

**NorthWestern Energy**  
Delivering a Bright Future

# 2015 Thompson Falls Upstream Fish Passage Facility

Annual Technical Advisory Committee Meeting  
Missoula, Montana  
December 17, 2015

## Agenda

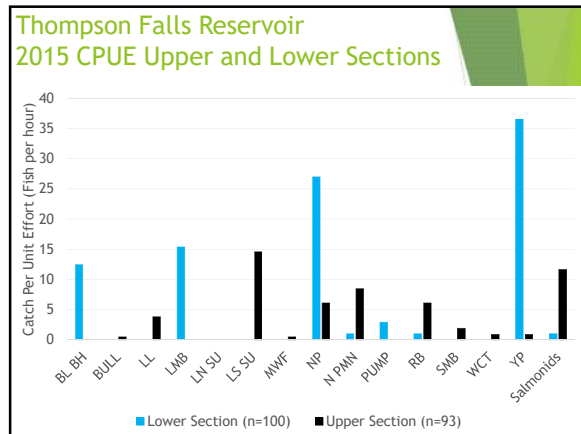
- ▶ Introductions
- ▶ 2015 Summary
  - ▶ Baseline Fisheries Surveys
  - ▶ Ladder Operations/Fish Passage
  - ▶ Avista's Bull Trout Transport Program
  - ▶ Ladder Fish Detected in the Thompson River
  - ▶ MSU Graduate Study - Thompson River Status Update
- ▶ 2016 TAC Proposals & Proposed Activities
- ▶ 2015 Report Schedule
- ▶ Next Meeting

