Restoration of Instream Flows to Conserve Aquatic Ecosystems in the Western U.S.

Andrew Purkey

Instream Flow Council 2018 Workshop

April 25, 2018

NATIONAL FISH AND WILDLIFE FOUNDATION

NFWF

IFC, NFWF & Instream Flows

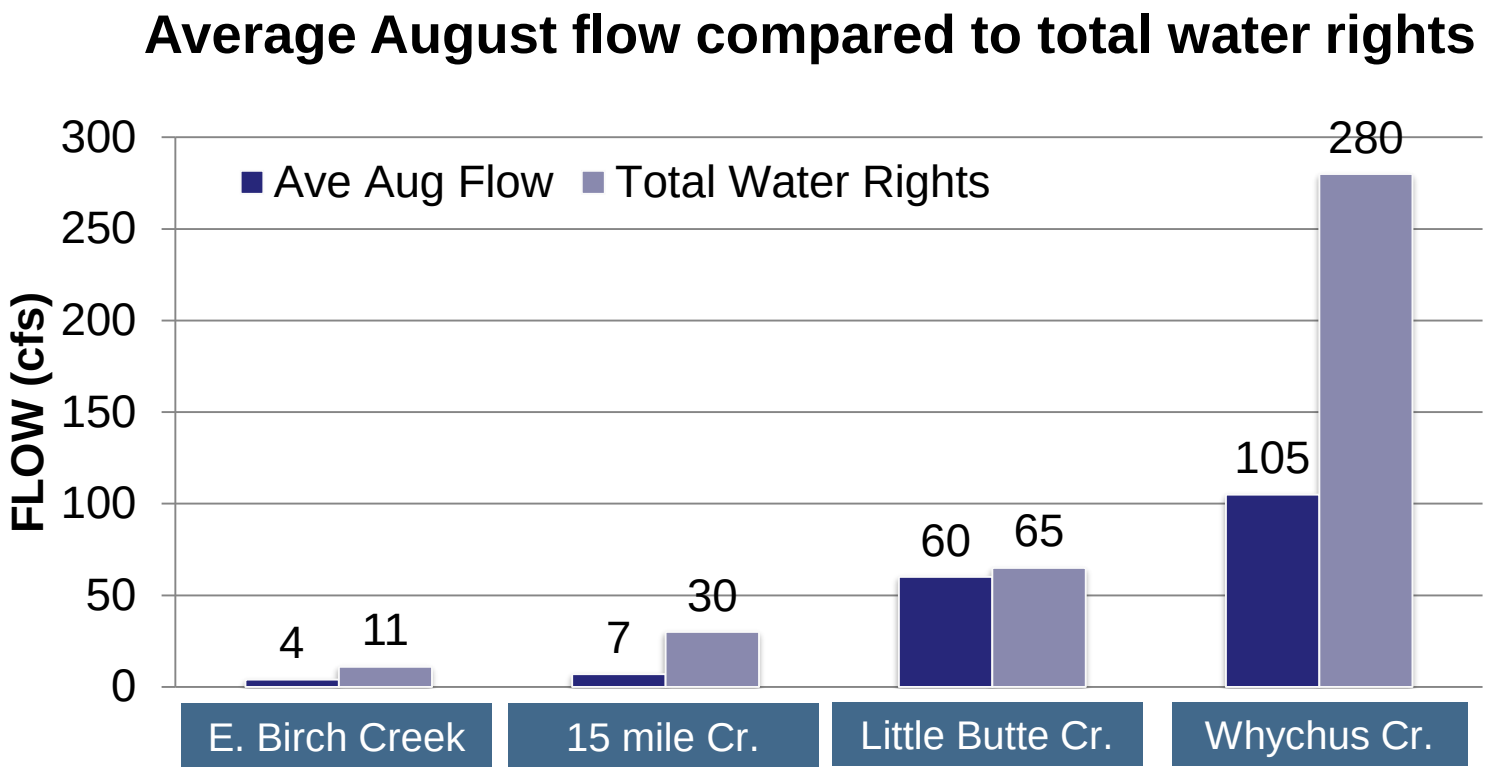
- **IFC Mission**: improve the effectiveness of state, provincial, and territorial instream flow programs and activities in conserving (protecting, maintaining, and ***restoring***) aquatic ecosystems.
- **IFC Vision**: each water body in Canada and United States has flow and water levels that sustain ecological integrity.

- **NFWF Western Water Program Mission**: fund and support a variety of transactions-based tools to secure and ***restore*** the necessary flows to maintain desirable ecological conditions.
- **NFWF WWP Vision**: for fish, birds and other species in NFWF's priority geographies.

- *Presentation will focus on restoring, not protecting and maintaining, instream flows for rivers and lakes in select areas. But also on legal and policy conditions enabling restoration.*

NFWF

Historic Challenge:
Over-appropriation



Depleted Streams

Impaired Lakes

Degraded Habitats

Imperiled Species

Coho Salmon

NATIONAL FISH AND WILDLIFE FOUNDATION NFWF

“Water is Gold… you don’t give water rights up”
– Pat Voight

Conservation Response:
Water Transactions

- Voluntary agreements to acquire water (permanently or temporarily) from willing sellers and re-allocate for conservation use
- Analogous to land protection

Gorge streams withdrawn from appropriation → **Early 1900's**

OR Minimum Streamflow Program

1955

- Legislature began to realize damage being done by over-appropriation
- Instructed WRD to set min. stream flows to protect fish and wildlife habitat
- Did very little to solve the problem

Oregon Instream Water Rights Act: 1987

- Conversion of existing consumptive rights
  - Instream = beneficial use, equal to all others
  - Instream right maintains priority date

- Variety of tools
  - Leases (1-5 years, no limit on renewals)
  - Split-season leases
  - Permanent transfers
  - Allocation of conserved water

Oregon Water Trust (OWT)

- Founded in 1993
- Formed in response to the 1987 Instream Water Rights Act
- Diverse Board of Directors
- Clueless first ED who could at least find Buck Hollow Creek on a map of Oregon
- Not so clueless Staff Scientist who developed the approach to prioritizing streams

