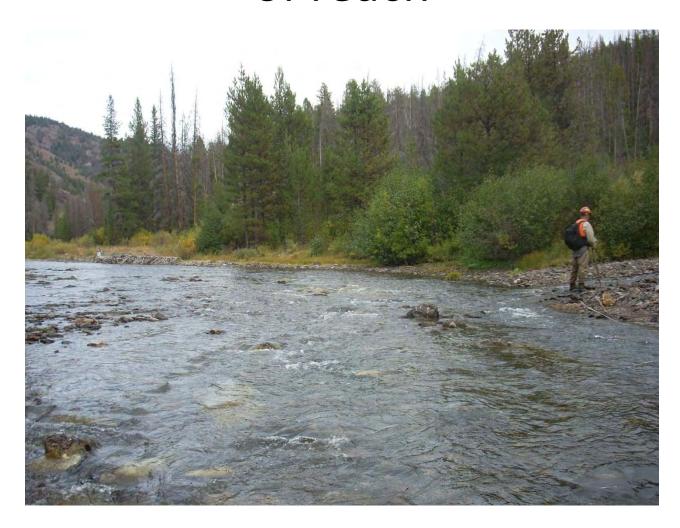
SO 296 – Cascade, view from above



SO 298 - Pool



SO 306, 307 – Tributary, left bank, end of reach



SO 308 – Start of reach 8



SO 319 – tributary #17, left bank



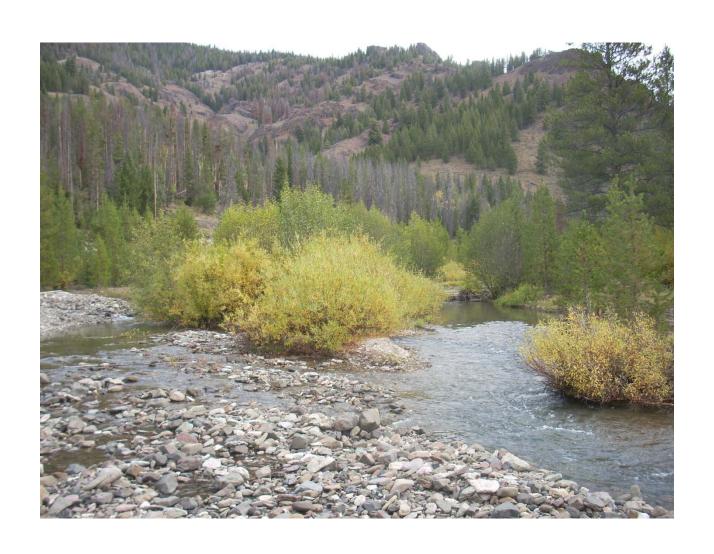
SO 355 – Greylock Creek washout



SO 357 – Greylock Creek washout and unstable banks (downstream)



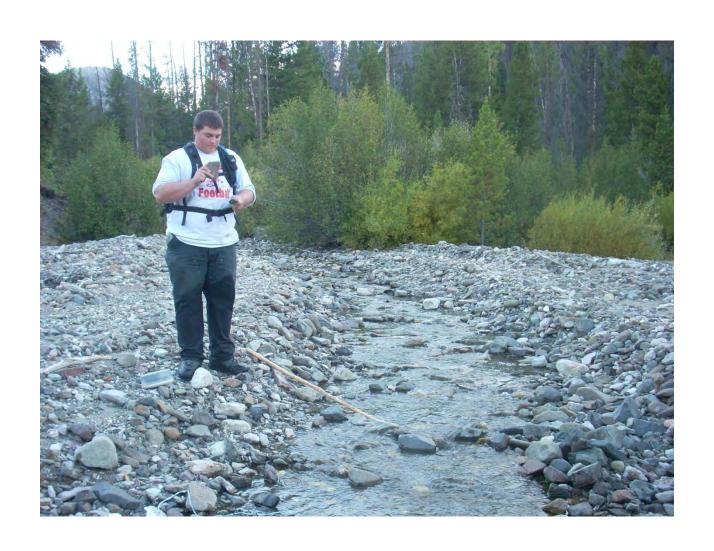
SO 357 - Braid #1



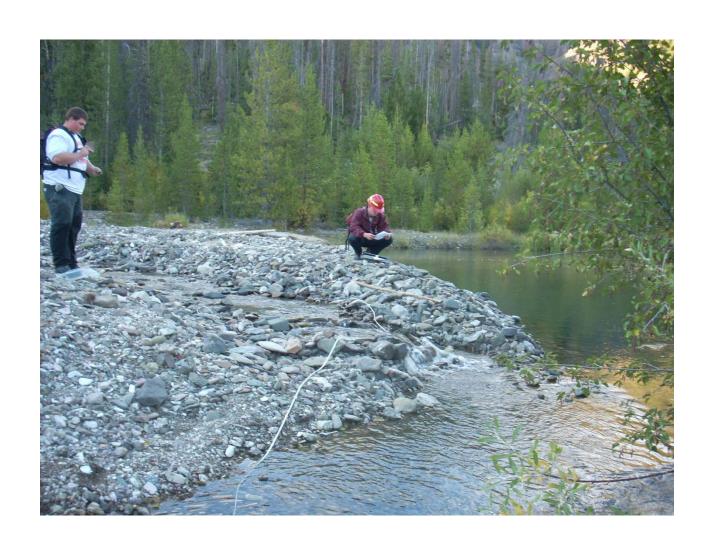
SO 357 – Greylock washout, downstream



SO 358 – Tributary #18, Greylock Creek



SO 358 – Tributary #18, Greylock Creek



SO 359, 360 – debris jam and washouts



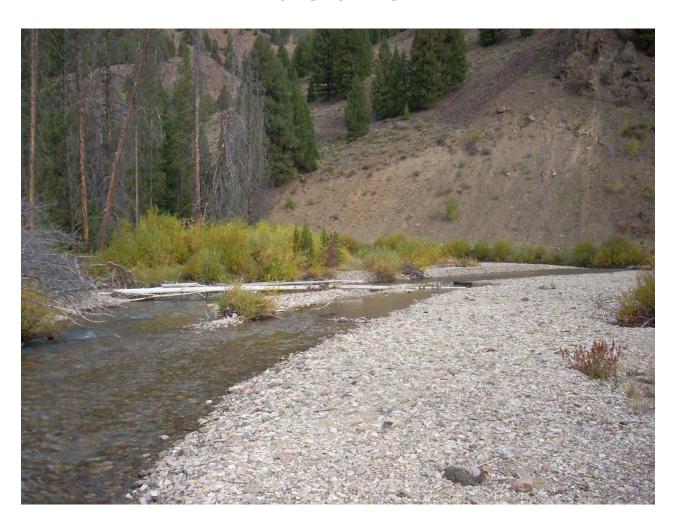
SO 366, 367 – Tributary #19, left bank, Sixmile Creek, end of reach 8



SO 368 – Start of reach 9



SO 370 – Washed out channel and debris



SO 370 – Debris jam



SO 371 – Backwater, left bank



SO 373 – Debris jam



SO 373 – Unstable banks and washout, right bank



SO 374 – Old river channel, left bank



SO 374 – Debris, downstream



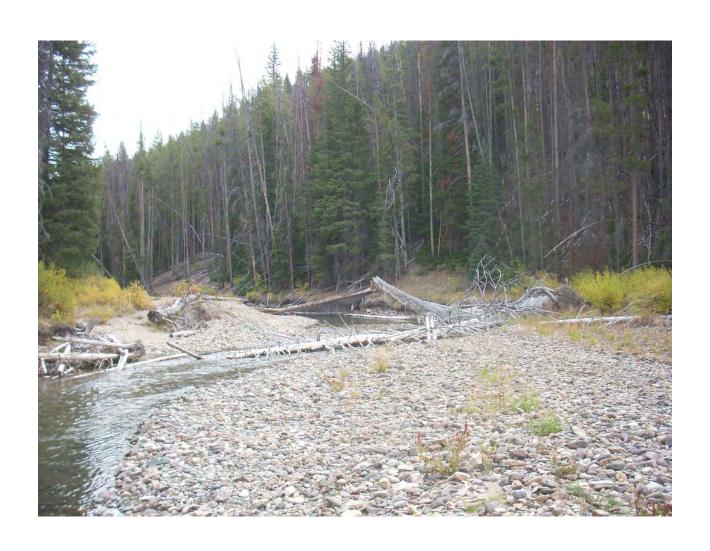
SO 374 – Unstable banks, left bank



SO 376 – Unstable, right bank



SO 378 – Debris jam and washout



SO 394 – Dry side channel, right bank



SO 403 – At exit of large dry side channel, right bank, would enter SO 395, (downstream)



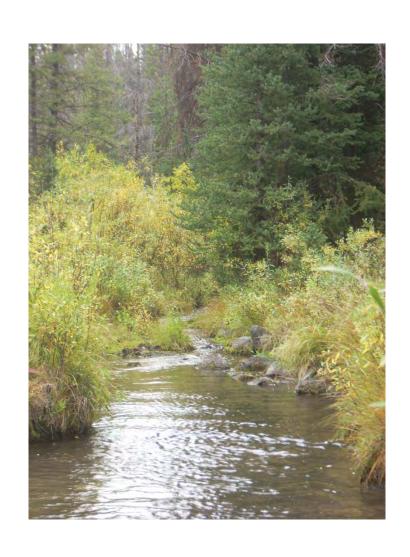
SO 403, 404, 405 – stream and side channel



SO 410 – Side channel with beaver activity



SO 424 – Tributary #20, left bank



SO 424 – Tributary #20, left bank



SO 437, 438 – Fast water and side channel



SO 438, 439 – Side channels



SO 442, 443 – Tributary #21, right bank, Eightmile Creek, end of reach 9



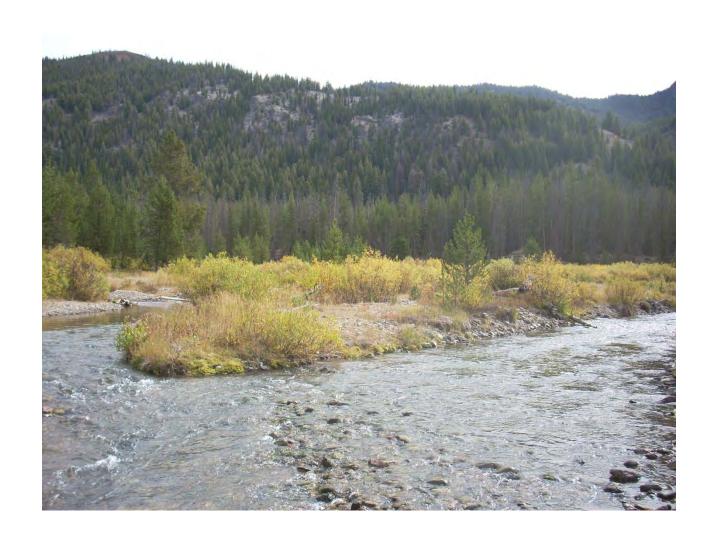
SO 443 – Tributary #21, right bank, Eightmile Creek