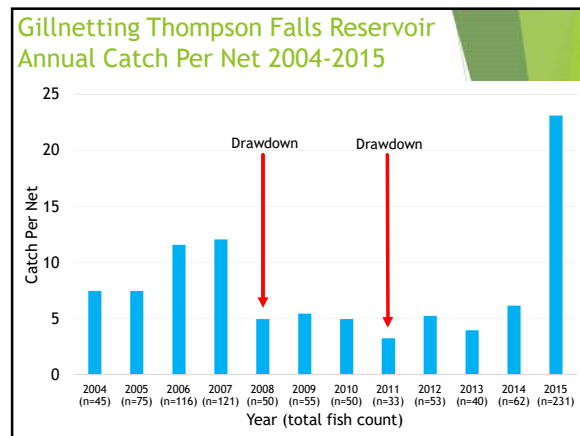
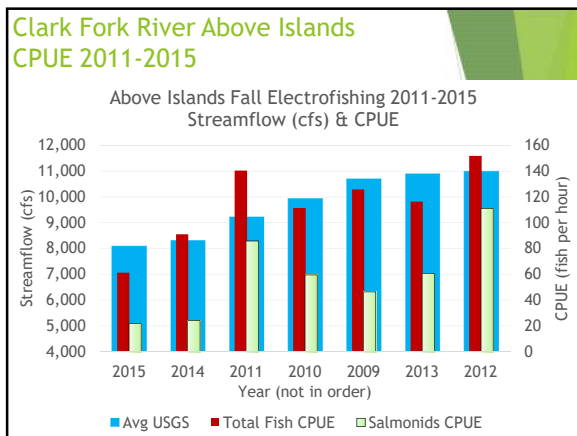
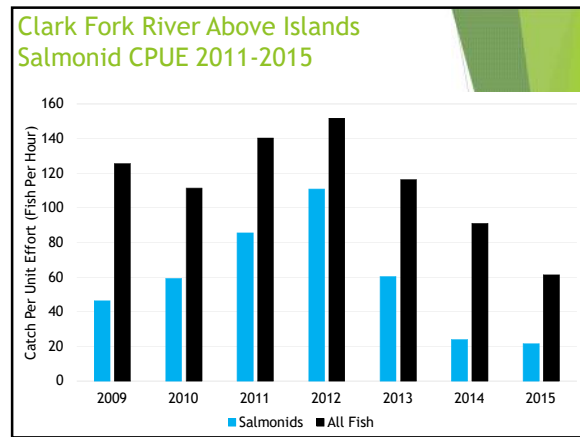
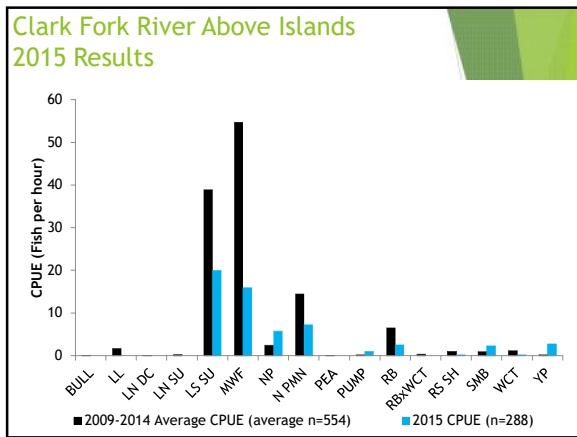
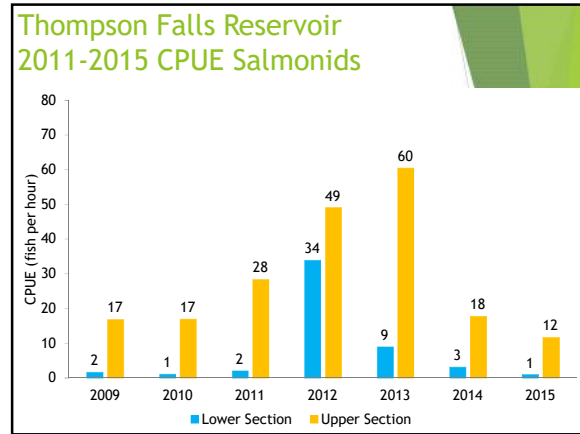
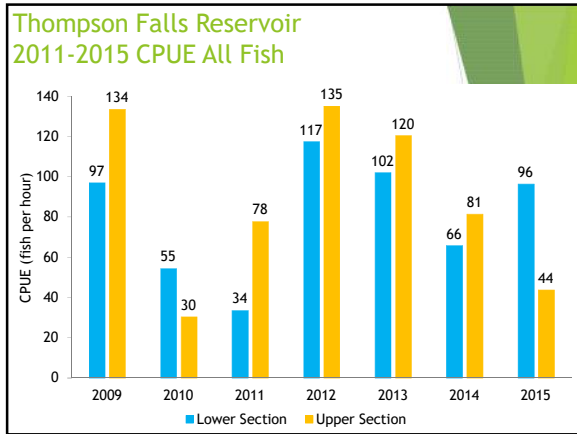
## NorthWestern Contacts

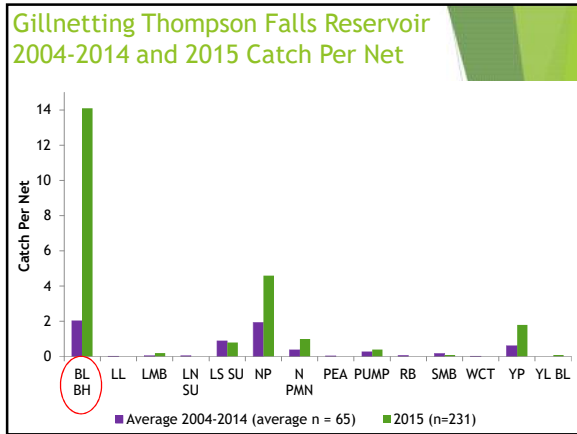
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## 2015 Baseline Fisheries Surveys

- ▶ Electrofishing Thompson Falls Reservoir (Upper and Lower Sections)
  - ▶ April 13-14, 2015
- ▶ Electrofishing Above Island Complex in the Clark Fork River
  - ▶ October 19-20, 2015
- ▶ Gillnetting in Thompson Falls Reservoir
  - ▶ October 13-14, 2015







### Baseline Fisheries Surveys Next Year

- 2016
  - Spring Thompson Falls Reservoir
  - Fall Above Island Complex
  - Fall Paradise to Plains (every other year)
  - Fall Gillnetting Thompson Falls Reservoir