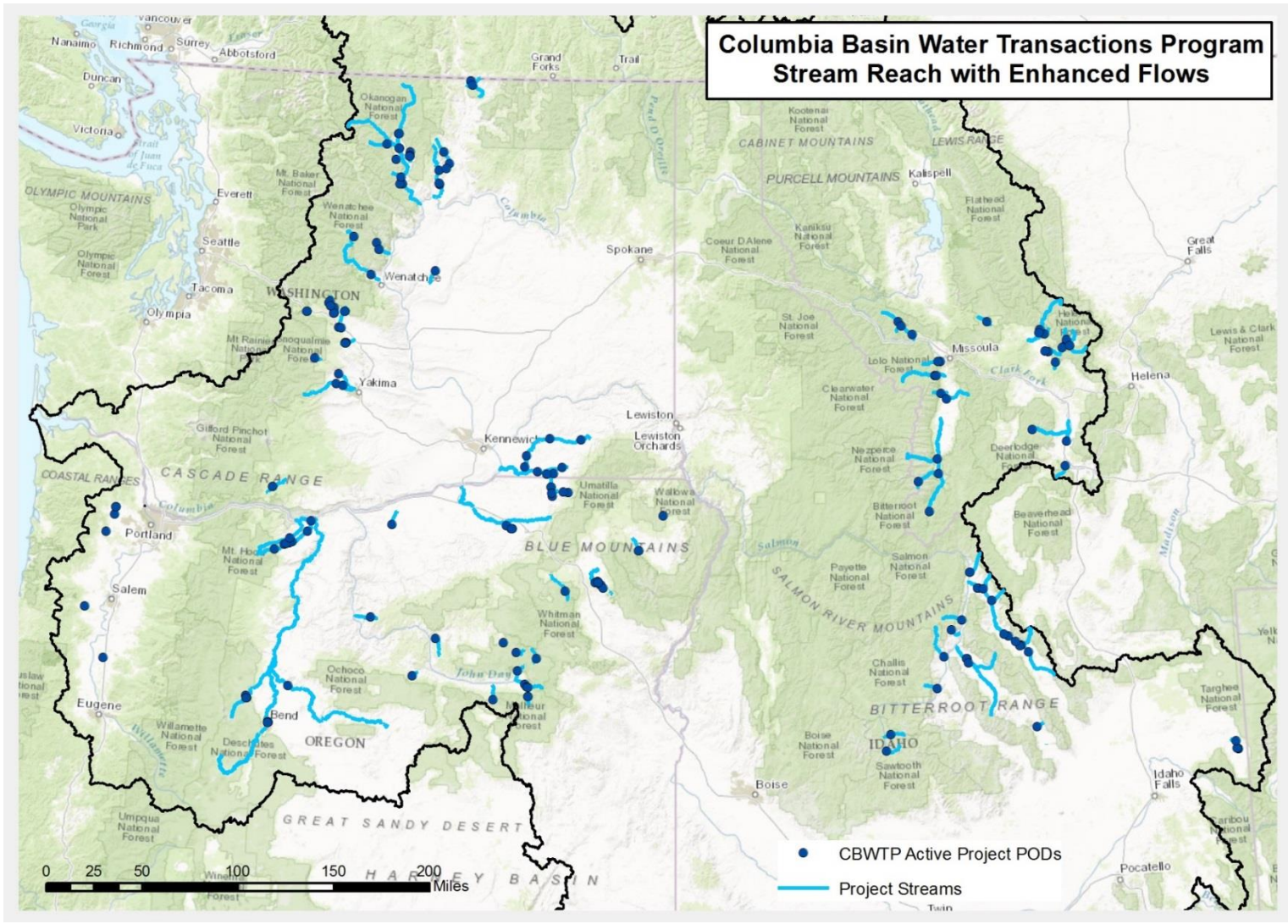
Columbia Basin Water Transactions Program

- Partnership w/BPA, established in 2002
- First watershed-scale transactions program
- $5-6M per year from BPA
- Partner with 4 state water agencies and 7 other local partners to implement transactions and projects

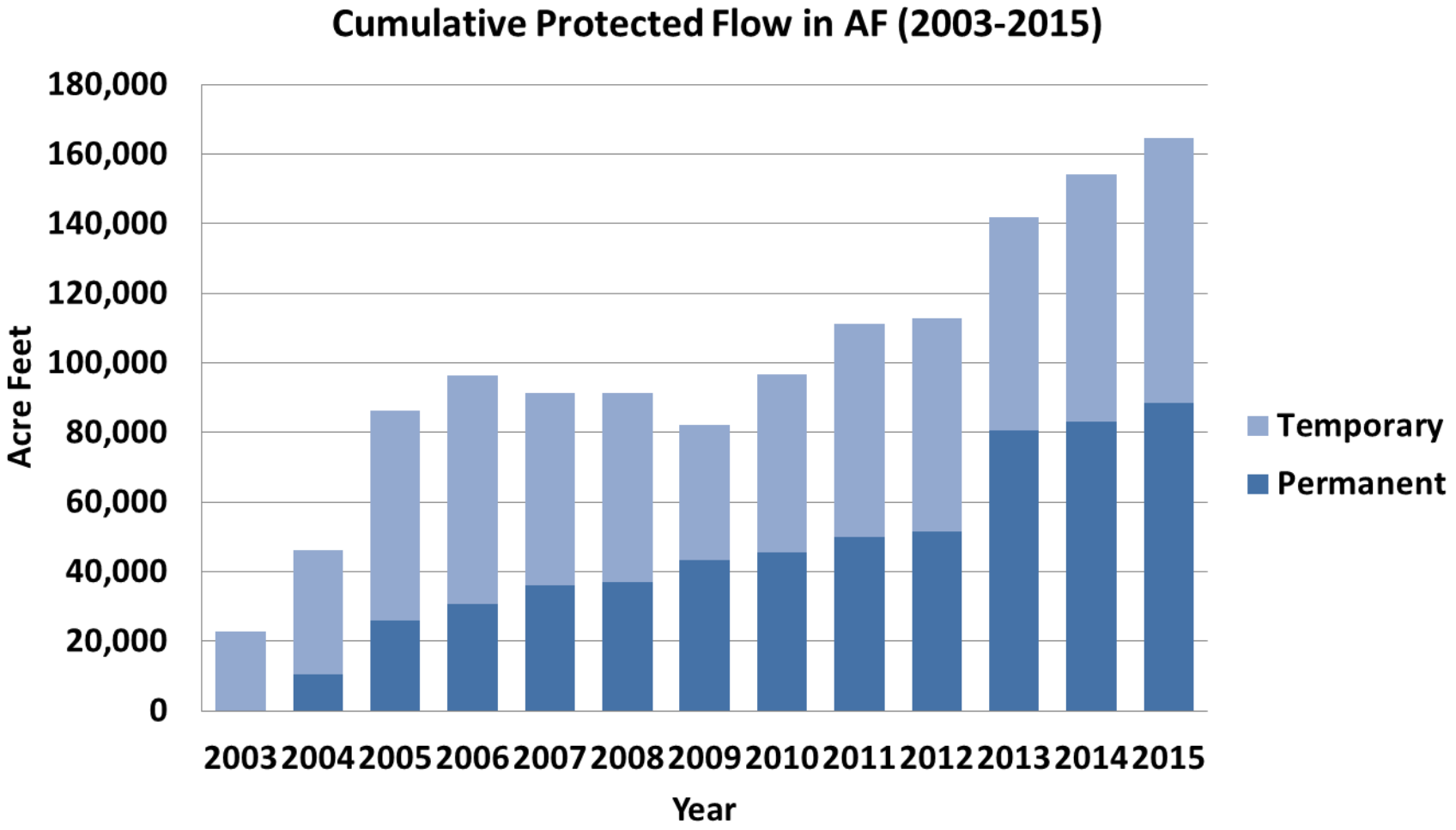
WALKER BASIN RESTORATION PROGRAM

- Established by Congress in 2009
- Implemented in partnership with BOR
- Restore & maintain Walker Lake and its watershed
- Congress subsequently expanded authorization to adjacent DTL watersheds

Over 150 Streams Benefitted



NATIONAL FISH AND WILDLIFE FOUNDATION NFWF


Cumulative Protected Flow in AF (2003-2015)
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
Acre Feet
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Year
Temporary
Permanent