SO 444 – Start of reach 10



SO 452 - Braid #2



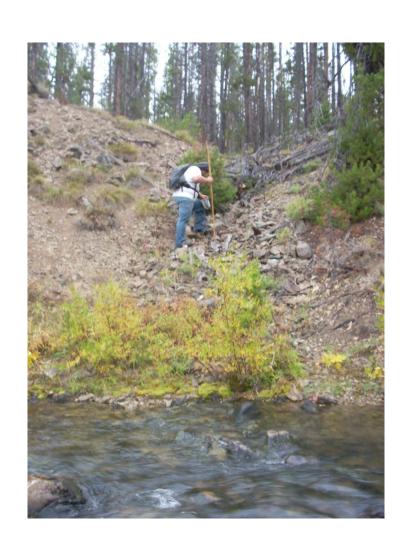
SO 454 – Tributary #22, left bank



SO 463 - Braid #3



SO 469 – Dry tributary, right bank



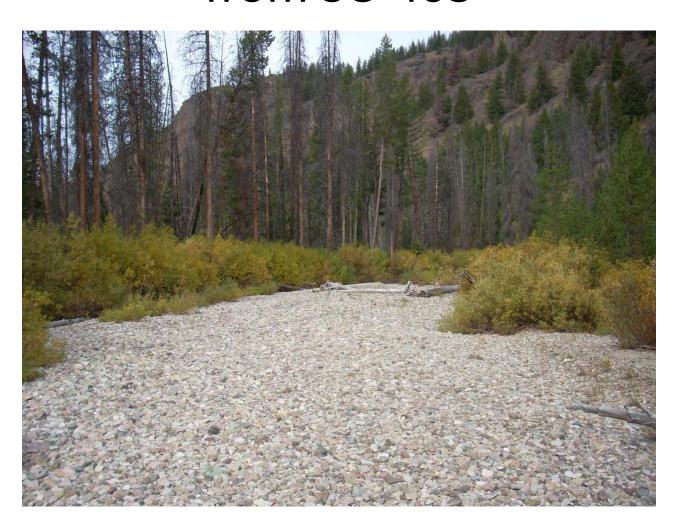
SO 469 – End of 10 and survey, downstream



SO 469 – End of reach 10 and survey, upstream



SO 403 – Dry side channel, would exit from SO 403



SO 395 – dry side channel



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_D. District Yankee Fonk A. State ID B. County Custle C. Forest Challis

E. Stream Name Yankee Fork

F. 4th HUC Code 47, 06, 02, 01 5th 05 6th 05/02/01

G. USGS Quad Sun Dean, Custer, Elevennile Cruek
* Indicates a Forest Option

Reach Number	SO From	SO To	Start Date	5 End Date	6 Protocol	7 Observer	8 Recorder	Elevation Min (ft)	Elevation Max (ft)
1	1	44	9/13/10	9/13/10	east side	C. Mello	a. Alynn	6102	6174
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
6	9	peremial	C	8773	316	metered	83.46	2.6	4.26
Mapped Valley Length	Mapped Channel Gradient	23 Mapped Sinuosity	25.*Inner	Riparian Z	one Width:			ange in flo	
(ft)	(%)	Value	26. Remar	ks: Reach	1 1 end	ent to bl	confelle	ence with	h
8539'	0.8%	1.03	Ranki	n creel	e from	the suig	ht-bank	ence wit	.0

Reach Number	SO From	3 SO To	Start Date	5 End Date	6 Protocol	7 Observer	8 Recorder	9 Elevation Min (ft)	Elevation Max (ft)
2	45	65	9/14/10	9/14/10	eastside	C. Mello	S. Liouto.	6174	6203
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
6	9	perennial	C	59981	507			4.26	5.21
21 Mapped Valley Length	Mapped Channel Gradient	23 Mapped Sinuosity	25.*Inner	Riparian Z	one Width:	butary.			
(ft)	(%)	Value	26. Remar	ks: Reac	h 2 end	d where	lexxes)	Ouckw	mild
5363'	0.6%	1.11.	enter	the more	le left l	bank	8	23-42 W	and a

A. State TO B. County Custle C. Forest Challes D. District Yankle Fork

E. Stream Name Yankee Fork

F. 4th HUC Code 7, 06, 02, 01 5th 05 6th 05/02/01

G. USGS Quad Sunblam, Custer, Elevennile Creek

* Indicates a Forest Option

Reach Number	SO From	SO To	Start Date	End Date	6 Protocol	7 Observer	8 Recorder	9 Elevation Min (ft)	Elevation Max (ft)
3	66	102	9/14/10	9/14/10	east side AI	C.mello	2.4ionto	6203	6253
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
6	9	perenial	C	7585	510	_	_	5.21	6.82
Mapped Valley Length	Mapped Channel Gradient	23 Mapped Sinuosity			Break: 大道	butary i	inters, ch	range in fl	000
(ft)	(%)	Value	26. Remar	ks: Reac	h 3 ent	t. to but	he conto	10000000	ì h
6652'	0.71.	1.14	west &	love yo	inkee 40	ic from &	he suight	unce we	

Reach Number	SO From	SO To	Start Date	End Date	6 Protocol	7 Observer	8 Recorder	Elevation Min (ft)	Elevation Max (ft)
4	103	143	9/15/10	9/15/10	eastside AT	C.mello	a. Alynn.		6368
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
5	9	perennial	C	11.935	457			6.82	9.08
Mapped Valley Length	Mapped Channel Gradient	23 Mapped Sinuosity	25.*Inner	Riparian Z	one Width:			inge in flow	
(ft)	(%)	Value	26. Remar	ks: Read	h 4 end	ent to a	confluen	ce with	Propodera
11,477	1.0%	1.04	Cruek-	from 44	e right	bank. The	dredged	ce with ailings of	sud just
			naviou	w.	SHE CHA	d mr	Leach & A	ne valley	floor

R6-2500/2600-21 Salmon-

Page: 3 of 5

_D. District Yanker Fork A. State ID B. County Custon C. Forest Challis

E. Stream Name Yankee Fork

F. 4th HUC Code 17, 06, 02, 01 5th 05 6th 05/02/01

G. USGS Quad Sun Glan, Custer, Elevennill Creek

* Indicates a Forest Option

Reach Number	SO From	SO To	Start Date	5 End Date	6 Protocol	7 Observer	8 Recorder	Elevation Min (ft)	10 Elevation Max (ft)
5	144	193	9/15/10	9/16/10	eastside	c. mello	a. Alynn		6493
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
5	9	perinnial	C	11,066	346	_	-	9.08	11.18
Mapped Valley Length	22 Mapped Channel Gradient	Mapped Sinuosity	25.*Inner	Riparian Z	one Width:	sutary en			
(ft)	(%)	Value	26. Remar	ks: Reac	h 5 end	& ushere.	larie +	gulch ent	001 10-
10,391	1.3%	1.06	give ont	nt bank	-		- Gr 3	ener Culd	and from

Reach Number	2 SO From	SO To	Start Date	5 End Date	6 Protocol	7 Observer	8 Recorder	9 Elevation Min (ft)	10 Elevation Max (ft)
6	194	250	9/17/10	9/17/10	easiside AT	C.mello	S. Fiardo.		6588
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
5	8	perenial	C	6793	293	_		11.18	12.47
Mapped Valley Length	Mapped Channel Gradient	23 Mapped Sinuosity	The second second					wat time	
(ft)	(%)	Value	26. Remar	ks: Reach	6 ends	at the	confluenc	e with a	small
			Anily. Lo	A	. h /	1	4 . 5- 1 -1-	yat the	Control of the Contro

R6-2500/2600-21

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_D. District Yankee fork _C. Forest <u>Challis</u>

A. State ID B. County Custer E. Stream Name Yankee Fork

F. 4th HUC Code 17, 06, 02, 01 5th 05 6th 05/02/01

G. USGS Quad Sunblam, Custer, Elevennile Cruek

* Indicates a Forest Option

Reach Number	SO From	SO To	Start Date	End Date	6 Protocol	7 Observer	8 Recorder	Elevation Min (ft)	Elevation Max (ft)
7	251	307	9/17/10	9/18/10	eastside AT	C. Mullo	S. Fiorito	6588	6706
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
5	5	peremial	B	3988	108'	-		12.47	13.23
Mapped Valley Length	Mapped Channel Gradient	23 Mapped Sinuosity						alley f	
(ft)	(%)	Value	26. Remar	ks: Reach	17 end	s at the c	onfluenc	e with .	Aire mile
3,969	2.9%	1.0	Creek.	k mory	the left	bank. Thi	somach h	ed a very	confined

Reach Number	SO From	SO To	Start Date	End Date	6 Protocol	7 Observer	8 Recorder	Elevation Min (ft)	Elevation Max (ft)
8	308	367	9/18/10	9/18/10	eastside	C. Mello	a. Alynn.	6706	6772
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
5	9	perennial	C	6,667	360'			13.23	14.49
21 Mapped Valley Length	Mapped Channel Gradient	Mapped Sinuosity	25.*Inner	Riparian Z	one Width:			ange in flow	S .
(ft)	(%)	Value	26. Remar	ks: Reach	8 ends	at the	onbluer	e with &	limile
6211	0.9%	1.07	Crue	from th	le left d	bank		- want 2	while

REACH FORM Page: 5 of 5
R6-2500/2600-21
SalmonC. Forest Challis D. District Yankle Fork A. State ID B. County Custer

E. Stream Name Yankee Fork

F. 4th HUC Code 7, 06, 02, 01 5th 05 6th 05/02/01

G. USGS Quad Sun Glam, Custer, Elevennile Creek
* Indicates a Forest Option

Reach Number	SO From	SO To	Start Date	5 End Date	6 Protocol	7 Observer	8 Recorder	9 Elevation Min (ft)	Elevation Max (ft)
9	368	443	9/19/10	9/19/10	east side	C. Mello	a. flynn	6772	6818
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
5	9	perennial	C	9731	417			14.49	16.29
Mapped Valley Length	Mapped Channel Gradient	23 Mapped Sinuosity			Break: Lu one Width:	e grabud	nters, cho	nge in flou	2
(ft)	(%)	Value	26. Remark	ks: Read	29 end	ent to b	confluer	rclwuth	Eightmile
7670	0.5%	1.23	auck.	from all	re suigh	t-bank	- gon		ag.min

1 Reach Number	SO From	SO To	Start Date	5 End Date	6 Protocol	7 Observer	8 Recorder	9 Elevation Min (ft)	10 Elevation Max (ft)
10	444	469	9/19/10	9/19/10	easts ide	C.mello	a. Alym.	6818	6863
11	12	13	14	15	16	17	18	19	20
*Stream Order	*Valley Type	*Flow Regime	Rosgen Class	Reach Length (ft)	Mapped Valley Width (ft)	*Discharge Type	Discharge (cfs)	Start Distance (RM From)	End Distance (RM To)
4	9	perennial	C	4,145	457'	_		16.29	17.08
21 Mapped Valley Length	Mapped Channel Gradient	Mapped Sinuosity	25.*Inner	Riparian 2	Zone Width:			punit bo	0
(ft)	(%)	Value	26. Remar	ks: Read	n 10 end	s out the c	confluence	with a to	ibutan
3,702'	1.37.	1.20	from H	vouight	bank th	at was obt	ly at the	with a to	servey.

Channel Unit Form - BOR Stream Survey

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Reach: 1/2 * MAINER CAN DY C. INECED

Page. 2 of 2

OBS: C. Melle State: I / 2
Stream Name: Yankee Fork Sampling Frequency: F / 7 s / 4 Contacts: REC: 6 4 Flynn OBS: C.

