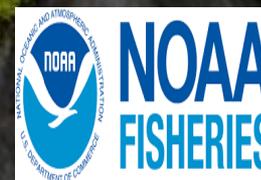


Bull Trout Reintroduction in the Clackamas River



Clackamas History

- Conceptual idea & brainstorming 2004
- Feasibility assessment 2005-2007
- Developing proposed action and other administrivia 2008-2011
- Implementation – annually 2011-2016

Overall Strategy

- Implement an aggressive action
- Maximize learning
- Minimize costs
- Do no harm to donor stock
- Maximize chance of success
- Document and publish results

Donor Stock Considerations

- Is there a suitable donor stock genetically and ecologically?
- Is that donor stock robust enough to support contributing?
- If so, what life stages and what numbers?
- If not, several considerations loom:
 - Multiple donor stocks
 - Use a less “suitable” donor stock
 - Artificial propagation
 - Captive rearing of wild fry

Life Stage Considerations

- Fertilized eggs, fry, juveniles, subadults, adults
- Some combination of the above
- Clackamas decision: direct transfers of juveniles, subadults and adults
- Rationale behind decision?
 - Logistics & costs (i.e., M. Fk. Willamette)
 - Maximize learning and chance of success
 - Super healthy donor stock

Annual Target Numbers

- 1,000 juveniles
- 100 subadults
- 30 adults



Total Numbers Transferred by Life stage



	<u>Juvenile</u>	<u>Subadult</u>	<u>Adult</u>
<u>2011</u>	58	24	36
<u>2012</u>	509	43	17
<u>2013</u>	615	91	8
<u>2014</u>	305	46	7
<u>2015</u>	300	74	7
<u>2016</u>	595	92	8
<u>Totals:</u>	<u>2,382</u>	<u>370</u>	<u>83</u>

2,835 total bull trout transferred over first 6 years of project (Phase one)

Methods & Timing of Donor Collection & Outplanting

- Rotary screw traps, Minnow traps, E-shocking
- April–June (8-12 weeks annually)
- Juveniles held in instream barrels and transferred weekly
- Adults/subadults held at hatchery (circular tanks) and transferred weekly

Locations of Transfers

- Juveniles outplanted to tributaries
- Subadults and adults to mainstem

- Juvenile outplanting on rotational schedule – each “suitable” stream received two consecutive years of stocking before rotating to next “suitable” stream

A Few Other Things

- Out of basin transfers will require pathogen screening
- Consider PIT tagging
- Consider convening a manager's group during project planning