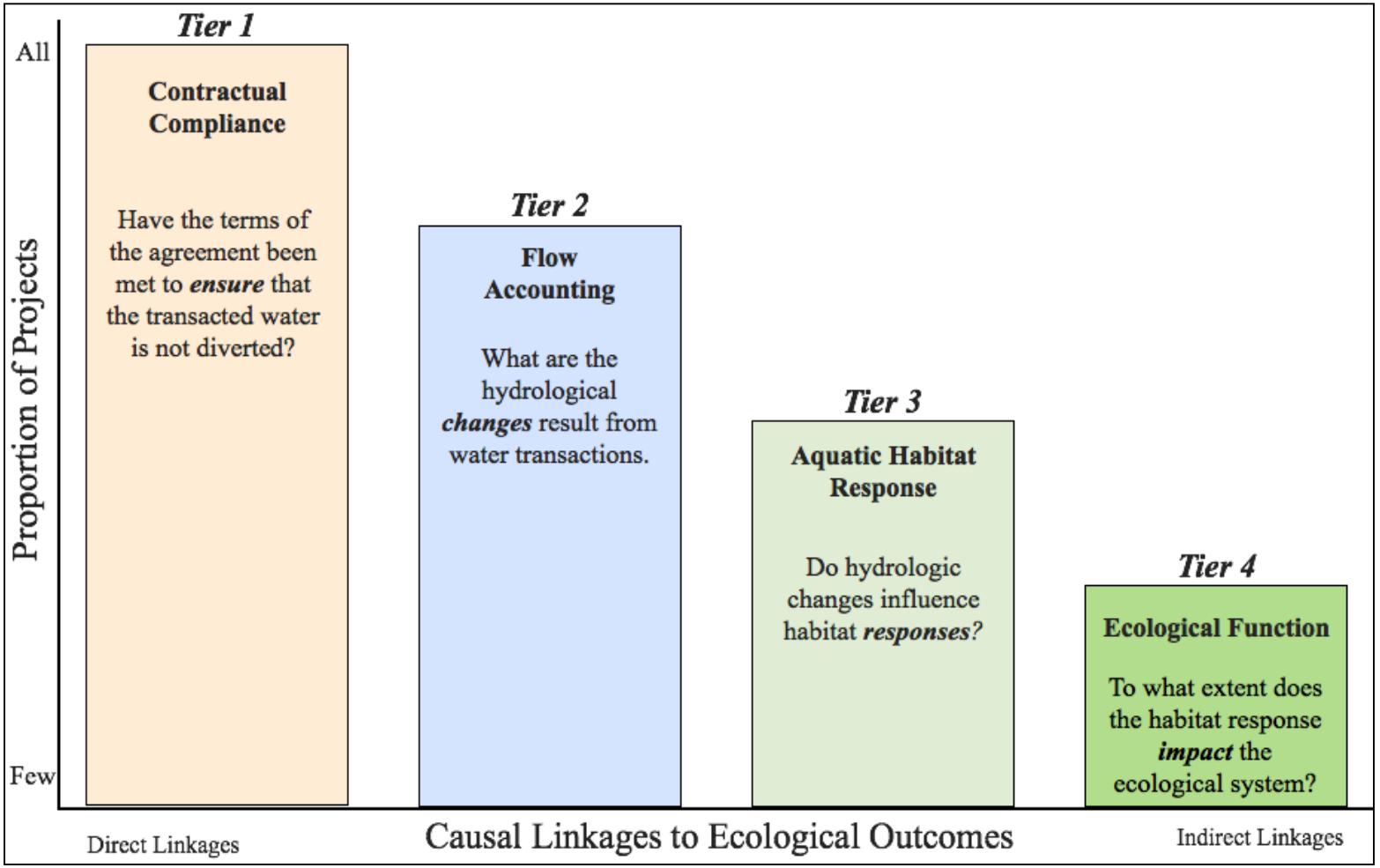
Moving Beyond the Before and After Photo

Ecological Objectives of Tributary Transactions

1. Connectivity: (e.g. passage/migration/recruitment/spawning)
2. Over-summering habitat enhancement: (e.g. juvenile rearing/adult holding)
3. Over-wintering habitat enhancement: (e.g. improve stream depth and temperature diversity)
4. Water quality enhancement (e.g. enhance temperature/DO conditions)
5. Channel Maintenance (e.g. pulse or flushing flows)
6. Subsistence Flows (e.g. enhance riparian vegetation and ecosystem functions)