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Reach 1/2

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Hardwood: HA = alder, HC = cottonwood, HO = quaking sapen, HW = willow, HR = vocky mountain maple, HH = black hawdhorn, HS = sagebrush, HW = wild rose, HSB = service beary, HBB = hucklebeary, HM = mock curange, HCU = current, HX = other/unknown

Confer: CD = Dougha fit, CW = white fit, grand fit, CA = subalpine fit, CP = pondervan pine, CL = lodgepole pine, CJ = juniper, CWL = western larch, CX = other/unknown

Channel Unit Form - BOR Stream Survey

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Page:

OBS: C, Wy (1)

Contacts: REC. S. Fortito

_Survey Start Date: 1200 District Yankee Fork Forest: Challis County: CUSTER Steam Name: While forth State: IO

Reach: 213

Sampling Frequency: F_

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J. 50 50 s everal 001 2% Gad ext STORY S Comments: W114 42.23 50ft 30 50 440/9.39 W 114043.212 Caster Stram 861 4. b F.B Cath インジャ MAN WAY 0 7 JUNE 7ºC LESS 5/1 Cacatagal S J. 17.2 E Totaí Length 11.691 Undercut Banks Length Length Left Right 426 3h + hard Activity 7 O 1068.54 ohll 14° (43,0 741) Total Length Soft 50 000 50tH 50 Unstable Banks 100 The Length Length Left Right MINO43 F 58 Ç 315.MIM 1828 3 100 3 d 0 14,087 19.23 465/6/0hh N Woody Material 9hhN Num 19 1940197 å Length 200 B 6 296 200 ₩ W 797 Formed By Wet Width 5 R I O 0 8 Sį J 29 67 54 1240 W/14/ W/14/ 1/3, 159 RACK Back Pool Crest 2/10 1.33 ó 6,0 Channel Units Ø 3 Max Depth Avg Depth Ó ó S 0,2 2.0 or O, Channel Unit Type 02JV1 M F23 82 NJ WC19 757 F 30 記 હ 3

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OBS: Wall State: ID County: CUSTER Forest: Challis District Yankee Fork Survey Start Date: 9/13/2010
Stream Name: Yanku Lorits Sampling Frequency: F/7 S/2/2 ZTINE FS ALL F38 Reach: 2

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Channel Unit Codes: FT = fast turbulent, FN = fast non-furbulent, SS = scour (plunge) pool, SD = dam pool, SIDES = side channel slew, SIDER = side channel slew, SIDER = side channel fast, D = day channel.
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Special Casas: ARTIF = culvari or dam, WF = waterfall, CH = chure M = marshand
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Reach: 4

Channel Unit Form - BOR Stream Survey

Contacts: REC. Andrew Flynn OBS: Chris Mello _Survey Start Date: 9/13/10 State: ID County: CUSTER Forest: Challis District Yankee Fork

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Contier: CD = Douglas fir, CW = white fir, grand fir, CA = subalpine fir, CP = ponderess pine, CL = jumper, CWL = western largh, CX = other/unknown

Page: 7 of 2

State: ID County: Cuester Forest: Channel Unit Form - BOR Stream Survey Stream Name: Yawkee Fort

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Channel Unit Form - BOR Stream Survey

Reach: 5

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> Channel Unit Form - BOR Stream Survey Forest: Challis

_Survey Start Date: __

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District Yankee

County: CUSTER

State: IO

Reach: 5/6

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Mr WFIIS WA I PARKE

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Page: 10 of 21

Channe! Unit Form - BOR Stream Survey

Survey Start Date: 09/13/10

County: CUSTER Forest: Challis District Yankee Fork

Stream Name: Mankee Hank

Reach: 6 State: IO

MEVER LIFE FIZE

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OBS: C. MEJEO Contacts: REC: SFreeling

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Conifer: CD = Dougles fit, CW = white fit, grand fit, CA = sublapine fit, CP = ponderes pine, CL = lodgepole pine, CJ = western larch, CX = other/unknown

Page: 11 of 2

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Conifer: CD = Douglas fir, CW = white fir, grand fir, CA = subalpine fir, CP = ponderosa pine, CL = lodgepole pine, CJ = juniper, CM = western large, CX = other/unknown

Channel Unit Form - BOR Stream Survey

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Page: 13 of 21 Creeko 2 OBS: State: ID County: Custer Forest: Unallis Frequency: F 1/7 S 1/4 Contacts: REC: State Date: Util THE MAN BEN THE Reach: 7

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District Vankee Fork Survey Start Date: 9/13/10 S Y Contacts: REC: S. F. Wen A. F. OBS: C Mello	Woody Material Unstable Banks Tinderent Banks	Length Length Total Len	Right Length Left Right Length	N 71 C1.20 + W 114" 34 467 Dec 120") St. ort.	- Chick	2x-40) WINO 57.463	ı		1		39.7 LEGH 1 M	ENTOS COT 496 (1/5) 1/264 (1/11/10/11)		100 1 100 1	7. T. T.	1 2 Chill & MIN 20 1 20 1 20 1 20		The street of th	7690	7 308 30 MINO 30 30 30 30 30 30 30 30 30 30 30 30 30		ŀ		121
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Chennel Unit Codes: RI = fart turbulent, RN = isst non-turbulent, SS = scour (plange) pool, SD = dam pool, SIDES = side channel slow, SIDEF = side channel fisst, D = day channel Special Cases. ARTHE = cubest or dam, WF = waterfall, CH = channel mental and Re = beaver, WD = wood, BR = bedrook, BO = boulder, SB = stream board, TR = rubutary, CU = culvert, DA = dam, RS = restoration, OT = other

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Hardwood: HA = aldet, HC = outconvood, HQ = quaking super, HW = willow, HR = rooky mountain maple, HH = black hawfton, HS = supervise, HW = wild tone, HB = buckleberry, HM = mook orange, HCU = outconvon

Confer: CD = Doughas fit, CW = white fit, grand fit, CA = subapine fit, CP = ponderons pine, CL = lodgepole pine, CJ = jumper, CWL = western lards, CX = other/unknown

Reach: 8

Survey Start Date: 4. Flynn 14 F 17 Channel Unit Form - BOR Stream Survey Contacts: REC:_ State: ID County: Cuester Forest: Challis District Yankee Fork

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N HARA SAZ, FS

State: ID County: Custer Forest: Channel Unit Form - BOR Stream Survey

Stream Name: Yawkae Fork Sampling Frequency: F / 2 S / 4 Contacts: REC: A. F.D. ...

Channel Units

Channel Units

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ME185 (NF192) Page 17 of 11	DR Stroam Curion	nei Unit Form — BOR Stream Simien	Channe	Keach: 07
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Channel Unit Form - BOR Stream Survey 481877

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Havinvost. HA = alder, HC = cottonwood, HQ = quaking aspen, HW = willow, HR = rooky mountain maple, HH = black lawthon, HS = sagebursh, HW = wild ruse, HSB = service beny, HHB = hucklebeny, HM = mook orning, HCU = current, HX = otherwinknown
Conifor: CD = Douglas fit, CW = white fit, grand fit, CA = subalpine fit, CP = pondarosa pine, CL = lodgepole pine, CM = western large, CX = otherwinknown

0 Mr 37.181 + 130 See specia 45 Learn W4422, 464 1 14.36 N 440 25,7597 I (028,980) I Chois Mello Comments: THE SECTION N upstram Con back Ot 36.904 Survey Start Date: 9/13 /10 Picture Total Length 50 1440 2 5,66 7 W140 77 1000 E 1111 Undercut Banks 8715W 111 2 MC 1-17 0102/11/6 77 30 CD16.98 なり Length Right 0 Contacts: REC: A. Flunn S 18 7.64 Length Left W 1110 36.99 co Co 239 Channel Unit Form - BOR Stream Survey のなった はいまれていたが 6 Kr 11 5 Length Total 1140 37, 167) Charles Henry N 44625,8991 N Unstable Banks COMMOSTREAMY NATION \$ = | | | | | Length Length Left Right 80 26,032 MUK 36,809 Cuters solt 464 Diannel Unit Codes: FT = fast tarbulent, FN = fast nor-turbulent, SS = secour (plungs) pool, SD = dam pool, SIDES = side channel slow, SIDER = side channel fast, D = day channel Special Casesr ARTIF = culvert or dam, WF = waterfall, CH = clurte M = marshland
Formed Bjr. BV = benver, WD = wood, BR = bedvock, BO = boulder, SB = stream bend, TR = tributary, CU = culvert, DA = dam, RS = restoution, OT = other -District Yankee Fork 8hh # 05 2 30 #100 N 44 0 25,882 Temo 6,5 ンカノクなが Woody Material en reve arkers Great 120% 1124 00/ 955 OFT N Length 500 25 90/ 44 Sampling Frequency: F_ A 60 Forest: Challis 100 00/ 75 140 27 100 Formed By Wet Width 77 6,0 9 5 Ď Ė Pool Crest Depth tubi ó Ó 26 0 Channel Units ιţ atlars Yanker Fork County: CUSTER Max Depth Avg Depth Ó 12 ó 20 2,2 3,0 3,0 Ø SUNEL Q Channel Unit Type F 220 7118 MS [7] MF220 2F1SM Stream Name: Reads: 10 State: TO 1.40 * offer 151 200 60

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Confer: CD = Douglas fin, CW = wilder fin, grand fin, CA = subalpine fin, CP = pondences pine, CM = western largh, GX = other/unknown

So # US 2

W W 36,980

WORD SO PONDENCE

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Reach	Sequence		Type of	Lengill of	Diameter		Jumping					
**	Order#	Unit Type	Structure	orfucture or	or Width	%	Dietane	obin Peol	Height	Baffles	Migration	
_		and No.*	(culverts)**	Channel	9	Gradient	Cra	nepth the) E	Present	Barrier	Remarks
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		Chamiel Onit Jype = ARTIF (Culvert, Dam), WF (waterfall), CH (Chute), ND (Marshlande)	ulyert, Dam), W	F (waterfall), CH ((Chute), ND (A	Marshlande			_			
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** Type of Structure (for culverts only). This data entered into Remarks area in Al only

	Ellintical (Et.)	
	Ореп Вох (ОВ)	
nea iii Ai only	Open Arch (OA)	(
III A OU	Arch (AR)	
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Daniel William	(AX) adız nımay	0

HUC: 170 Site: Yank Date: 09/1 Time:	ankee Fork 602010505/ ee Fork bel 3/2010 mperature:					Wetted Wid Mean Depth Maximum D	n (ft) Pepth (ft) Onal Area (ft2) ity (ft/s)	62.00 0.88 1.50 56.45 1.31 83.46
Sections	Distance from inititial point (ft)	Width (ft)	Depth (ft)	Area (ft²)	Velocity (ft/sec)	Discharge (cfs)	Discharge (%)	Notes
1	0.0	1.0	0.05	0.05	0.00	0.00	0%	RWE
2	2.0	2.0	0.00	0.00	0.00	0.00	0%	
3	4.0	2.0	0.10	0.20	0.70	0.14	0%	
4	6.0	2.0	0.50	1.00	0.66	0.66	1%	
5	8.0	2.0	0.40	0.80	2.34	1.87	2%	
6 7	10.0	2.0	1.30	2.60	2.36	6.14	7%	
	12.0	2.0	1.20	2.40	2.29	5.50	7%	
8	14.0	2.0	1.20	2.40	1.67	4.01	5%	
9	16.0	2.0	1.20	2.40	1.00	2.40	3%	
10	18.0	2.0	0.90	1.80	0.41	0.74	1%	
11	20.0	2.0	1.10	2.20	1.40	3.08	4%	
12	22.0	2.0	0.80	1.60	3.78	6.05	7%	
13	24.0	2.0	0.40	0.80	2.48	1.98	2%	
14	26.0	2.0	1.00	2.00	0.73	1.46	2%	
15	28.0	2.0	1.00	2.00	1.48	2.96	4%	
16	30.0	2.0	1.30	2.60	2.07	5.38	6%	
17	32.0	2.0	1.10	2.20	1.44	3.17	4%	
18	34.0	2.0	0.80	1.60	1.14	1.82	2%	
19	36.0	2.0	0.90	1.80	2.22	4.00	5%	
20	38.0	2.0	1.10	2.20	2.02	4.44	5%	
21	40.0	2.0	1.30	2.60	2.02	5.25	6%	
22	42.0	2.0	1.20	2.40	1.45	3.48	4%	
23	44.0	2.0	0.70	1.40	1.07	1.50	2%	
24	46.0	2.0	1.10	2.20	0.14	0.31	0%	
25	48.0	2.0	1.10	2.20	1.50	3.30	4%	
26	50.0	2.0	1.00	2.00	1.87	3.74	4%	
27	52.0	2.0	1.20	2.40	1.70	4.08	5%	
28	54.0	2.0	1.40	2.80	0.20	0.56	1%	
29	56.0	2.0	1.50	3.00	1.75	5.25	6%	
30 31	58.0	2.0	1.40	2.80	0.07	0.20	0%	
32	60.0	2.0	0.00	0.00	0.00	0.00	0%	
32	62.0	1.0	0.00	0.00	0.00	0.00	0%	LWE