Logos: North Western Energy, GEI, NEW WAVE Environmental, Commercial, LLC

### 2015 Thompson Falls Upstream Fish Passage

- Ladder Operations
- Hydrology and Water Temperature
- Fish Count at Ladder
- Movement Patterns
- Recaptures at the Ladder
- Ladder Fish Detected in Thompson River
- Fallback
- Length/Weight/Biomass

Logos: North Western Energy, GEI, NEW WAVE Environmental, Commercial, LLC

### Thompson Falls Fish Ladder Operations 2011-2015

Year	Season	Total # of Times Ladder Checked*	# of Days Ladder Closed
2011	Mar 17 – Oct 17	160	84
2012	Mar 13 – Oct 15	168	22
2013	Mar 13 – Oct 15	147	14
2014	Mar 25 – Oct 21	133	16
<b>2015</b>	<b>Mar 16 – Nov 9</b>	<b>140</b>	<b>8</b>

### Ladder Closure for Maintenance March 23-30, 2015


### Thompson Falls Fish Ladder Operations 2011-2015

Year	Peak Flow	Mean Flow	Max Water Temp (C)	Mean Water Temp (C) May 1– Oct 15
2011	104,000	35,672	24.8	Not Enough Data
2012	75,300	27,647	22.8	16.6
2013	63,700	19,507	24.7	17.4
2014	82,800	27,528	23.6	16.7
<b>2015</b>	<b>35,700</b>	<b>15,604</b>	<b>25.4</b>	<b>18.1</b>

### Thompson Falls Fish Ladder Total Fish Counts 2011-2015

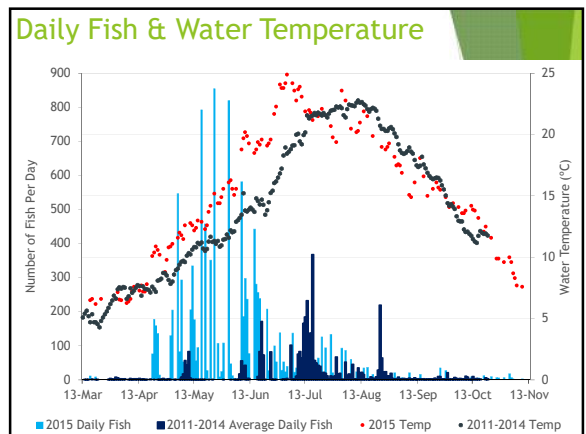
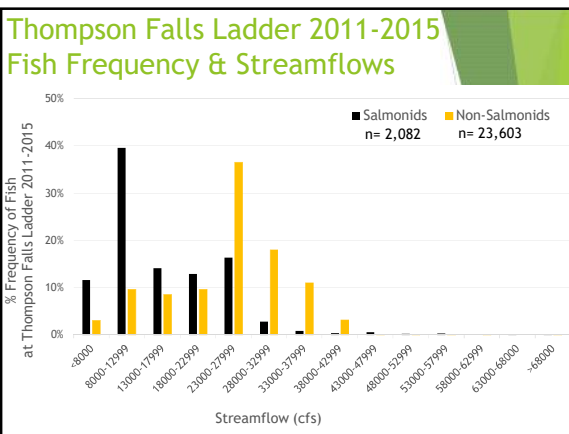
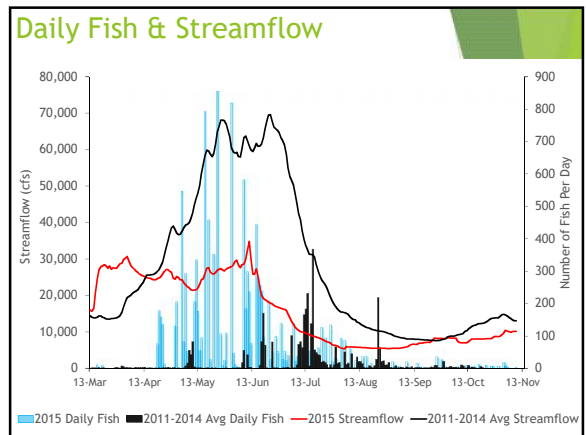
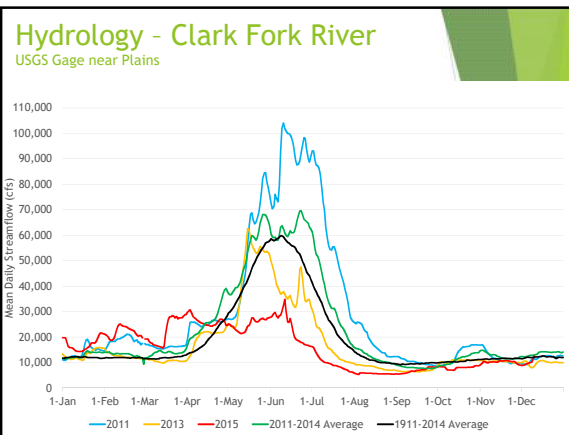
Year	Salmonids	Bull Trout	Non-Salmonids	Total Fish
2011	242	2	1,563	1,805
2012	305	1	2,363	2,668
2013	392	5	3,438	3,830
2014	573	1	5,162	5,735
<b>2015</b>	<b>570</b>	<b>2</b>	<b>11,077</b>	<b>11,647</b>
<b>TOTAL</b>	<b>2,082</b>	<b>12</b>	<b>23,603</b>	<b>25,685</b>