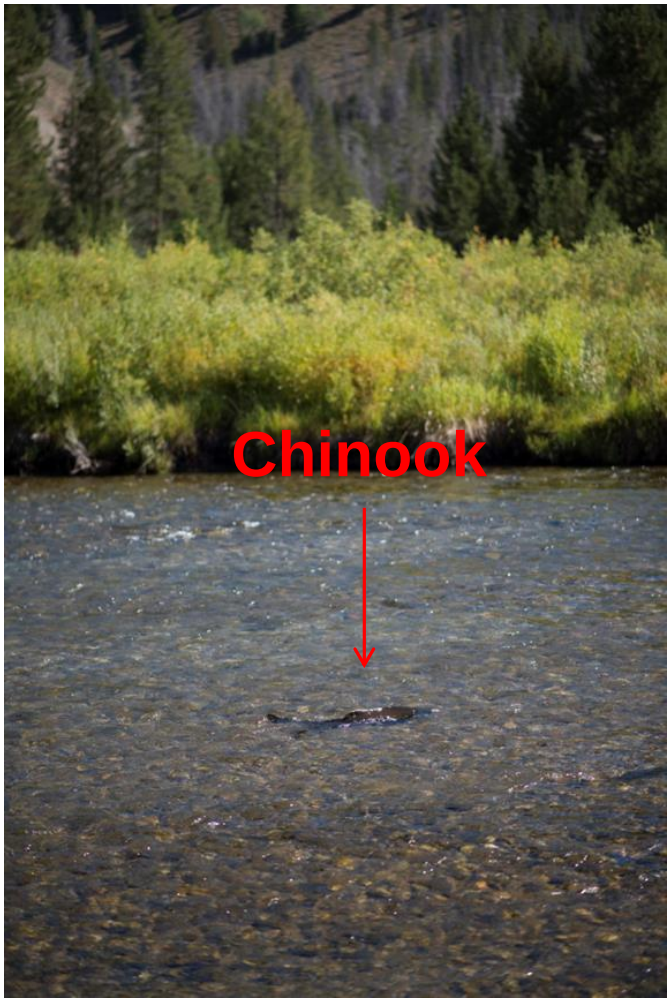
NFWF

Flow Restoration Accounting Framework

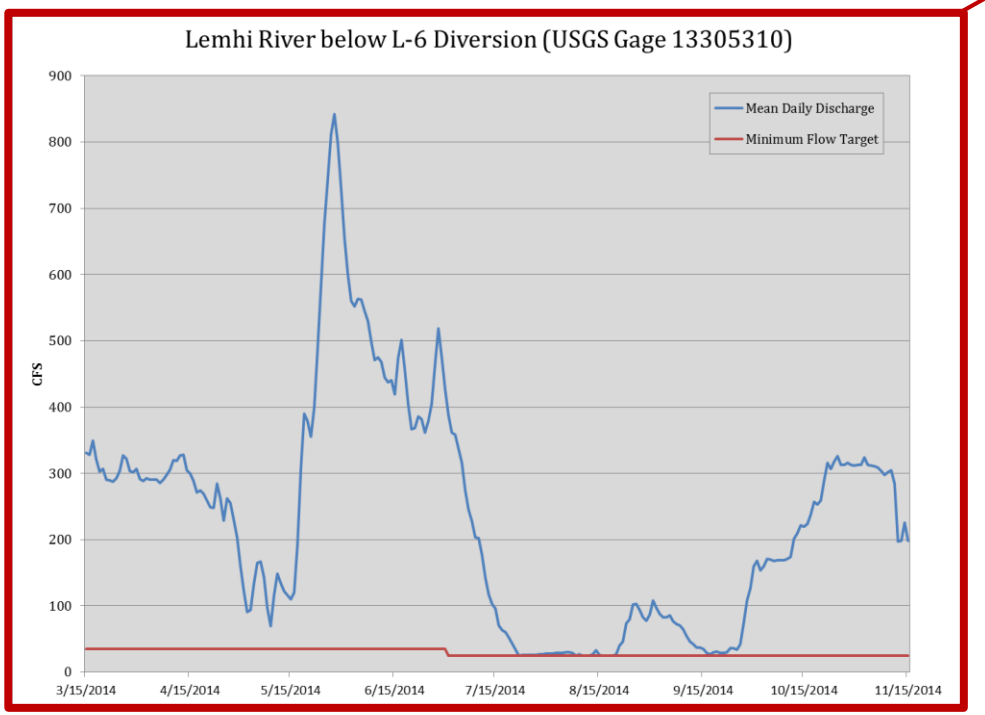


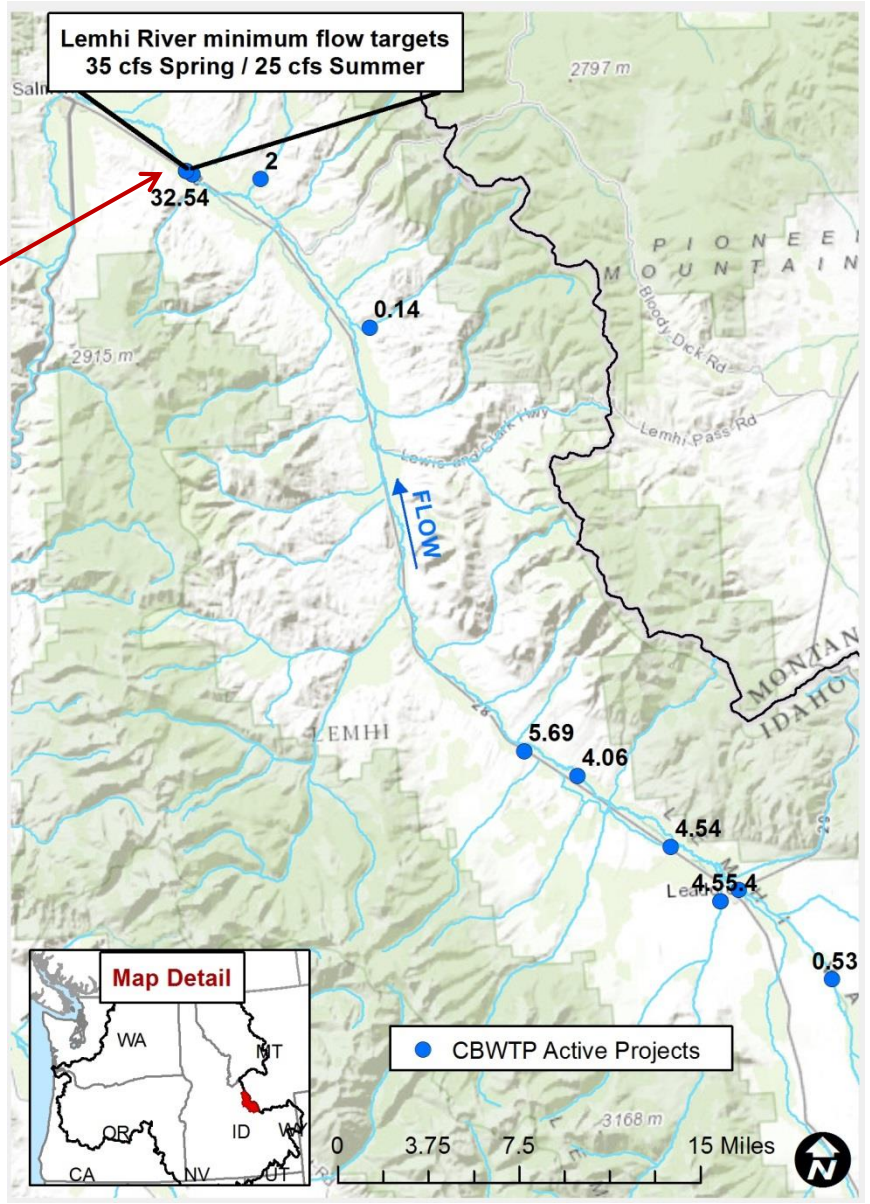
NFWF

Lemhi Basin, ID



Mainstem Lemhi River Passage Flows

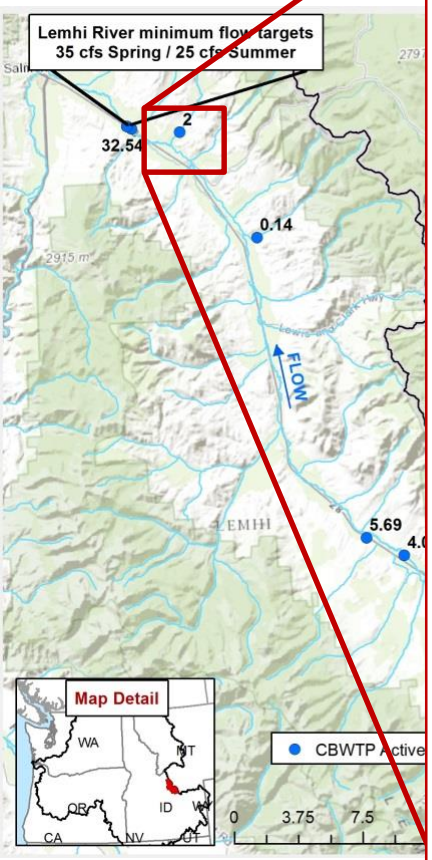


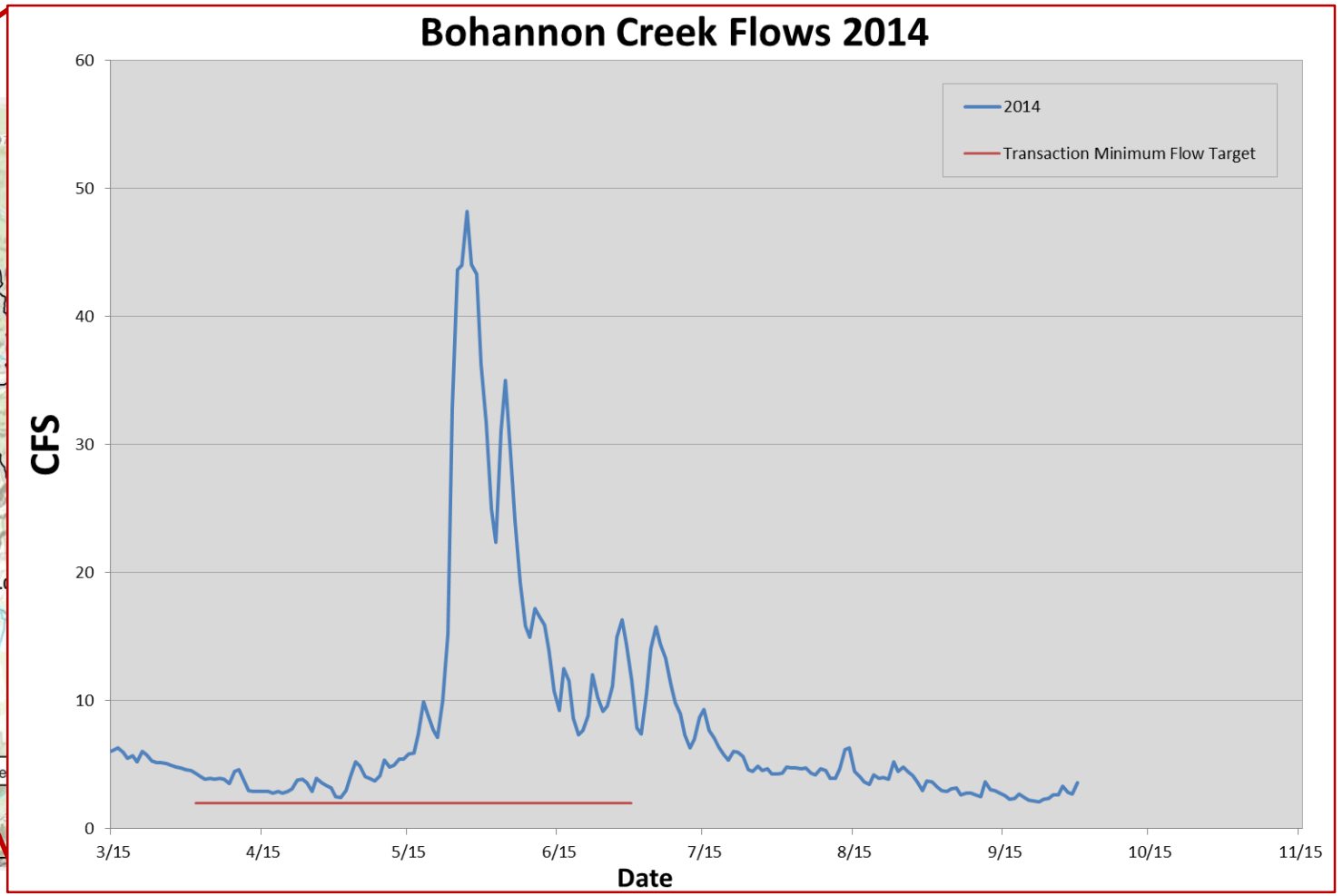


Spring passage: Steelhead Salmon – 35 cfs
Over-summering: Chinook Salmon – 25 cfs