	#
DISCHARGE	FORM
R6-2500/26	00-31

Page:	of
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A.	State ID B. County Custon. C. Forest Challing D. District United State
E.	Stream Name YANKEE FORK
F.	4th HUC Code 17, 06,02,01 5th 05 6th 05/02
G.	USGS Quad Suntram, Custon, Elevermile Creek
H.	Survey Date 09/13/2010 I. Survey Time:
	MM / DD / YYYY
J. Obse	rver/Recorder

K. Meter Type Marin McRenack

31

60

Distance from initial point (ft)	Width (ft)	Depth (ft)	Observation Depth (ft)	Revolu-	Time in Seconds	Velocity at point (ft/sec)	Velocity Mean in Vertical (ft/sec)	Area (ft²)	Discharg (cfs)
0 .		-05				٥.		(1.7)	(613)
		0				٥.	-		 -
4		. 1				.76	· · · · · · · · · · · · · · · · · · ·		
6		-5				. 66		·	
8		e4				2.34			
j@		1,3			-	2,36			
12		1.2				2,29	-		
14	•	1.2				4,67			
16	·	1.2				100			
18		. 9				.411			
20		1.1				1.40	•	· 	
22		-8		-		3,78			·
24		.4				2.48			
26					· · · · · · · · · · · · · · · · · · ·	73			
28						1,48			
30		1.3			· · · · · · · · · · · · · · · · · · ·	2.07	······································		
32		14				144			
34		-8				1.14		······································	
36		,9				2.22			
38		生儿			•	2.02			
40		1.3				2.02			
42		1.2				1.45			
44		,7				1.07		· · · · · · · · · · · · · · · · · · ·	
46		1.1				.14			·
48		1.(1,5	-		·
50						1.87			
52		1.2				1.7			
54		1.4				Jo			
56		1.5				175		<u>-</u>	
58		1.4				,07			
ersion 2.5	(70
60		'			1	~ /			

	WOLMAN FORM R6-2500/2600-32 Salmon -challis
A.	State ID B. County Custer C. Forest D. District Tonkee Fork
E.	Stream Name Yanker Fork
F.	4th HUC Code 17, 06, 02, 01 5th 056th 05/00
G.	USGS Quad Sunteam, custer elevenmile creek
H.	Survey Date 9 / 13 / 20/s
	MM / DD / VVVV

SO #: \{	Ŝ.	Channel	Unit# 🗲	·ිත	# of Tra	of Transects:						
Surveyor:	C. mello			- 1	Reach:	leach: 1						
Inches	PARTICLE	Millimeters	Part		cle Count	Total #	Item %	% Cum				
<.08	Sand	< 2	S/C/S	mim	inu.	15	13.636					
.0816	Very Fine	2 -4			<u> </u>							
.1622	Fine	4 -5.7] G					- <u> </u>				
.2231	Fine	5.7 - 8	R									
.3144	Medium	8 -11.3] A									
.4463	Medium	11.3 - 16	l v									
.6389	Coarse	16 -22.6	E	חוואנו		7	6.364	v				
.89 - 1.26	Coarse	22.6 - 32	L	HIM	MII	16	14,545					
1.26 - 1.77	Vry Coarse	32 - 45	S	WIN MIN		20	18.182					
1.77 -2.5	Vry Coarse	45 - 64		MM		15	13.636	• • • • • • • • • • • • • • • • • • • •				
2.5 - 3.5	Small	64 - 90	С	THU IN		15	13.636	·				
3.5 - 5.0	Small	90 - 128	0	1	HLI (II)	18	16.364					
5.0 - 7.1	Large	128 - 180	В	141(1183 121	Ч	3,636					
7.1 - 10.1	Large	180 - 256	В			t-	2,020					
10.1 - 14.3	Small	256 - 362	В									
14.3 - 20	Small	362 - 512	L									
20 - 40	Medium	512 - 1024	D			•						
40 - 80	Large	1024 -2048	R	-								
80 - 160	Vгу Large	2048 -4096	S					······				
	Bedrock		BDRK					·				
				То	tals:	110						
	Total Tally			Total Tally:								

N 44° 19.563 W 114° 42.116

	WOLMAN FORM Page: 2 of 20 R6-2500/2600-32 Challis
A.	State ID B. County Custer C. Forest D. District Yarkee For
E.	Stream Name Yankee Fork
F.	4th HUC Code 17, 06, 02, 01 5th 05 6th 05/02
G.	USGS Quad <u>Sunbeam</u> , custer elevenmile creek
H.	Survey Date 9 / 13 / 20/0
	MM / DD / YYYY

PEBBL	E COUN	ſ						··	
SO #:	37	Channel	Unit#F	Unit # FK # of Transec			ts: /		
Surveyor: A Flynn					Reach:	<u> </u>			
Inches	PARTICLE	Millimeters		Parti	cle Count	Total #	Item %	% Cum	
<.08	Sand	< 2	S/C/S	Itt		3	2.381		
.0816	Very Fine	2 -4				7			
.1622	Fine	4 -5.7] G						
.2231	Fine	5.7 - 8	R						
.3144	Medium	8 -11.3	A			·			
.4463	Medium	11.3 - 16	V						
.6389	Coarse	16 -22.6	E	111		3	2,381		
.89 - 1.26	Coarse	22.6 - 32	L	MIL	##	0	7.937		
1.26 - 1.77	Vry Coarse	32 - 45	S	HIL		12	9.524		
1.77 -2.5	Vry Coarse	45 - 64		TH TH	HAMAH	202	17.460		
2,5 - 3.5	Small	64 - 90	С	MM	1111	14	11.111		
3.5 - 5.0	Small	90 - 128	0		144744	22	17,460		
5.0 - 7.1	Large	128 - 180	В		III MITT	19	15.079		
7.1 - 10.1	Large	180 - 256	В	HHH		11	8,730		
10.1 - 14.3	Small	256 - 362	В	MIM		10	7.937		
14.3 - 20	Small	362 - 512	l L						
20 - 40	Medium	512 - 1024	D			•			
40 - 80	Large	1024 -2048	R						
80 - 160	Vry Large	2048 -4096	S			,			
	Bedrock		BDRK						
				To	tals:	126			
	Total Tally	<i>i</i> :					· · · · · · · · · · · · · · · · · · ·		
		(#					······································		

N 44° 16.809' W 114° 43.072'

	WOLMAN FORM Page: 3 of 20 R6-2500/2600-32 Salmon-challis
A.	State TD B. County Custer C. Forest D. District Yankee F.
E.	Stream Name Yankee Fork
F.	4th HUC Code 17, 06, 02, 0/ 5th 05 6th 05/02
G.	USGS Quad sunbean, custer, eleven mile creek
Н.	Survey Date 09 / 14 / 2010
	MM / DD / YYYY

	E COUN'		77 ' 11 ' '		T a=				
so#: <i>5</i> 0		Channel	Unit # /						
Surveyor:	Sam Fi	orito	- 	-,	Reach:	Reach: 2			
Inches	PARTICLE	Millimeters		Parti	cle Count	Total #	Item %	% Cum	
<.08	, Sand	< 2	S/C/S	1611		6	3.03		
.0816	Very Fine	2 -4							
.1622	Fine	4 -5.7] G						
.2231	Fine	5.7 - 8	R					<u> </u>	
.3144	Medium	8 -11.3	Α	11		2	1.01		
.4463	Medium	11.3 - 16	v	UT!		6	3,03		
.6389	Coarse	16 -22.6	E	WIU	41	11	5.556		
.89 - 1.26	Coarse	22.6 - 32] L	HICH	47/11	13	6.566		
1.26 - 1.77	Vry Coarse	32 - 45	S	Mith	M HMI	16	8.081	· · · · ·	
1.77 -2.5	Vry Coarse	45 - 64] .	HI LL	HHALLH	20	10.701	·	
2.5 - 3.5	Small	64 - 90	С	UT H	n un un	141/2/	13.131		
3.5 - 5.0	Small	90 - 128	0	41 4	A BH LH	1 21	10.606	-	
5.0 - 7.1	Large	128 - 180	В	4h IL	MHILLIM	14/1/27	13.636		
7.1 - 10.1	Large	180 - 256	В	411 4	KT 141 UM	H MIII	16.162		
10.1 - 14.3	Small	256 - 362	В	WIL	41 44.111	18	9.091		
14.3 - 20	Small	362 - 512	L		<u>``</u>		, <u> </u>		
20 - 40	Medium	512 - 1024	D					· · · · · ·	
40 - 80	Large	1024 -2048	R						
80 - 160	Vгу Large	2048 -4096	s					·	
	Bedrock		BDRK					-	
				To	tals:	198			
	Total Tally	1: 198	- 7	215	944	effic	rent!		

	WOLMAN FORM R6-2500/2600-32 Sa/mon-challis
A.	State ID B. County Custer C. Forest D. District Yankee Fork
E.	Stream Name Yankee Fork
F.	4th HUC Code 17, 06, 02, 01 5th 05 6th 05/62
G.	USGS Quad Sunbeam, Custer elovenmile Creek
Н.	Survey Date 09/ 14/2010
	MM/ DD / YYYY

PEBBL	E COUNT	Γ						
SO #:	55	Channel	29	# of Transects: //				
Surveyor:	C. Mello				Reach:	2		
Inches	PARTICLE	Millimeters		Partic	le Count	Total #	Item %	% Cum
<.08	Sand	< 2	S/C/S	4114	HIHI	16	14, 286	
.0816	Very Fine	2 -4						
.1622	Fine	4 -5.7	G	1		1	0.893	
.2231	Fine	5.7 - 8	R		·····	·		
.3144	Medium	8 -11.3	A					
.4463	Medium	11.3 - 16] v	11/		3	2.679	
.6389	Coarse	16 -22.6	E	1/11		4	3.571	
.89 - 1.26	Coarse	22.6 - 32	L	[1]		4	3.571	
1.26 - 1.77	Vry Coarse	32 - 45	S	MIII	1	9	8,0%	
1.77 -2.5	Vry Coarse	45 - 64		HALL	1//	14	12.5	
2.5 - 3.5	Small	64 - 90	C	W///		9	8,036	
3.5 - 5.0	Small	90 - 128	0	MM	147 LHT	20	17.857	
5.0 - 7.1	Large	128 - 180	В			12	10.714	
7.1 - 10.1	Large	180 - 256	В	411 41		8	7.143	
10.1 - 14.3	Small	256 - 362	В	41111		9	8.036	
14.3 - 20	Small	362 - 512	L	/1/		3	2,679	
20 - 40	Medium	512 - 1024	D			<u>*</u> ,		
40 - 80	Large	1024 -2048	R					
80 - 160	Vry Large	2048 -4096	S			· ·		
	Bedrock		BDRK					
				То	tals:	+++		
	Total Tally	: 11/				112		

N 44° 19.436 W 114° 43,231

	WOLMAN FORM Page: <u>\$\sigma\$</u> of		
A.	State ID B. County Custer C. Forest Challis D. District	<u>, Q</u>	Fock
E.	. Stream Name Yorker Fork		
F.	. 4th HUC Code 17, 06, 02, 01 5th 05 6th 05/62		
G.	. USGS Quad Sunbeam, Custer, elevenmile creek		
Η.	. Survey Date <u>09 / 14 / 202</u> 0		
	MM / DD / YYYY		