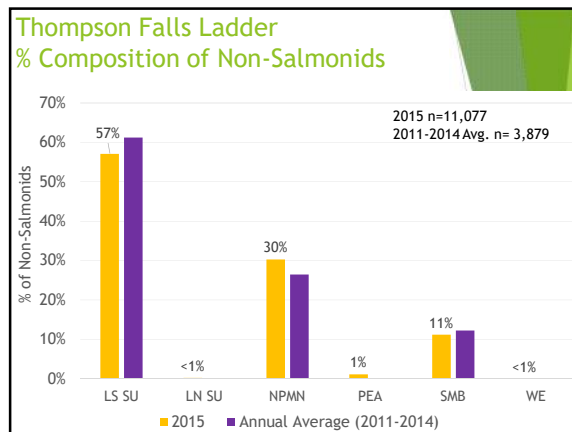
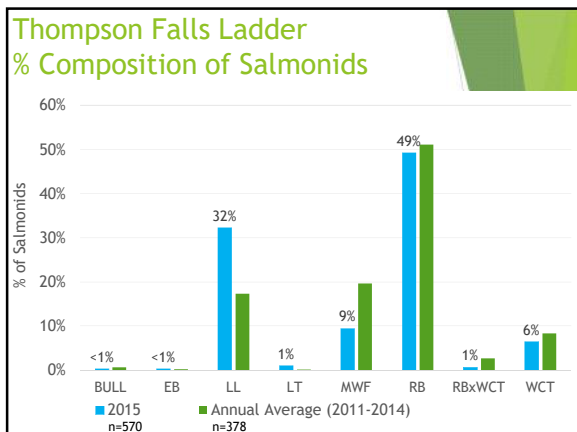
### Tunnel Test Released Fish into Pool 48



- ▶ May 6, 2015 - released 285 LS SU into pool 48
  - ▶ Follow up - found 4 live LSSU, 3 dead LS SU
- ▶ May 11, 2015 - released a total of 62 fish
  - ▶ [ 50 LS SU, 4 N PMN, 4 RB, 4 LL (salmonids not PIT tagged)] into pool 48
- ▶ May 12, 2015 - released a total of 5 NPMN and 1 LL into pool 48 (total of 6 fish)
  - ▶ Follow up - May 13 found 1 live LSSU, 2 dead LS SU, 2 unknown salmonid species