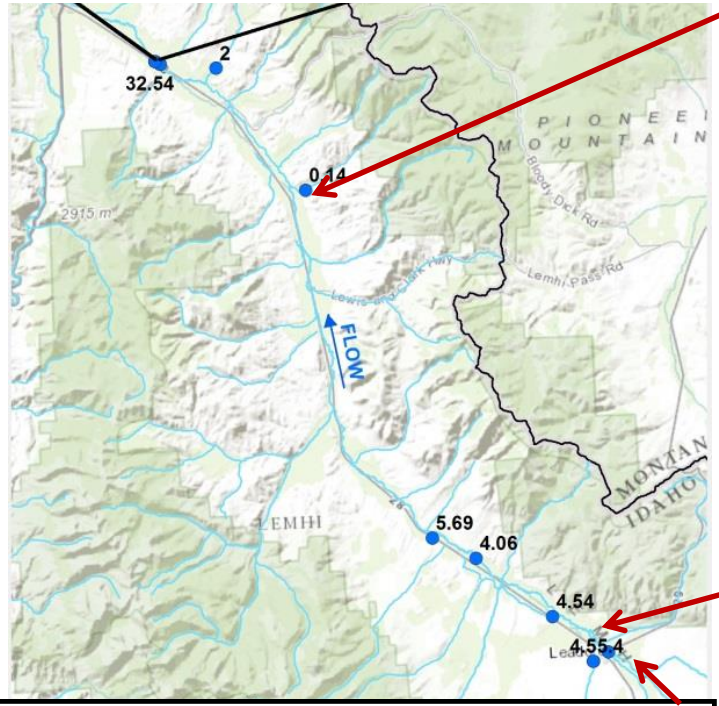
NATIONAL FISH AND WILDLIFE FOUNDATION NFWF

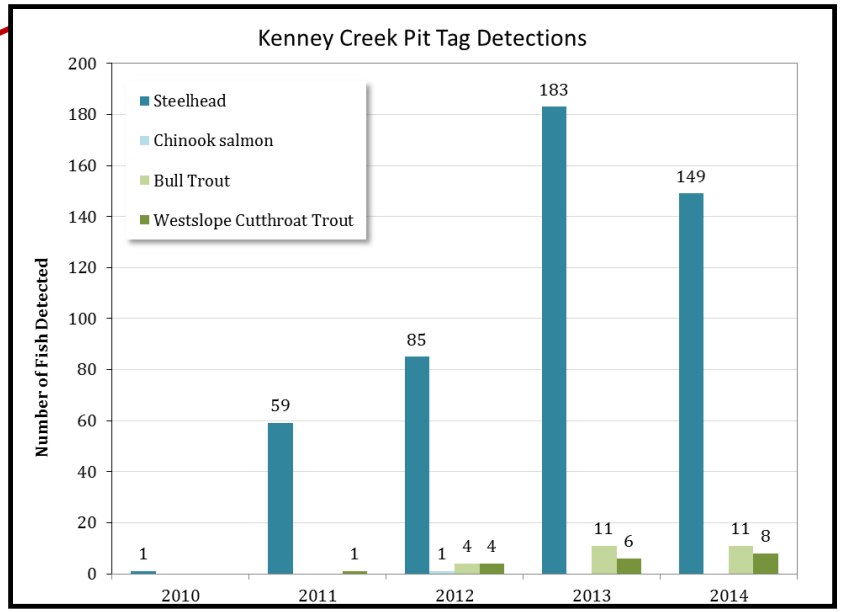
Bohannon Ck. - Migration & Spawning Flows