PEBBL	E COUNT	Γ							
SO #: 70 Channel			Unit # F39 # of			Transects:			
Surveyor:	4 Flynn				Reach:				
Inches	PARTICLE	Millimeters		Parti	cle Count	Total #	Item %	% Cum	
< .08	Sand	< 2	S/C/S	ווגאוו		9	8.411		
.0816	Very Fine	2 -4		la .	···	2	1.869		
.1622	Fine	4 -5.7] G				<u> </u>		
.2231	Fine	5.78	R	1		1	0.935		
.3144	Medium	8 -11.3] A	1		I	0.935		
.4463	Medium	11.3 - 16] v	1		1	0.935		
.6389	Coarse	16 -22.6	E	11111		7	6,542		
.89 - 1.26	Coarse	22.6 - 32	L	M IN	H HH	13	12.149		
1.26 - 1.77	Vry Coarse	32 - 45	S	THI	-	9	8.411	 	
1.77 -2.5	Vry Coarse	45 - 64		MT IN		15	14,019		
2.5 - 3.5	Small	64 - 90	С	шт		13	12.149		
3.5 - 5.0	Small	90 - 128	0	mill	i	8	7.477		
5.0 - 7.1	Large	128 - 180	В	H H		10	9.346		
7.1 - 10.1	Large	180 - 256	В	THI		5	4.673		
10.1 - 14.3	Small	256 - 362	В	M		5	4.673		
14.3 - 20	Small	362 - 512	L	1741		5	4.673	4.	
20 - 40	Medium	512 - 1024	D	(i)		3	2.804		
40 - 80	Large	1024 -2048	R			· · · · · ·			
80 - 160	Vry Large	2048 -4096	S						
	Bedrock		BDRK						
				To	tals:	107			
	Total Tally	:		-	·		- ·-··		

N 44° Z0,028 W 114° 43.341

	WOLMAN FORM Page: 6 of 20 R6-2500/2600-32
A.	State ID B. County Custer C. Forest D. District Yanker Fort
E.	Stream Name Yankee Fork Salman River
F.	4th HUC Code 17, 06, 02, 015th 05 6th 05/62
G.	USGS Quad Sunbeam, Custer, elevenmile creek
H.	Survey Date 69 / 13 / 2010
	MM / DD / YYYY

PEBBL	E COUNT	Γ				<u> </u>		<u> </u>	
SO #:	84	Channel	Unit# F	46	# of Transects:				
Surveyor:	5. 57	orito			Reach:	3	 -		
Inches	PARTICLE	Millimeters		Parti	cle Count	Total #	Item %	% Cum	
<.08	Sand	< 2	S/C/S		411	12	9.756		
.0816	Very Fine	2 -4			· · · · · · · · · · · · · · · · · · ·			<u> </u>	
.1622	Fine	4 -5.7	G		· · · · · · · · · · · · · · · · · · ·			†	
.2231	Fine	5.7 - 8	R						
.3144	Medium	8 -11.3	A	///		3	2.439		
.4463	Medium	11.3 - 16	V	Щ		5	4.065	-	
.6389	Coarse	16 -22.6	E	411	1	9	7.317		
.89 - 1.26	Coarse	22.6 - 32] L	W	PHIM	19	15.447	1	
1.26 - 1.77	Vry Coarse	32 - 45	S	WH	1441111	19	15.447	· · ·	
1.77 -2.5	Vry Coarse	45 - 64	<u> </u>	411	411	12	9,796	···	
2.5 - 3.5	Small	64 - 90	С	4	H = 1	9	7.317		
3.5 - 5.0	Small	90 - 128	0	Ur III	7	10	8,130		
5.0 - 7.1	Large	128 - 180] B	411 1	11	3	6,504		
7.1 - 10.1	Large	180 - 256	В.	HT4H	Î)	12	9,756		
10.1 - 14.3	Small	256 - 362	В	111		3	2.439	<u> </u>	
14.3 - 20	Small	362 - 512	L	11	·	2	1,626		
20 - 40	Medium	512 - 1024	D	10 V =					
40 - 80	Large	1024 -2048	R						
80 - 160	Vry Large	2048 -4096	S						
	Bedrock		BDRK					-	
				To	tals:	135			
	Total Tally	' :			.	123			
		05.1		· ·			- 		

N 44° 20.5951 W 114° 43.4961

		C 0500 0500 00	7 of 20
A.	State 1D B. County Custo	5a mon-challis C. ForestD. District	, Yankee For
E.	Stream Name Yanker Fo	rk	
F.	4th HUC Code 17, 06, 02, 01 5th	05 6th 05/02	
G.	usgs Quad <u>Sunbeam</u>	, custer, elevenmile	creek
H.	Survey Date 69 / 13 / 2010	,	
	MM / DD / YYYY	•	

PEBBL	E COUNT	Γ						
SO #:	126	Channel	Unit# {	-71	# of Tra	nsects: //	<u> </u>	
Surveyor:	A. Flyi	ባሳ			Reach:	4		
Inches	PARTICLE	Millimeters		Partic	le Count	Total #	Item %	% Cum
<.08	Sand	< 2	S/C/S	July J	H	10	10%	
.0816	Very Fine	2 -4						
.1622	Fine	4 -5.7	G			-		· · · · · · · · · · · · · · · · · · ·
.2231	Fine	5.7 - 8	R	1//		3	31	
.3144	Medium	8 -11.3] A -	HH-1		6	61	
.4463	Medium	11.3 - 16	V	III		5	5 %	
.6389	Coarse	16 -22.6	Е	11)		3	37	
.89 - 1.26	Coarse	22.6 - 32	L	141	11	8	81.	
1.26 - 1.77	Vry Coarse	32 - 45	S	144		5	51	
1.77 -2.5	Vry Coarse	45 - 64		14/4	#11	12	12%	
2.5 - 3.5	Small	64 - 90	С	111	1)	8	8%	
3.5 - 5.0	Small	90 - 128	0.	HITI	411	1.5	12./	
5.0 - 7.1	Large	128 - 180	В	417.4	41	11	11.7.	
7.1 - 10.1	Large	180 - 256	В	UK!		6	61	
10.1 - 14.3	Small	256 - 362	В	11		2	21.	
14.3 - 20	Small	362 - 512	L	441		7	71.	
20 - 40	Medium	512 - 1024	D	1/		2	21	
40 - 80	Large	1024 -2048	R					
80 - 160	Vry Large	2048 -4096	S					
	Bedrock		BDRK					
				То	tals:	100		
	Total Tally	/;			•		· ,,,	
	· · · · · · · · · · · · · · · · · · ·	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	21	crit				

W 114° 21.871

٨	WOLMAN FORM R6-2500/2600-32 Salmon-challis State DD B. County Custer C. Forest D. District Yankee For
	D. District
E.	Stream Name Yankee Fork
F.	4th HUC Code 17, 06,02, 01 5th 05 6th 05/02
G.	USGS Quad Sunteam, custer, elevennile creek
H.	Survey Date <u>69/ /3 / 20/</u> 0
	MM / DD / YYYY

PEBBL	E COUNT	[
SO#: 139 Channel			Unit # F80 # of Tra			nsects:	· · · · · · · · · · · · · · · · · · ·	·
Surveyor:					Reach:	4		
Inches	PARTICLE	Millimeters		Parti	cle Count	Total #	Item %	% Cum
<.08	. Sand	< 2	S/C/S	WILL		7	6.422	
.0816	Very Fine	2 -4				ļ	0.917	
.1622	Fine	4 -5.7	G					
.2231	Fine	5.7 - 8	R					
.3144	Medium	8 -11.3	A					
.4463	Medium	11.3 - 16	V	THT.		5	4.587	
.6389	Coarse	16 -22.6	E	MI		6	5.505	
.89 - 1.26	Coarse	22.6 - 32	Ŀ	mil		7	6.422	
1.26 - 1.77	Vry Coarse	32 - 45	S	MIM	11		10.092	
1.77 -2.5	Vry Coarse	45 - 64		1241		6	5,505	
2.5 - 3.5	Small	64 - 90	C	MM	1	11	10,092	
3.5 - 5.0	Small	90 - 128	0	нин		12	11,009	
5.0 - 7.1	Large	128 - 180	В	HHH	THE LITE	18	16.514	
7.1 - 10.1	Large	180 - 256	В	MIN		12	11,009	
10.1 - 14.3	Small	256 - 362	В	MIM	41 1/1	13	11.927	
14.3 - 20	Small	362 - 512] L					
20 - 40	Medium	512 - 1024	D					
40 - 80	Large	1024 -2048	R					
80 - 160	Vry Large	2048 -4096	S					
	Bedrock		BDRK					
				To	otals:	109		
	Total Tally	/ <u>:</u>						

N 44°22,523 W 114°43,340

	WOLMAN FORM Page: 9 of 20 R6-2500/2600-32
A.	State FD B. County Custer C. Forest Challis D. District Yankee Fork
	Stream Name Yankee Fork
F.	4th HUC Code 17, 06, 02, 01 5th 05 6th 05/02
G.	USGS Quad Sunteam, Custer, elevenmile Creek
H.	Survey Date 09 / 13 / 2010
	MM / DD / YYYY

SO #: 16	Y	Channel	Unit# F	94	# of Transects:			
Surveyor:	S. Fio	rita			Reach:	5	-	
Inches	PARTICLE	Millimeters		Partic	le Count	Total #	Item %	% Cum
<.08	Sand	< 2	S/C/S	1111		4	3.2	
.0816	Very Fine	2 -4		11		1	0.8	
.1622	Fine	4 -5.7] G -	1		1	08	
.2231	Fine	5.7 - 8	R	1111		4	3.2	
.3144	Medium	8 -11.3] A	Ш	`(1)	9	6.4	1
.4463	Medium	11.3 - 16] v			1	0.8	
.6389	Coarse	16 -22.6	E .	11/1		Ч	3.2	
.89 - 1.26	Coarse	22.6 - 32] L .	HH.	IXT	10	8	
1.26 - 1.77	Vry Coarse	32 - 45	S	HT +	# 4	6 20	16	<u> </u>
1.77 -2.5	Vry Coarse	45 - 64		111	HHH	20.	16	
2.5 - 3.5	Small	64 - 90	С	14	M 1111	14	11.2	ĺ
3.5 - 5.0	Small	90 - 128	0	WI	11	9	7.2	
5.0 - 7.1	Large	128 - 180	В	44	HHH	18	14,4	†
7.1 - 10.1	Large	180 - 256	В	41	,	5	4	
10.1 - 14.3	Small	256 - 362	B	WF	(6	4.8	
14.3 - 20	Small	362 - 512	L				·	
20 - 40	Medium	512 - 1024	D					
40 - 80	Large	1024 -2048	R				****	
80 - 160	Vry Large	2048 -4096	S					
	Bedrock		BDRK					
				To	tals:	125		
^	Total Tally					- i		
N	190 23 08	o 					——————————————————————————————————————	
1 `	1140 22.	3041						

	WOLMAN FORM Page: 10 of 20 R6-2500/2600-32
A.	State ID B. County Custer C. Forest Chall's D. District Pankee For
E.	Stream Name Pankee Fork
F.	4th HUC Code 17, 06, 02, 01 5th 05 6th 05/02
G.	USGS Quad Sunbeam, custer, elevenmile Creek
Η.	Survey Date <u>09 / /3 / 20 / 0</u>
	MM / DD / YYYY