Logos: NorthWestern Energy, GEI, NEW WAVE Sustainability. CH2M HILL



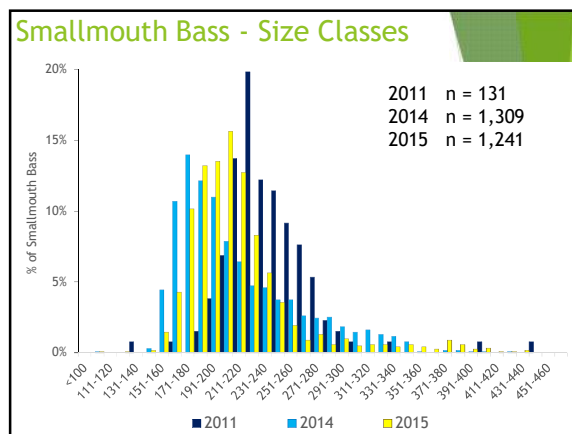
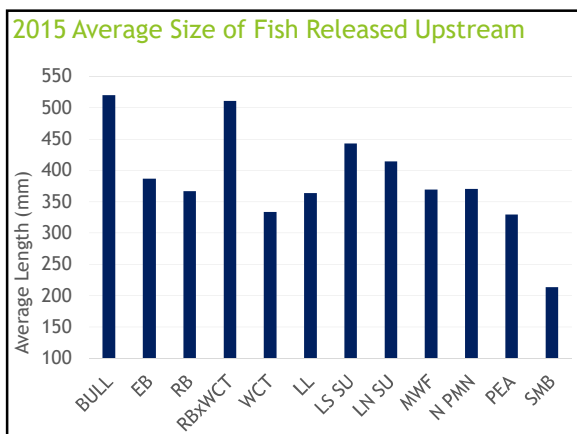


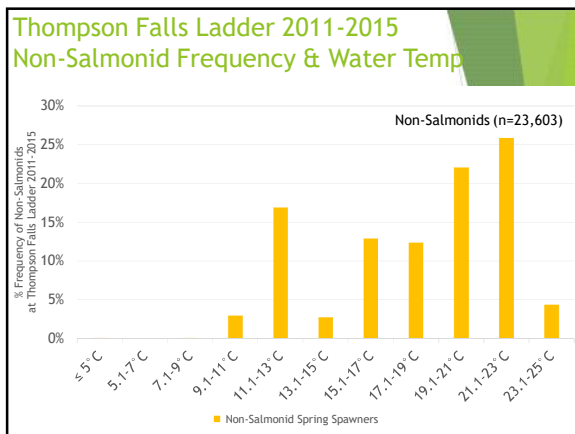
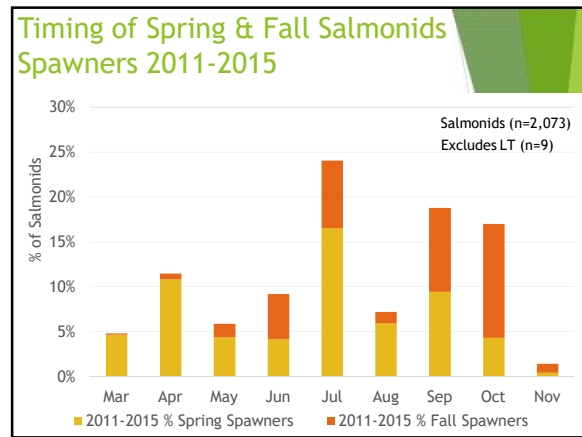
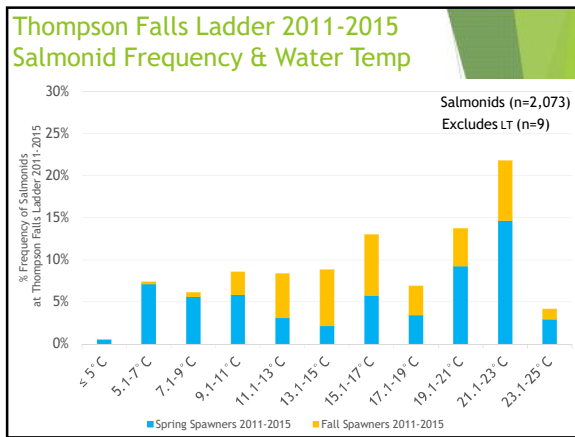
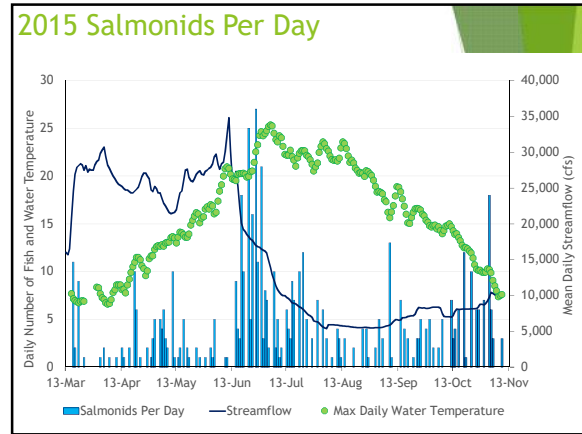
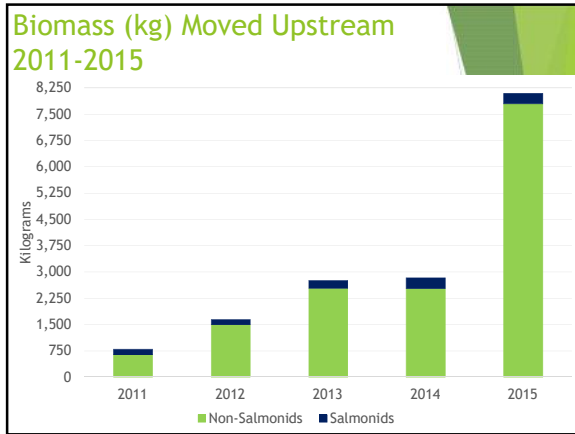
### Fish Returning to the Ladder in 2015