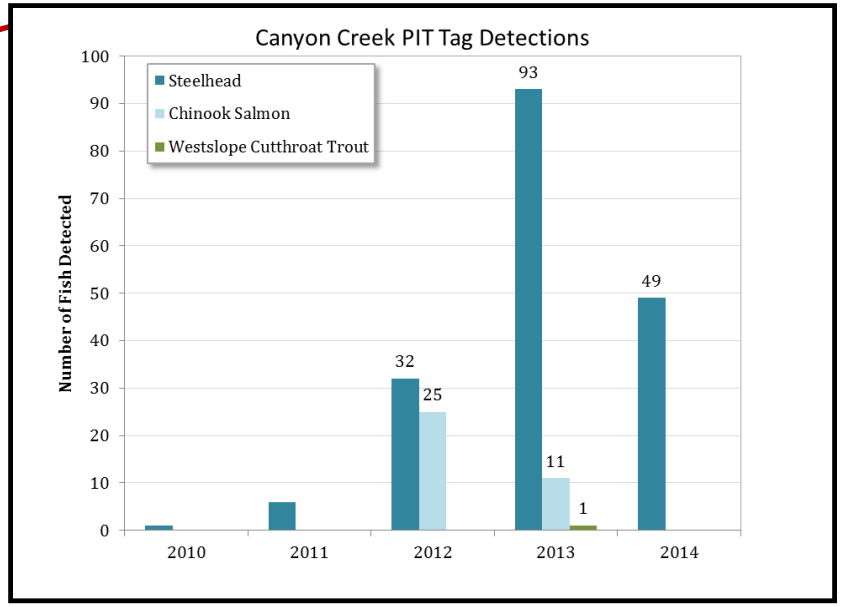


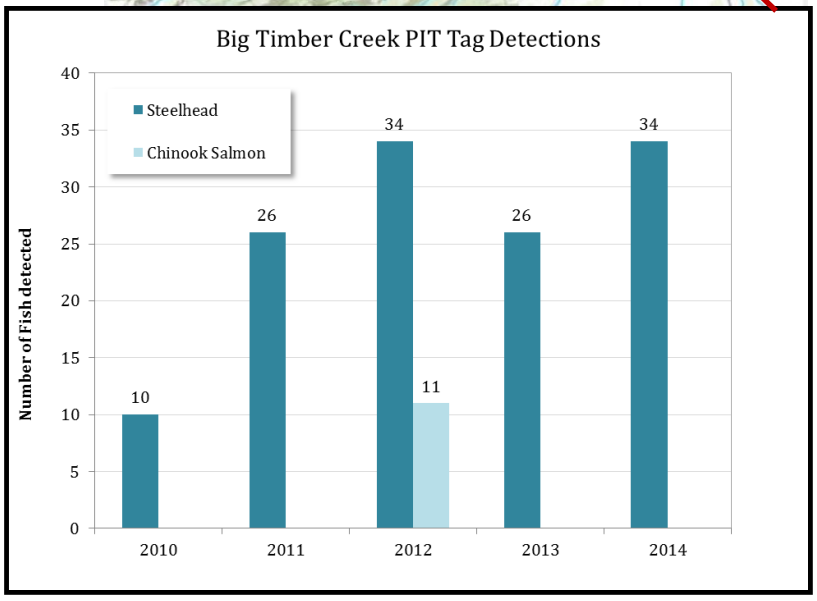


Lemhi River PIT Tag

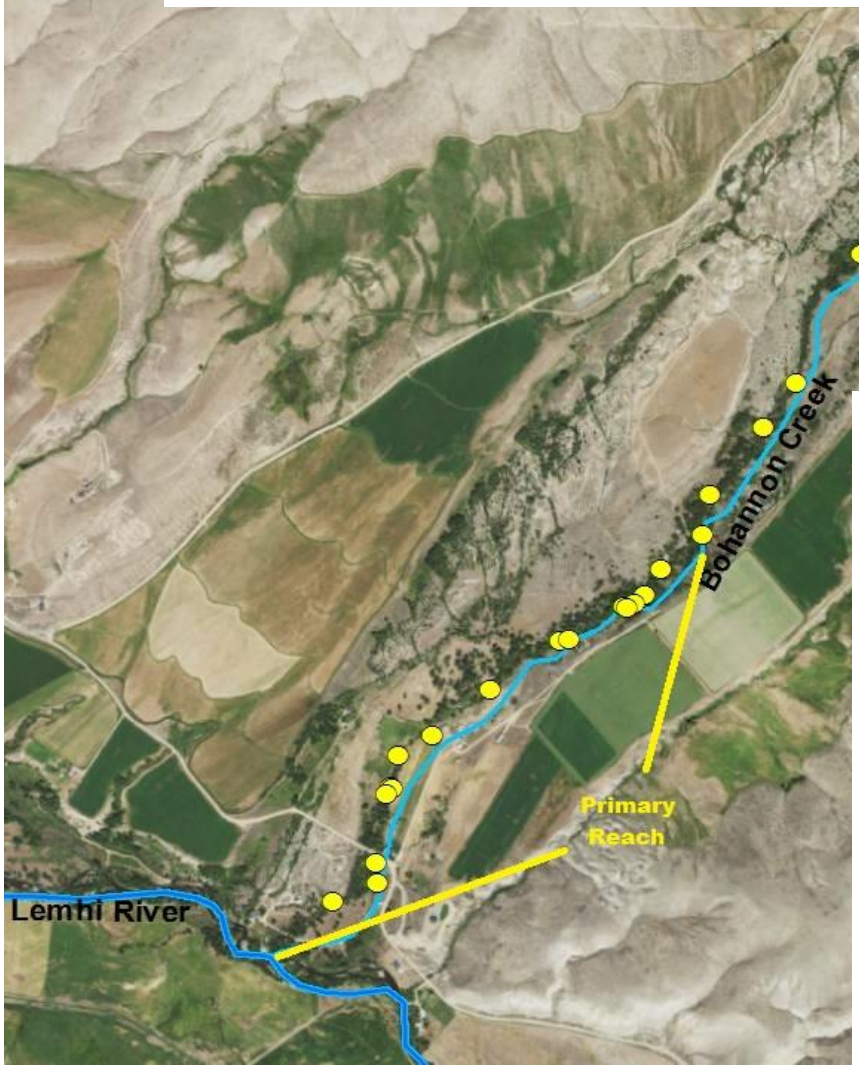


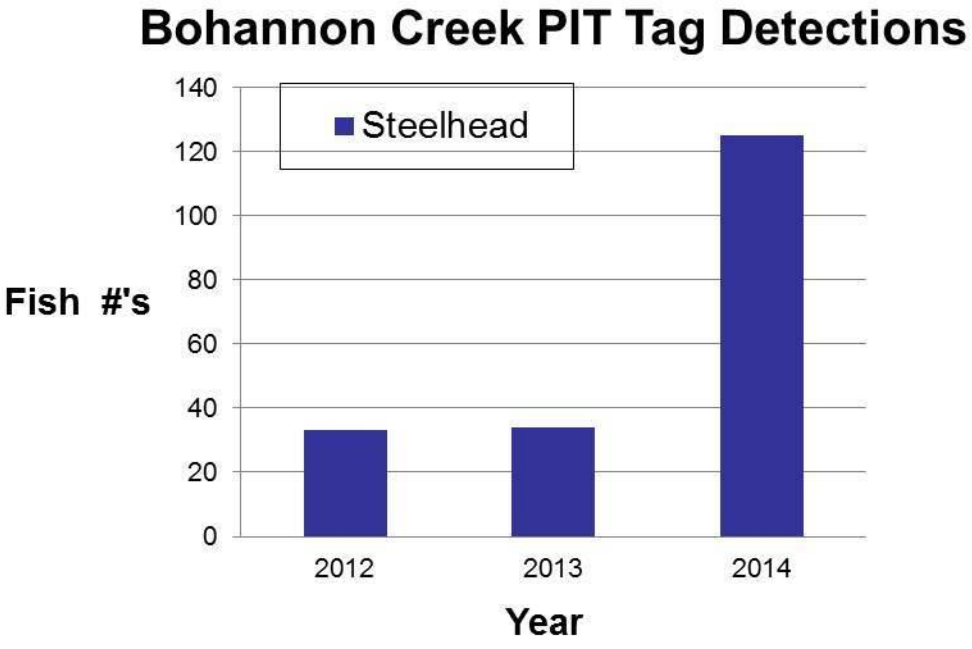




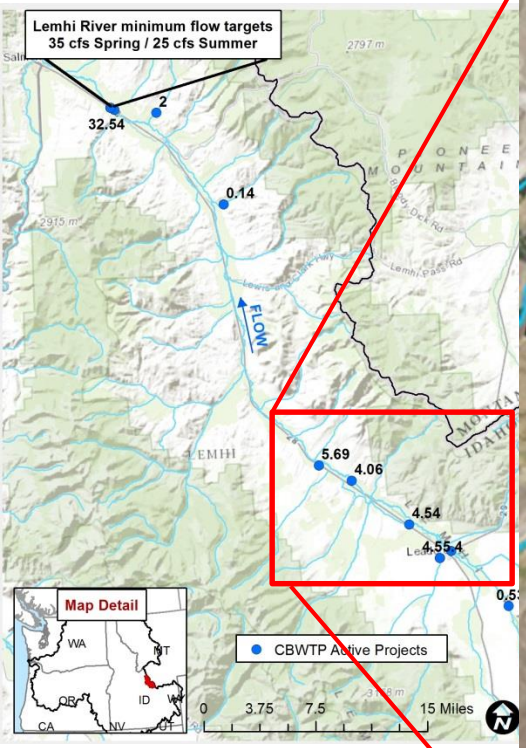


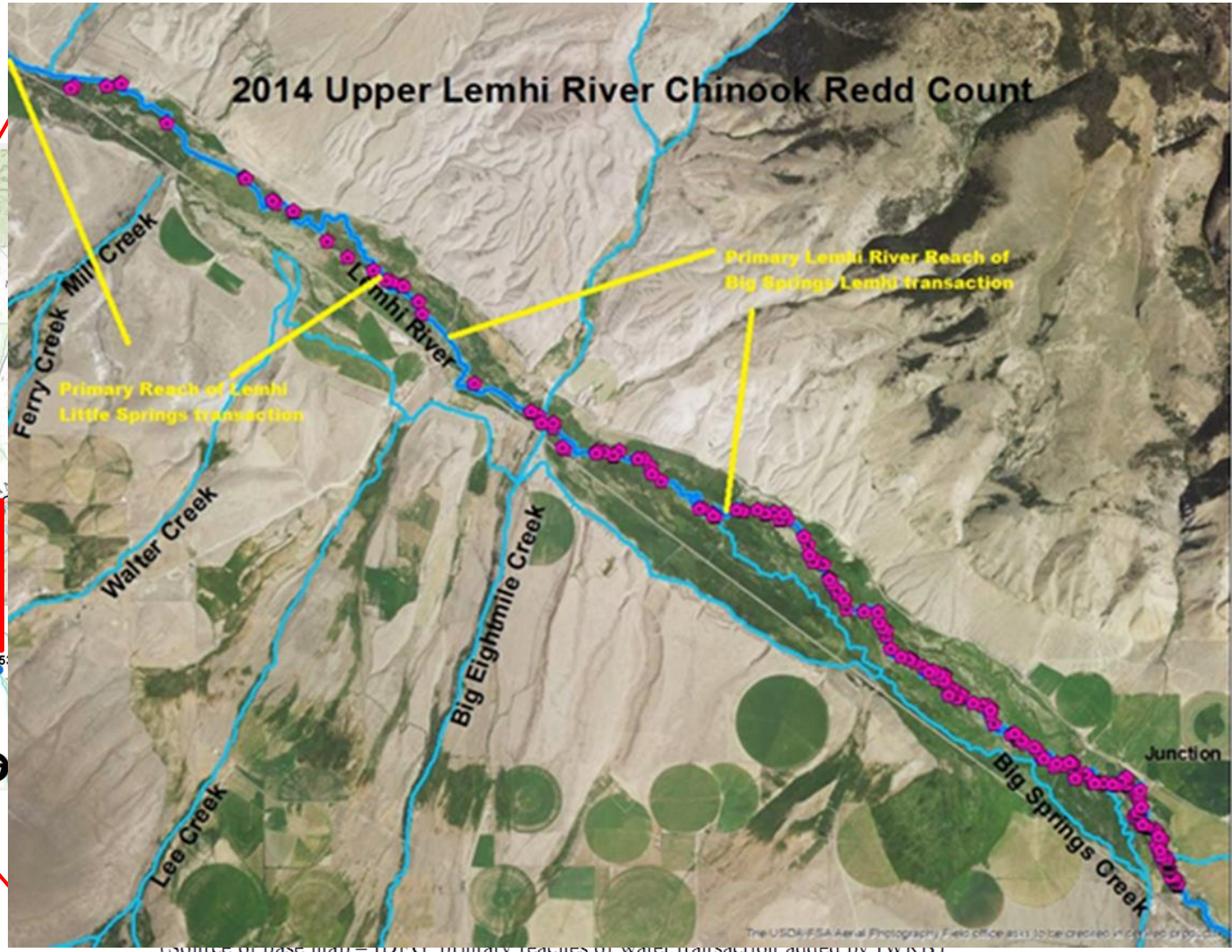