PEBBL	E COUN	T							1
SO #:	178	Channel	Unit# #	=/02	# of Tra	insects: /	7		
Surveyor:	A. Flyn	٦	<u> </u>		Reach:	5		 	
Inches	PARTICLE	Millimeters	\Box	Parti	cle Count	Total #	Item %	% Cum	
<.08	Sand	< 2	S/C/S	1111		5	4.098	/o Cum]
.0816	Very Fine	2 -4					1 10 10]]
.1622	Fine	4 -5.7	G					 	
.2231	Fine	5.7 - 8	R			ı	0.819	†·	
.3144	Medium	8 -11.3	A	III	·	2	1.639	+	
.4463	Medium	11.3 - 16] v	1///		Ч	3,279	 	ſ
.6389	Coarse	16 -22.6] E	III	l	6	4.918	 	
.89 - 1.26	Соагѕе	22.6 - 32] L	44	<u> </u>	6	4.918		
1.26 - 1.77	Vry Coarse	32 - 45	l s	IIIT.	HHT \111	14	11,475		
1.77 -2.5	Vry Coarse	45 - 64		Ш.	44-111	14	11,475		
2.5 - 3.5	Small	64 - 90	С	44+	1441111	14	11.475		
3.5 - 5.0	Small	90 - 128	1 o	THE	441111	13	10.656	 	
5.0 - 7.1	Large	128 - 180	В	IHT]	HUH	51	17.213		14
7.1 - 10.1	Large	180 - 256	В	4		5	4.098		
10.1 - 14.3	Small	256 - 362	В	IHT	()	8	6.557	<u> </u>	1
14.3 - 20	Small	362 - 512	L	141	· · · · · ·	5	4,098	 	
20 - 40	Medium	512 - 1024	D					 	
40 - 80	Large	1024 -2048	R				<u>-</u>	 	
80 - 160	Vry Large	2048 -4096	S						
	Bedrock	****	BDRK	1111		Ч	3,279		
				То	tals:	122			
	Total Tally	<i>'</i> :				<u> </u>	······································	·	

N44° 23.275 W114° 41.648

	WOLMAN FORM Page: 11 of 20 R6-2500/2600-32 Salmon-
A.	State ID B. County Custer C. Forest Chall's D. District Yankee For
E.	Stream Name YANKEE FORK
F.	4th HUC Code 17,06,02,01 5th 05 6th 05/02
G.	USGS Quad Sunbeam, custer, elevenmile creek
H.	Survey Date/
	MM/ DD / YYYY
	N44° 23.657 w114° 40.763

PEBBL	E COUN	Γ						
SO#: て。	\$	Channel	Unit #≠	117	# of Tra	insects: 1		
Surveyor:	A. Flynn				Reach:	6		
Inches	PARTICLE	Millimeters	Millimeters		le Count	Total #	Item %	% Cum
<.08	. Sand	< 2	S/C/S	mui		7	6.667	1 70 04.0
.0816	Very Fine	2 -4				1		
.1622	Fine	4 -5.7	G			1	0.952	
.2231	Fine	5.7 - 8	R	(1)		3	2.857	
.3144	Medium	8 -11.3	A	1		1	0.952	<u> </u>
.4463	Medium	11.3 - 16	V	MIM	H.	12	11,429	<u> </u>
.6389	Coarse	16 -22.6] E	RELIL	**·	8	7.619	
.89 - 1.26	Coarse	22.6 - 32	L	MM	ш	13	12.381	
1.26 - 1.77	Vry Coarse	32 - 45	S	WT LAN		11	10.476	
1.77 -2.5	Vry Coarse	45 - 64		MM		14	13,333	
2.5 - 3.5	Small	64 - 90	С	тт		10	9.524	
3.5 - 5.0	Small	90 - 128] 、O	M II		7	6.667	-
5.0 - 7.1	Large	128 - 180	В	11/711		7	6.667	
7.1 - 10.1	Large	180 - 256	В	min	,	7	6-667	· -
10.1 - 14.3	Small	256 - 362	В	l			0.952	
14.3 - 20	Small	362 - 512	L		· · · · · · · · · · · · · · · · · · ·		, , , , , , , , , , , , , , , , , , , ,	
20 - 40	Medium	512 - 1024	D	Ш.		3	2.857	
40 - 80	Large	1024 -2048	R				,	
80 - 160	Vry Large	2048 -4096	S			١		·····
	Bedrock		BDRK					
				То	tals:	105		
	Total Tally	:						

	WOLMAN FORM R6-2500/2600-32 Page: 12 of 20
A.	State ID B. County Custer C. Forest D. District Tanker For
E.	Stream Name Pankoo Fork
F.	th HUC Code 17, 06, 02, 01 5th 05 6th 05/02
G.	ISGS Quad Sunteam, Custer, elevenmile creek
H.	urvey Date 09 / 13 /20/0
	MM / DD / VVVV

PEBBL	E COUN	Γ								
SO#: 22	.2	Channel	Unit# F	122	# of Tra	ansects:				
Surveyor: A, Flynn		N				Reach: 6				
Inches	PARTICLE	Millimeters		Parti	cle Count	Total #	Item %	% Cum		
< 08	, Sand	< 2	S/C/S	MIN	1	10	8.197	70 0411		
.0816	Very Fine	2 -4		1			0.819			
.1622	Fine	4 -5.7	G		·	6	0			
.2231	Fine	5.7 - 8	R	M		5	4.098			
.3144	Medium	8 -11.3	A	HI WI		10	8.197			
.4463	Medium	11.3 - 16	V	M		5	4.098			
.6389	Coarse	16 -22.6	Е	MIM	-	10	8.197			
.89 - 1.26	Coarse	22.6 - 32	L	THE		11	9.016	· - · · · · · · · · · · · · · · · · · ·		
1.26 - 1.77	Vry Coarse	32 - 45	S	MM		13	10.656			
1.77 -2.5	Vry Coarse	45 - 64	<u>l</u>	MM		15	12.295			
2.5 - 3.5	Small	64 - 90	C	min		ĮϤ	11.475	 -		
3.5 - 5.0	Small	90 - 128	О	IM.	30.111	5	4.098			
5.0 - 7.1	Large	128 - 180	В	111		3	2,459			
7.1 - 10.1	Large	180 - 256	В	nit.	,	Ч	3.279			
10.1 - 14.3	Small	256 - 362	В	MI		5	4.098			
14.3 - 20	Small	362 - 512	L	Ni		5-	4.098			
20 - 40	Medium	512 - 1024	D			Ø	-720 (8			
40 - 80	Large	1024 -2048	R		1	d				
80 - 160	Vry Large	2048 -4096	S			\$		***		
	Bedrock		BDRK	MI		6	4.918			
					tals:	122				
	Total Tally							· · · · · · · · · · · · · · · · · · ·		

M 1140 10.381

	WOLMAN FORM R6-2500/2600-32 Salmon-challis Yach a Fr
A.	State ID B. County Custer C. Forest D. District Tankee For
E.	Stream Name Yankee Fork
F.	4th HUC Code 17, 06, 02, 01 5th 05 6th 05/02
	USGS Quad Sunteam, custer, elevennile creek
H.	Survey Date/
	MM/ DD / YYYY N441° 24.104 W 114° 39.686

SO#: こ	70	Channel	Unit# F	143	# of Tra	insects: []	·	
Surveyor:	· "			ach: 7				
Inches	PARTICLE	Millimeters		Partic	cle Count	Total #	Item %	% Cum
<.08	. Sand	< 2	S/C/S	DHY TH	i mu i	16	14.035	1 /4 Call
.0816	Very Fine	2 -4		1	******			
.1622	Fine	4 -5.7	G	1		1	0.877	
.2231	Fine	5.7 - 8	R	M		5	4.386	ļ
.3144	Medium	8 -11.3	Α				· · · · · · · · · · · · · · · · · · ·	
.4463	Medium	11.3 - 16	v					
.6389	Coarse	16 -22.6	E	HHIII		8	7.018	
.89 - 1.26	Coarse	22.6 - 32	L	MILL		6	5.263	· · · · · · · · · · · · · · · · · · ·
1.26 - 1.77	Vry Coarse	32 - 45	S	BULL		6	5.263	
1.77 -2.5	Vry Coarse	45 - 64		MILL		7	5.263	
2.5 - 3.5	Small	64 - 90	С	THU		5	4.386	
3.5 - 5.0	Small	90 - 128	0	HI		5	4.386	
5.0 - 7.1	Large	128 - 180	. в	THE		5 7	6.140	
7.1 - 10.1	Large	180 - 256	В	MILL	,	8	7.018	· · · · · ·
10.1 - 14.3	Small	256 - 362	B	MU III		9	7.895	
14.3 - 20	Small	362 - 512	L.	MUM		11	9.649	· · · · · · · · · · · · · · · · · · ·
20 - 40	Medium	512 - 1024	D	MM)		11	9.649	
40 - 80	Large	1024 -2048	R	UK		6	5.263	
80 - 160	Vry Large	2048 -4096	S				- Page 1 - P	
	Bedrock		BDRK	Hi		3	2.632	
					tals:	III		
	Total Tally	<u> </u>			L	<u> </u>		

		MAN FORM 500/2600-32		of20
A,	State TD B. County Custer	500/2600-32 Salmon C. Forest	,D. District	Yankee Fork
	Stream Name Yankee Fork		- -	
F.	4th HUC Code 17, 06, 02, 01 5th 05	5 6th 05/02		
G.	USGS Quad Sunbean, Cust	e, elevenni	le creek	-
Н.	Survey Date / /	,	· · · · · · · · · · · · · · · · · · ·	*
	MM / DD / YYYY	·		Marinage respects and the
		01100111 771	1 2 2	[

PEBBL'	E COUNT	Γ							7	
SO#: 乙分3		Channel U	Unit # €	:153	# of Trai	insects:		1		
Surveyor:	A FLYNA				Reach:				1	
Inches	PARTICLE	Millimeters		Parti	icle Count	Total #	Item %	% Cum	1	
<.08	Sand	< 2	S/C/S	THIM		14	12.174		1	
.08 - .16	Very Fine	2 -4		 				1	1	
.1622	Fine	4 -5.7	G						1	
.2231	Fine	5.7 - 8	R					1		
.3144	Medium	8 -11.3] A				0.869		1	
.4463	Medium	11.3 - 16] v						1	
.6389	Coarse	16 -22.6	E	MI		6	5.217			
.89 - 1.26	Coarse	22.6 - 32	L	ואנו		6	5.217			
1.26 - 1.77	Vry Coarse	32 - 45] s	NI		6	5.217	 		
1.77 -2.5	Vry Coarse	45 - 64		1111		4	3.478			
2.5 - 3.5	Small	64 - 90	С	1			0.869		•	
3.5 - 5.0	Small	90 - 128	0	1		T	0.869	 	1	
5.0 - 7.1	Large	128 - 180	В	141		5	4.348			
7.1 - 10.1	Large	180 - 256	В		,				-	
10.1 - 14.3	Small	256 - 362	В						İ	
14.3 - 20	Small	362 - 512	L	(1)		3	2,609			
20 - 40	Medium	512 - 1024	D					 		
40 - 80	Large	1024 -2048	R		=	·				
80 - 160	Vry Large	2048 -4096	S							
	Bedrock		BDRK	MIMI.	* HIMIM	68	59.13		WHAT WITH	
			<u>'</u>	71	otals:	115			201112	
	Total Tally	<u></u>								

Version 2.5

	WOLMAN FORM R6-2500/2600-32 State ID B. County Custer C. Forest D. District Stream Name Yankee Fork
	4th HUC Code /7,06,02,0/5th 05 6th 05/02
G.	USGS Quad Sunbeam, custer, elevenmile creek
Н.	Survey Date <u>09/13/2000</u>
	MM / DD / YYYY