Species	# of Returning Fish (Recaps) in 2015	% of 2011-2015 Tagged Fish Returning to the Ladder in 2015
LL	21	5.5%
RB	32	3.6%
RBxWCT	3	7.5%
WCT	4	2.6%
SMB	20	1.8%
<b>Total</b>	<b>80</b>	<b>5%</b>

### Fallback By Year 2015

Fish Species	2015	Turbines/Spillway
RB	4	4 Turbines/Spillway
LL	2	1 Turbines, 1 Turbines/Spillway
SMB	22	18 Turbines, 4 Turbines/Spillway
<b>Total Number of Fallback</b>	<b>28</b>	
Total # of Fish Tagged at Ladder	483 PIT 974 Floy	2011 – 2015 Tags 1,566 PIT & 1,108 Floy
<b>% Fallback in 2015</b>	<b>1.9%</b>	



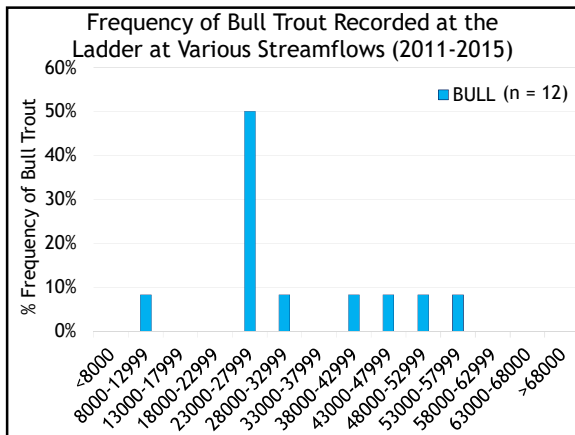
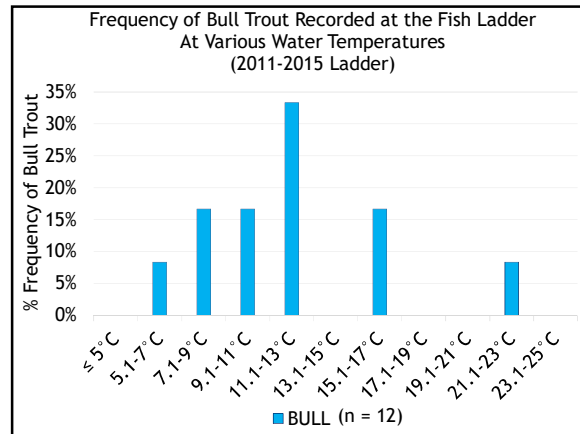