Bohannon Creek Steelhead Redd Count





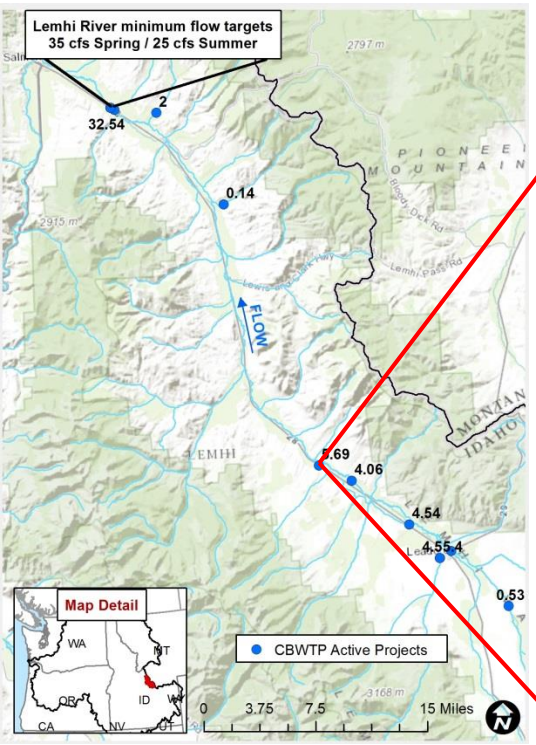
Little Springs Creek / Big Springs Creek Redd Counts

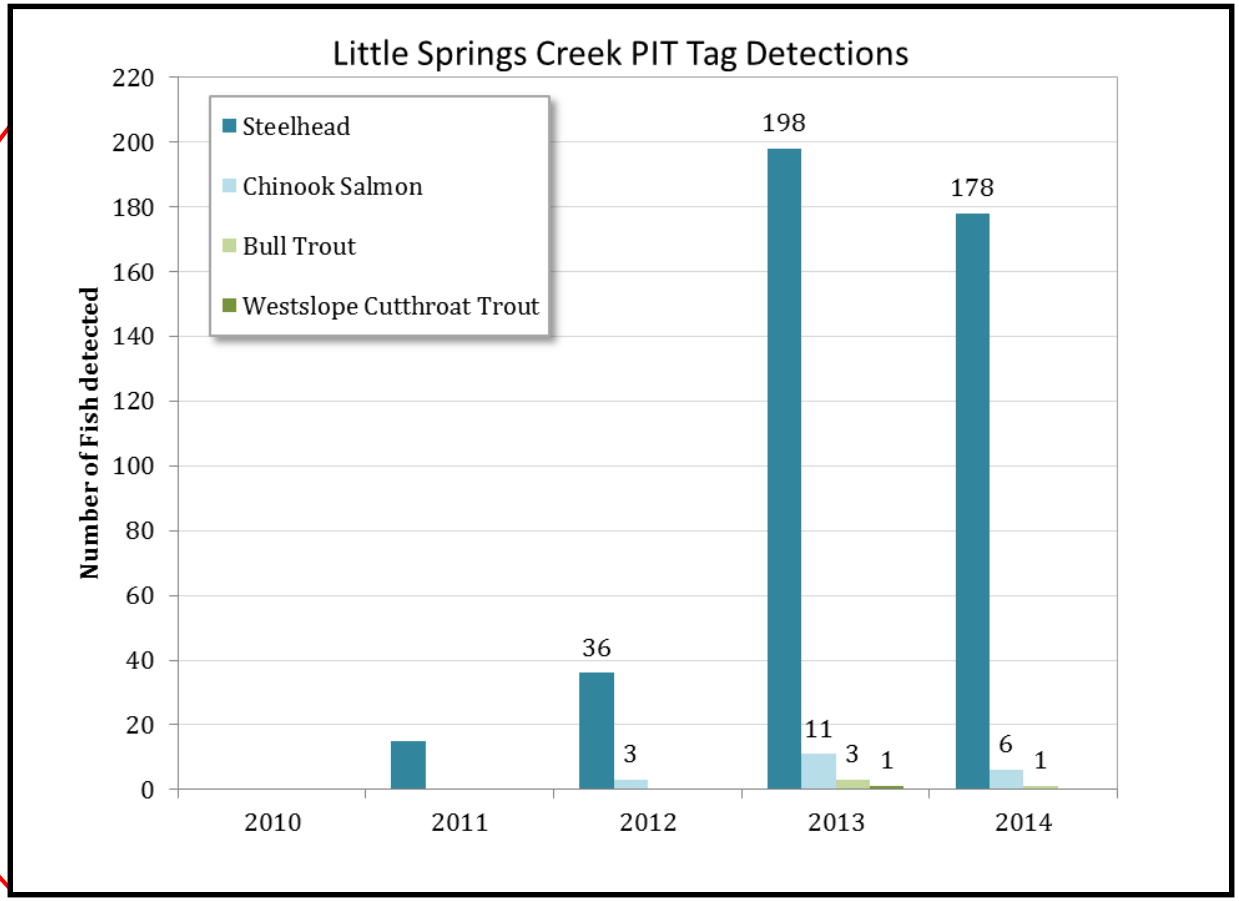




(Source of base map = IDFG; primary reaches of water transaction added by IWRB).