PEBBL	E COUN	ſ			·				7
SO#: 3	35	Channel	Unit# F	172	# of Tra	nsects: /	1 (2)		1
Surveyor:	S, Fic	rito				8	' 		1
Inches	PARTICLE	Millimeters		Parti	cle Count	Total #	Item %	% Cum	1
<.08	Sand	< 2	S/C/S	M CL	H DH WI	19	14.844		Ĩ
.0816	Very Fine	2 -4							Í
.1622	Fine	4 -5.7	G	-			<u> </u>	 	1
.2231	Fine	5.7 - 8	R		1			† · · · · · · · · · · · · · · · · · · ·	1
.3144	Medium	8 -11.3] A	/		/	0.781		1
.4463	Medium	11.3 - 16] v	1		1	0.781		1
.6389	Coarse	16 -22.6] E	OH!		6	4.688		1
.89 - 1.26	Coarse	22.6 - 32	L	MM	11/11	13	10,156		1
1.26 - 1.77	Vry Coarse	32 - 45	S	HT H	KHILLY.	411/	21,094	 	7
1.77 -2.5	Vry Coarse	45 - 64		MIM	KUH JUMI H	IT HIT HITH	28.906		1 ′
2.5 - 3.5	Small	64 - 90	С	HILL	4/11/	14	10.938		j.
3.5 - 5.0	Small	90 - 128	0	HT"		6	4.688	· ·	Ï
5.0 - 7.1	Large	128 - 180	В	1		2	1,963		1
7.1 - 10.1	Large	180 - 256	В	11	,	3	1.963		1
10.1 - 14.3	Small	256 - 362	В						Ï
14.3 - 20	Small	362 - 512	L						
20 - 40	Medium	512 - 1024	D		·				
40 - 80	Large	1024 -2048	R						1
80 - 160	Vry Large	2048 -4096	S						
	Bedrock		BDRK						
				То	tals:	128			
	Total Tally	1: 128		· · · · · · · · · · · · · · · · · · ·		······································	·	•—————————————————————————————————————	

N 44° 24,565 W 114° 38,770

	WOLMAN FORM R6-2500/2600-32	Page: 16 of 20	
	S	D. District Yankee	
A.	A. State <u>ID</u> B. County <u>Custer</u> C. Forest_	D. District990 Kee .	/
E.	E. Stream Name Yankee Fork		
	F. 4th HUC Code 17, 06, 02, 01 5th 06 6th 05/		
G.	G. USGS Quad <u>Sunbeam</u> , Conster, ele	venmile creek	
Н.	H. Survey Date <u>09 / 13 / 2010</u>	· · · · · · · · · · · · · · · · · · ·	
	MM / DD / YYYY		

PEBBL	E COUN	Γ					·	
SO #: 3	48	Channel	Unit# F	179	# of Tra	insects:	 Z	
Surveyor:	Chris	Mello			Reach:	8		
Inches	PARTICLE	Millimeters		Parti	le Count	Total #	Item %	% Cum
<.08	Sand	< 2	S/C/S			4	12.941	
.0816	Very Fine	2 -4						
.1622	Fine	4 -5.7	G		- W	1	0.735	
.2231	Fine	5.7 - 8	R					
.3144	Medium	8 -11.3	A					
.4463	Medium	11.3 - 16	V			<u> </u>		
.6389	Coarse	16 -22.6	E	Z		9	6.618	
.89 - 1.26	Coarse	22.6 - 32	L	Z		9	6.618	†
1.26 - 1.77	Vry Coarse	32 - 45	S	M:	-	15	11.029	
1.77 -2.5	Vry Coarse	45 - 64			4:1	26	19.118	
2.5 - 3.5	Small	64 - 90	С	Z D	₫	20	14.706	
3.5 - 5.0	Small	90 - 128	0	M:	***************************************	27	19.853	
5.0 - 7.1	Large	128 - 180	В	M:		24	17.647	
7.1 - 10.1	Large	180 - 256	В		,			
10.1 - 14.3	Small	256 - 362	В					
14.3 - 20	Small	362 - 512	L	•		1	0.735	
20 - 40	Medium	512 - 1024	D					
40 - 80	Large	1024 -2048	R					
80 - 160	Vry Large	2048 -4096	S					
	Bedrock		BDRK					
				To	tals:	120		
	Total Tally	1:120				136		

N 440 24.641 W 1140 38, 434

	WOLMAN FORM R6-2500/2600-32 Salmon-challis
A.	State ID B. County Custer C. Forest D. District Yankee Fork
E.	Stream Name Yankee Fork
F.	4th HUC Code 17, 86, 02, 01 5th 05 6th 05/62
G.	USGS Quad Sunbeam, Custer elevennile creek
H.	Survey Date <u>09//3 /200</u>
	MM / DD / YYYY

PEBBL	E COUN	r	**		"			
	92	Channel	Unit # /	-195	# of Tra	ansects:		
Surveyor:	A. Fly				Reach:	9		
Inches	PARTICLE	Millimeters		Parti	cle Count	Total#	Item %	% Cum
<.08	Sand	< 2	S/C/S	MUM	LKATIII.	18	14.876	70 Cum
.0816	Very Fine	2 -4						
.1622	Fine	4 -5.7	G	1		2	1.653	
.2231	Fine	5.7 - 8	R	١.	· · · · · · · · · · · · · · · · · · ·	1	0.826	
.3144	Medium	8 -11.3] A	1		i	0.826	
.4463	Medium	11.3 - 16	\mathbf{v}	1111		5	4.132	<u>├</u>
.6389	Coarse	16 -22.6] E	144711	1	9	7,438	
.89 - 1.26	Coarse	22.6 - 32	L		141141	22	18.182	
1.26 - 1.77	Vry Coarse	32 - 45] s	1	UN UNA		33.058	
1.77 -2.5	Vry Coarse	45 - 64		mm		19	15.702	
2.5 - 3.5	Small	64 - 90	С	IM		4	3,306	
3.5 - 5.0	Small	90 - 128	0	1.11		 		
5.0 - 7.1	Large	128 - 180	В				·	
7.1 - 10.1	Large	180 - 256	В		,			
10.1 - 14.3	Small	256 - 362	В					
14.3 - 20	Small	362 - 512	L		1.5			
20 - 40	Medium	512 - 1024	D					
40 - 80	Large	1024 -2048	R					
80 - 160	Vry Large	2048 -4096	S					
	Bedrock		BDRK					
				To	tals:	121		
	Total Tally	:			L			

N44° 24,974 W114° 37,764

Version 2.5

	WOLMAN FORM Page: 18 of 20 R6-2500/2600-32
	State ID B. County Custer C. Forest D. District Yankee For
	Stream Name Yankee Fork
F.	4th HUC Code 17, 06, 02, 01 5th 05 6th 05/02
G.	USGS Quad Sunbeam Custer elevennile Creek
H.	Survey Date <u>69 / (3 / 2010</u>
	MM / DD / YYYY

PEBBI	E COUN	T						
SO #: 4	123	Channel	Unit# /	206	# of Tr	ansects: /	/	
Surveyor:	Chris.		 -		Reach:	9		-
Inches	PARTICLE	Millimeters		Partie	cle Count	Total#	Item %	% Cum
<.08	Sand	< 2	S/C/S	17		8	7.843	70 Cuiii
.0816	Very Fine	2 -4		•		17	0.980	<u></u>
.1622	Fine	4 -5.7	G		 -	 	0, 100	
.2231	Fine	5.7 - 8	R	•		1	0.980	<u></u> .
.3144	Medium	8 -11.3	A	•		1	0.980	
.4463	Medium	11.3 - 16	V	5.0		2	1.967	
.6389	Coarse	16 -22.6	E	M		10	9.804	
.89 - 1.26	Coarse	22.6 - 32	L	M:	•	14	13.725	
1.26 - 1.77	Vry Coarse	32 - 45	S	M.		11	10.784	
1.77 -2.5	Vry Coarse	45 - 64	1	M:	ø.	13	12,745	
2 .5 - 3.5	Small	64 - 90	С	M S		17	16.667	·
3.5 - 5.0	Small	90 - 128	0	M	<u> </u>	10	9.804	
5.0 - 7.1	Large	128 - 180	. В			7	6.863	
7.1 - 10.1	Large	180 - 256	В	25		7	6.863	
10.I - 14.3	Small	256 - 362	В					· · · · · · · · · · · · · · · · · · ·
14.3 - 20	Small	362 - 512	L					
20 - 40	Medium	512 - 1024	D					· -
40 - 80	Large	1024 -2048	R	-				
80 - 160	Vry Large	2048 -4096	S					
	Bedrock		BDRK	· · · · · ·		 		
				To	tals:	105		
	Total Tally	1: 105	· · · · · · · · · · · · · · · · · · ·			102		

N44° 25,272 W1140 37,221

	WOLMAN FORM R6-2500/2600-32	calmon-chours i	
A.	A. State ID B. County Custer C. Forest	D. District lanker for	K
E.	Stream Name Yankee Fork		
F.	. 4th HUC Code 17, 06, 02, 01 5th 05 6th 05/6	2	
G.	G. USGS Quad <u>Sunbeam</u> , Custer, ele	venmile creek	
H.	I. Survey Date <u>69//3/200</u>		
	MM/ DD / YYYY		

PEBBL	E COUN	Γ						
SO #: 4	150	Channel	Unit# #	218	# of Tra	nsects: /		
Surveyor:	Sam 7				Reach:	10		
Inches	PARTICLE	Millimeters		Parti	cle Count	Total#	Item %	% Cum
<.08	. Sand	< 2	S/C/S	<i>\$</i>		3	3%	
.0816	Very Fine	2 -4					· · · · · · · · · · · · · · · · · · ·	
.1622	Fine	4 -5.7	G					<u> </u>
.2231	Fine	5.7 - 8	R	•		1	17	<u> </u>
.3144	Medium	8 -11.3	A					
.4463	Medium	11.3 - 16	V					†
.6389	Coarse	16 -22.6	E	0.			17.	
.89 - 1.26	Coarse	22.6 - 32] L	57		6	6%	
1.26 - 1.77	Vry Coarse	32 - 45	S	XI.	T	17	17%	
1.77 -2.5	Vry Coarse	45 - 64		M:	× ′ ′	22	227.	
2.5 - 3.5	Small	64 - 90	С	区:	7	17	7%	
3.5 - 5.0	Small	90 - 128	О	D Z		19	19 %	 -
5.0 - 7.1	Large	128 - 180	В	双:		14	147	
7.1 - 10.1	Large	180 - 256	В				-·	<u> </u>
10.1 - 14.3	Small	256 - 362	В					
14.3 - 20	Small	362 - 512	L					<u> </u>
20 - 40	Medium	512 - 1024	D					
40 - 80	Large	1024 -2048	R					
80 - 160	Vry Large	2048 -4096	S				······································	
	Bedrock		BDRK					ĺ
				To	tals:	102		
	Total Tally	1: 162				100		

W14° 25.615 W114° 37.087 MM / DD / YYYY

	WOLMAN F R6-2500/260	00-32	Page: <u>20</u> of <u>20</u>
A.		Salmon-cha ForestD.	Mis District Panker Fork
	E. Stream Name Yankee Tork	,D.	District Total Police
F.	F. 4 th HUC Code <u>17</u> , <u>06</u> , <u>02</u> , <u>01</u> 5 th <u>05</u> 6 th	05/02	 -
G .	G. USGS Quad Sunbeam, Custer	, elevennile	creek
Η.	H. Survey Date 091/3 12010	,	

SO#: 456		Channel	Channel Unit # F220 # of Transects: 2					
Surveyor: Chris		Mello			Reach: (0			
Inches	PARTICLE	Millimeters		Partie	le Count	Total #	Item %	% Cum
<.08	Sand	< 2	S/C/S	LAM	tirll	14	13.861	70 Cun
.0816	Very Fine	2 -4		1		 	1377	
.1622	Fine	4 -5.7	G	 		† — — —		
.2231	Fine	5.7 - 8	1_{R}	7	·	1	0.99	
.3144	Medium	8 -11.3	Α	7		17	0.99	
.4463	Medium	11.3 - 16	V	//		2	1,98	
.6389	Coarse	16 -22.6	E	HITI		6	5.941	
.89 - 1.26	Coarse	22.6 - 32	L	INT		1	5,941	
1.26 - 1.77	Vry Coarse	32 - 45	s	14/1	 	7	6.931	
1.77 -2.5	Vry Coarse	45 - 64		UH HH	7	11	10.891	
2.5 - 3.5	Small	64 - 90	С	IH IH	TV.	12	11.881	
3.5 - 5.0	Small	90 - 128	0	WIN	THY THE	15	14.851	
5.0 - 7.1	Large	128 - 180	В (WIII		7	6,931	
7.1 - 10.1	Large	180 - 256	в	142: L	,			
10.1 - 14.3	Small	256 - 362	В	//		2	1.98	<u> </u>
14.3 - 20	Small	362 - 512	L	-	***************************************		7710	
20 - 40	Medium	512 - 1024	D					
40 - 80	Large	1024 -2048	R				· · · · · · · · · · · · · · · · · · ·	
80 - 160	Vry Large	2048 -4096	S					
	Bedrock		BDRK	HH W	r Lur 11	17	16.832	
					tals:	101		