### 2015 Bull Trout Recorded at the Ladder

2015	L (mm)	Wt (g)	PIT Tag	Water Temp (°C)	Flow (cfs)	Comment
5/17	519	1,334	982000363519407	12.9	25,900	Released Live Upstream. Recaptured on 6-2-2015 via efishing in T.River, healthy condition, live
6/3	520	1,112	982000357016242 982000357016210	15.6	29,300	Released Live Upstream

### Bull Trout Detected in Ladder in 2015

Date Detected 2015	PIT TAG	Mostly Likely Population of Origin	Previous Detection Location	L (mm)	Wt (g)	Other detections in ladder (2015)
5/3	90022600035613	Thompson River (R4)	8/28/2012 Prospect Creek Weir	585	1,585	on 5/8 & 5/16
5/5	982000357016109	Fishtrap Creek (R4)	5/6/2013 TFalls Ladder; 9/21/2014 Prospect Creek PIT Tag array	576	1,694	on 5/13
5/16	900226000116250	Thompson River (R4)	9/14/2013 Twin Creek ID Weir - transport and released to WF Thompson River 9/18/2013	616	2,466	on 9/11
6/15	900226000730558	Graves Creek (R3)	5/6/2015 below CGD (released into Graves Ck)	651	3,232	
6/18	985120019650279 900226000570831	Rock Creek (R2)	8/28/2013 below CGD (released in Prospect Ck), captured as juvenile in Prospect on 8/22/2008	721	3,459	



### Bull Trout Transported by Avista to Regions 4 in 2015

- ▶ 9 Bull Trout transported from below CGD to Region 4
  - ▶ 2 released about 1 km downstream of Thompson River confluence (North Shore Boat Ramp)
  - ▶ 5 released in the Thompson River (approximately 1 mile upstream of the confluence - @ ACM road bridge)
  - ▶ 2 released in the St. Regis River RM 0.25

### Bull Trout Detected in the Thompson River via PIT Tag Array in 2015

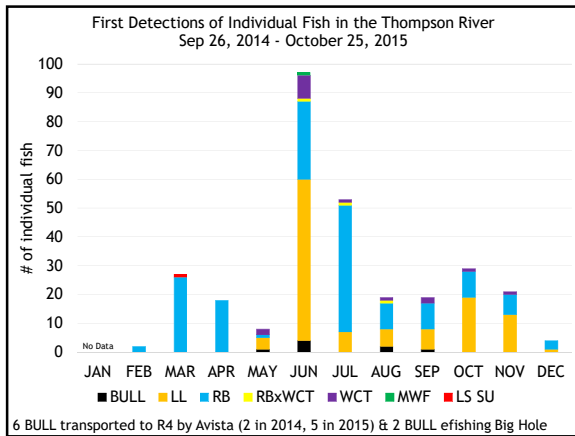
- ▶ 6 Bull Trout from Avista transports from below CGD
  - ▶ 2 from 2014 transports, 4 from 2015 transports
- ▶ 1 Bull Trout recorded at Thompson Falls Ladder 5/17/2015 - Detected in the Thompons River via electrofishing
- ▶ 3 Bull Trout initially captured in Thompson River Drainage
  - ▶ 1 WF Thompson River - October 2014
  - ▶ 1 Big Hole Thompson River - June 2015
  - ▶ 1 Fishtrap Ck (15. RKM) - August 2015
- ▶ 2 Bull Trout initially captured in WF Thompson River weir trap in October 2015

\*Thompson River data through October 25, 2015

### 2015 Ladder Fish Detected in the Thompson River

Species	Year Fish Last Detected in Ladder					Total
	2015	2014	2013	2012	2011	
LL	80	30	2	1		113
RB	91	43	11	10		155
WCT	11	3	2			16
RBxWCT	2	0	1			3
MWF					1	1
LS SU				1		1
<b>Total</b>	<b>184</b>	<b>76</b>	<b>16</b>	<b>12</b>	<b>1</b>	<b>289</b>