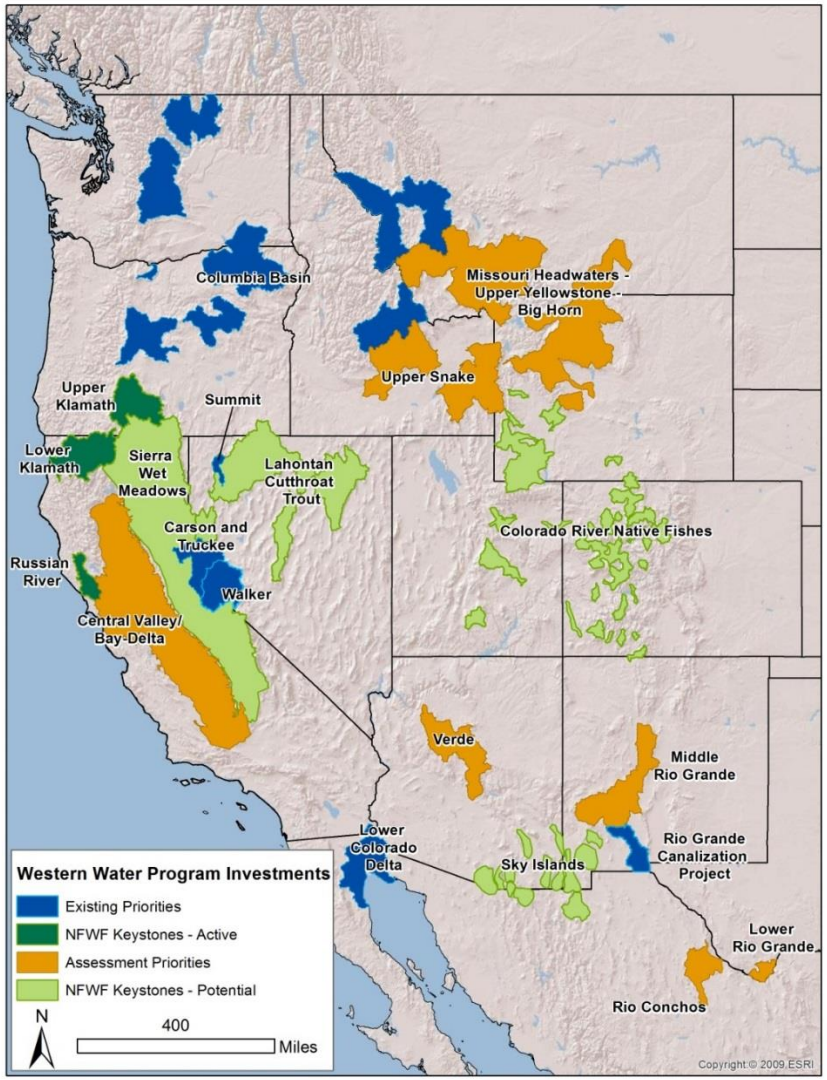
Little Springs Creek / Big Springs Creek PIT Tag





(Source of base map – IDFG, primary reaches of water transaction added by IWRB).

Scaling Up the Western Water Program



- Enhance existing focus areas
- Fully integrate WWP into existing keystone initiatives
- Assess geographies by overlaying science with regulatory, financial and cultural considerations
- Develop geographically-specific business plans with partners through NFWF's science and evaluation team

NATIONAL FISH AND WILDLIFE FOUNDATION NFWF

Assessment Criterion

Existence of regulatory incentives and political climate conducive to the use of water transactions for freshwater ecosystem restoration; Favorable state legislature dynamics.

2015 Review of State Laws
Stanford Water in the West

- Beneficial use recognition
- Transfer authority
- Statutory recognition of environmental transfers
- Private holdership of environmental water rights
- Permanent transfers
- Short-term leases
- Restrictions on environmental water rights
- Conserved water authorization
- Stacked or permissive uses
- Protection from forfeiture

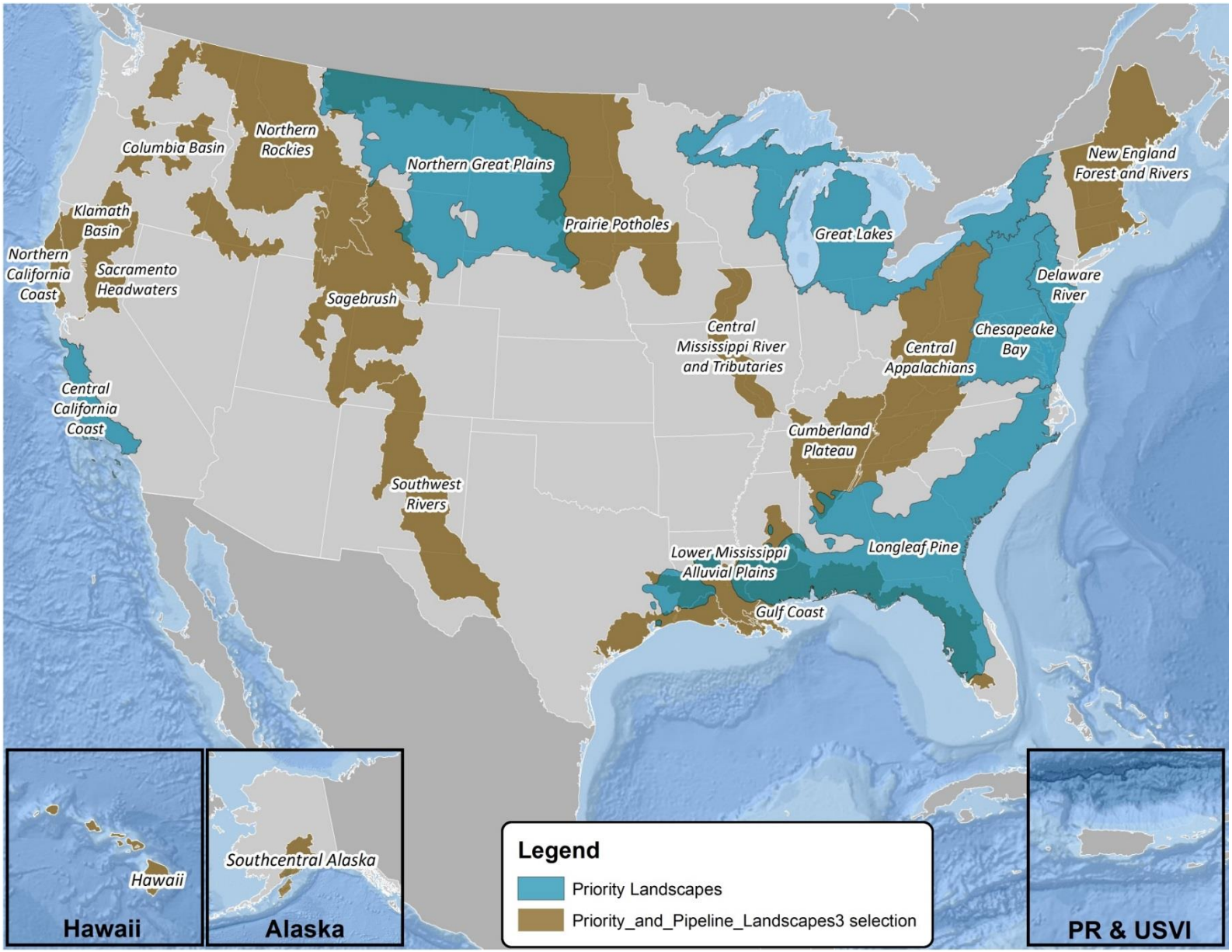
NFWF

2015 Review of State Laws
Stanford Water in the West

Summary of Results

State	Number of Legal Elements	Number of Total Transactions	Average Review Time
Arizona	3	0	N/A
California	9	34 (15 long term/permanent; 15 short term; 4 emergency)	1.3 years (long term); 4 months (short term)
Colorado	7	34 (7 temporary)	6.5 years (long term)
Idaho	5	30	3.8 months (state water bank)
Montana	8	50 (1 pending)	1.5-2 years
Nevada	5	57 (18 temporary)	
New Mexico	5	1	
Oregon	7	113 transfers; 1800 leases	2.8 years (transfers); 30-40 days (leases)
Texas	8	Approximately 20	1 year
Utah	6	8	1-2 years
Washington	8	1118 (586 temporary donations)	6 months-6 years
Wyoming	4	1	1 year

NFWF Draft Conservation Framework



THANK YOU!