N44° 25,752 W 114° 36,981

PRELIMINARY R R6-250	EACH FORM Page: of 5		
A. State ID B. County Custon C. Forest Challes D. District Yankle 4k E. Stream Name Yankel 4cm F. 4th HUC Code 17006,02,01 5th 05 6th 05/02/01 G. USGS Quad Sunban, Custon, Elwenmale Crack H. Survey Date // MM/DD/YYYY			
1. Reach #	1. Reach # Z 2. Mapped River Mile From 4.26 To 5.2 3. Mapped Valley Width Estimate 539' 4. Flow Regime Change Y 5. Mapped Channel Length 4.956' (0.94mi) 6. Change in Elevation Min 6177 Max 6203 7. Mapped Channel Gradient 0.6% 8. Mapped Valley Length 4.415' (0.84mi) 9. Mapped Sinuosity 1.12 10.Rosgen Stream Type C 11. Comments: Reach 2 Inducate And Confluence with And Conflu		
12.Stream Order (Forest Option) (12. Stream Order (Forest Option) 6		

PRELIMINARY R R6-250	0/2600-11
E. Stream Name 400 RIV 700 P. F. 4th HUC Code 706, 02, 01 5th	C. Forest Challis D. District Yanku 4k. OS 6th OS/02/01 Ith Ellenmilo Cille
1. Reach # 3 2. Mapped River Mile From 5-2 To 6-82 3. Mapped Valley Width Estimate (ft) 559 4. Flow Regime Change 5. Mapped Channel Length 8,565 (1.62mi) 6. Change in Elevation (ft) Min 6203Max 6257 7. Mapped Channel Gradient (%) 6. 67 8. Mapped Valley Length (ft) 7, 47 (1.45mi) 9. Mapped Sinuosity 1. 12 10. Rosgen Stream Type 11. Comments: RIGCH 3 LYLL CT LICON LILLER GRADEL TOLK LICON LILLER GRADEL GRADEL TOLK LICON LILLER GRADEL GRADEL GRADEL GRADEL GRADEL GRADEL LICON LILLER GRADEL	1. Reach # 4 2. Mapped River Mile From 6.82 To 9.08 3. Mapped Valley Width Estimate 457 4. Flow Regime Change Y 5. Mapped Channel Length 11, 925 (2.21mi) 6. Change in Elevation Min 6257 Max 6373 7. Mapped Channel Gradient 1.0% 8. Mapped Valley Length 11, 477 (2.17mi) 9. Mapped Sinuosity 1.04 10. Rosgen Stream Type 11. Comments: ROCH 4 Indicated the Confederal Local And Confederated And Indicated the Confederated And Indicated the Confederated And Indicated the Confederated And Indicated the Confederated And Indicated the Confederated And Indicated
	12. Stream Order (Forest Option) 5

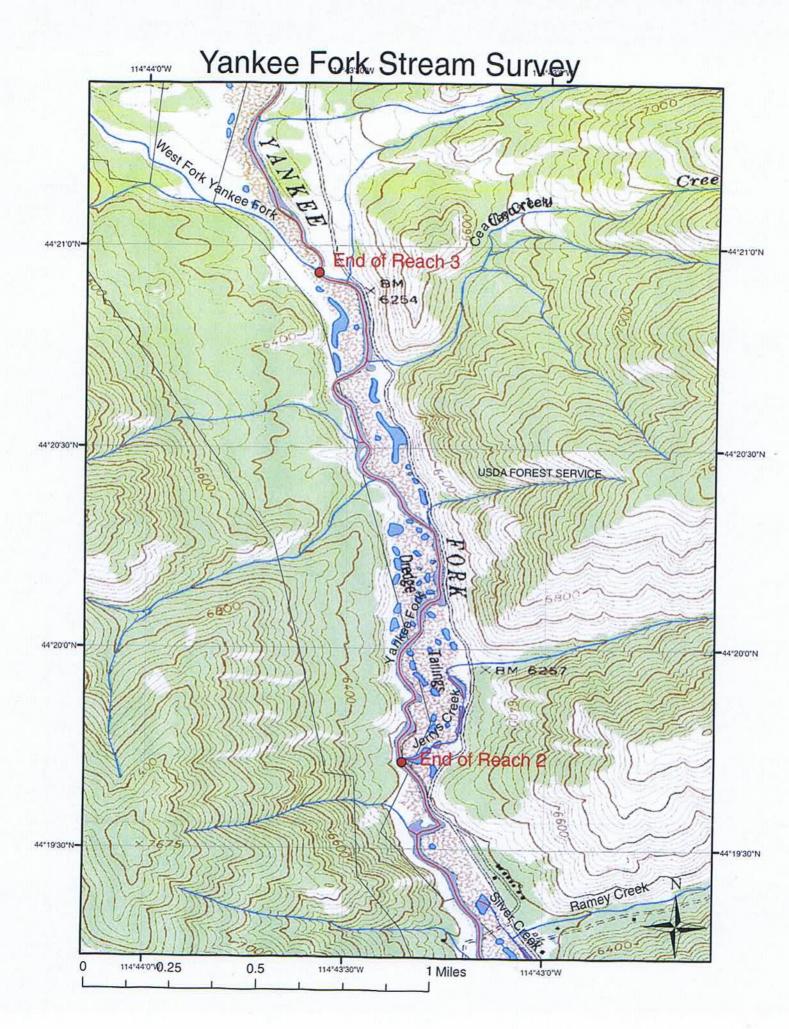
PRELIMINARY R R6-250	0/2600-11		
A. State TD B. County CULTURE. E. Stream Name County County	C. Forest Chally D. District Yark 12 46		
	05 th 01/02/01		
F. 4th HUC Code 17,06,02,01 5th 0			
G. USGS Quad Sunblam, Cla	Lten, Elowenmile Cottle		
H. Survey Date/_/			
MM/DD/YYYY			
1. Reach # 5			
2. Mapped River Mile From 9.08 To 11.18	1. Reach #		
3. Mapped Valley Width Estimate (ft)	2. Mapped River Mile From 11.18 To 12.47		
4. Flow Regime Change	3. Mapped Valley Width Estimate 293'		
5. Mapped Channel Length 11 Oldo (2-1mi)	4. Flow Regime Change		
6. Change in Elevation (ft) Min 6373Max 6513	5. Mapped Channel Length (6793 (1.29mi)		
7. Mapped Channel Gradient (%) 3/	6. Change in Elevation Min 6513 Max 660		
8. Mapped Valley Length (ft) 10 391 (1.97mi)	7. Mapped Channel Gradient 3.7. 8. Mapped Valley Length 6.267 (1.19mi)		
9. Mapped Sinuosity O	9. Mapped Sinuosity 1.08		
10.Rosgen Stream Type	10.Rosgen Stream Type		
11. Comments: Roach 5 ends at	11. Comments: Reach to end ort a		
the confluence with	small tributary entering		
Swift Gulch from the	ATOM the lost here inte		
rightlank	Delore the calley forces		
	lecomed more continued		
	and the charling increases		
	Tribitary is mys likely		
	dry		
12.Stream Order (Forest Option) 5	12.Stream Order (Forest Option) 5		
13. Valley Type (Forest Option)	13. Valley-Type (Forest Option)		
	NAME OF TAXABLE PARTY OF TAXABLE PARTY.		

PRELIMINARY R R6-250	0/2600-11
E. Stream Name 400 Pel 4 R. F. 4th HUC Code 17,06,02,01 5th (C. Forest Challis D. District Gangol AD. C5 6th O5/02/01 CL, Ellenmill Cille
1. Reach #	1. Reach # S 2. Mapped River Mile From 13.23To 14.49 3. Mapped Valley Width Estimate 360 4. Flow Regime Change 5. Mapped Channel Length 6,667 (1.26mi) 6. Change in Elevation Min 6716 Max 6778 7. Mapped Channel Gradient 0.9% 8. Mapped Valley Length 6,211 (1.18mi) 9. Mapped Sinuosity 1.07 10.Rosgen Stream Type C 11.Comments: Reach 8 ends at the Confluence with Amale Creek on the Left Dank
12.Stream Order (Forest Option) 5 13.Valley Type (Forest Option) 5	12.Stream Order (Forest Option) 5

PRELIMINARY R R6-2500	0/2600-11
A. State ID B. County Cutor E. Stream Name Gankee Fork	C. Forest Chilly D. District Yankou 42
F. 4th HUC Code 19,06,02,61 5th	05 6th 05/02/01
	ter, Elevenmilo Cille
H. Survey Date / /	MO, CERTIFICA COME
MM/DD/YYYY	
WWW.DD/1111	
1. Reach # 9	1. Reach#
2. Mapped River Mile From 14.49 To 16.29	2. Mapped River Mile From 16.29 To 17.08
3. Mapped Valley Width Estimate (ft) 417	3. Mapped Valley Width Estimate 457'
4. Flow Regime Change	4. Flow Regime Change
5. Mapped Channel Length 9 731 (1.8mi)	5. Mapped Channel Length 4, 145 (0.79mi)
6. Change in Elevation (ft) Min 6778 Max 6823	6. Change in Elevation Min 6823 Max 6876
7. Mapped Channel Gradient (%) 0.5%.	7. Mapped Channel Gradient 1.3%
8. Mapped Valley Length (ft) 7, 670 (152mi)	8. Mapped Valley Length 3, 702 (0.70mi)
9. Mapped Sinuosity 1.23	9. Mapped Sinuosity 1,20
10.Rosgen Stream Type	10.Rosgen Stream Type
11. Comments: Reach 9 ends at	11. Comments: The servely ends
the confluence with	at an unpamed to but and
Eight mile Cille from	that enters from the right
thought bank	bank. They reach has
	multiple chrinnoly field
	Channely
12. Stream Order (Forest Option) 5	12.Stream Order (Forest Option)
13. Valley Type (Forest Option)	13. Valley Type (Forest Option)

114'43'30'WYankee Fork Stream Survey BM 6180 End of Reach 1 Silver Creek = Rankin Craek 44°19'0"N= 44°19'0"N ek 6187 6660 44°18'30"N 44°18'30"N Well Polecamp Flat Campground Polecamp Creek 44°18'0"N 44°18'0"N 6600 114°43'30'W 0.25 0.5 1 Miles

114°43'30° Yankee Fork Stream, Survey 44°20'0"N 44°20'0'N BM 625 Reach 44°19'30'N Ramey Creek USDA FOREST SERVICE 6400 6180 Reach 1 Silver Creek Hankin Erest 44"19'0"N-6187 6600 6660 114°43'30"V0.25 0.5 1 Miles



114-44 Sankee Fork Stream Survey 114-43'0'W YANKEE TRAI Lookou Rookie End of Reach 4 44°22'30'N 44°22'30°N Cem Bonanya* Bonanza 44°22'0"N 44°22'0'N BM 6307 USDA FOREST SERVICE 44°21'30"N preacher West Fork Yankee Fork Ce alen creek 44°21'0"N End of Reach 3 -44°21'0"N 0.254°44'0'W 0.5 114°43'30'W 1 Miles 114°43'0"W