Thompson River data through October 25, 2015



### 2015 Ladder Fish Detected in the Thompson River in 2015 (through October 25, 2015)

	# of Tagged Fish Detected in Thompson River	# of Individually Tagged Fish Passed Upstream	% of PIT Tagged 2015 Ladder Fish detected in Thompson River in 2015
LL	80	167	48%
RB	91	266	34%
WCT	11	34	32%
RBxWCT	2	4	50%
MWF		23	0%
<b>Total</b>	<b>184</b>	<b>494</b>	<b>37%</b>

- ### 2015 TAC Funded Projects and Updates
- ▶ MSU Study - Jeff Glaid
  - ▶ Land Acquisition - Ladd Knotek
  - ▶ Genetics - Little Joe Creek

- ### Thompson River Electrofishing July and August 2015
- ▶ Fishtrap Creek
    - ▶ Beatrice Creek (5 sections)
    - ▶ West Fork Fishtrap Creek (5 sections)
    - ▶ Mainstem Fishtrap Creek (12 sections)
    - ▶ Jungle Creek (4 sections)
  - ▶ West Fork Thompson River
    - ▶ Mainstem West Fork Thompson River (10 sections)

- ### TAC 2016 Proposal - Cedar Creek
- ▶ Cedar Creek Phase 2 Road Restoration & LWD Enhancement
    - ▶ Submitted by: Trout Unlimited (Paul Parson) and USFS (Jon Hanson)
    - ▶ Total Project Costs \$74,500
    - ▶ TAC Funds Requested: \$30,000
  - ▶ Cedar Creek flows northeast from the Idaho/Montana state line for approximately 20 miles before flowing into the middle Clark Fork River.
  - ▶ Cedar Creek is listed as a Priority Bull Trout Watershed by the Forest Service and was designated as core bull trout habitat by the Montana Bull Trout Scientific Group. The Conservation Strategy for Bull Trout on USFS lands in Western Montana (2013) and the USFWS Bull Trout Recovery Plan (2015) points out that removing riparian roads, improving pool conditions, and restoring mining claims are important activities to improve populations.

- ### TAC 2016 Proposal - Beartrap Ck
- ▶ Beartrap Fork Culvert Removal
    - ▶ Submitted by: Lolo National Forest (Jon Hanson)
    - ▶ Total Project Costs \$25,400
    - ▶ TAC Funds Requested: \$11,000
  - ▶ **Location:** Project located on Beartrap Fork Creek a tributary to Fishtrap Creek in the Thompson River drainage. Partial barrier within ½ mile of confluence with Fishtrap Creek.
  - ▶ The culvert on Beartrap Fork was identified as a partial fish barrier at higher flows, and possibly at low summer/fall flows.
  - ▶ **The Forest Service is proposing to remove the culvert and place a temporary bridge at the crossing until reforestation is completed.** This would allow immediate fish passage without having to wait ~5 years for the burning and reforestation to occur. Approximately 5 miles of stream would be opened to fish passage. The alternative would be to wait till all forest activities are completed in the drainage and pull the culvert at this time.



### 2016 Activities

- ▶ Baseline Fisheries (Reservoir, Above Islands, Plains to Paradise, Gillnetting)
- ▶ Continue PIT tagging MWF?
- ▶ Continue Floy tagging SMB?
- ▶ Ladder Operations
  - ▶ Check daily if temperatures exceed 22.7 °C
- ▶ TDG and GBT dependent on snowpack

### 2015 Annual Report Tentative Schedule for TAC Review

- ▶ Draft Report to TAC for Review  
Friday, February 12, 2016
- ▶ Comments from TAC Due  
Monday, March 14, 2016
- ▶ Finalize Report, Submit to FWS for Signature Approval  
March 23-29, 2016
- ▶ E-File with FERC  
March 30-31, 2016

### Next TAC Meeting(s)?

- ▶ May 2016
- ▶ September 2016
- ▶ December 2016

### Questions/Comments?



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