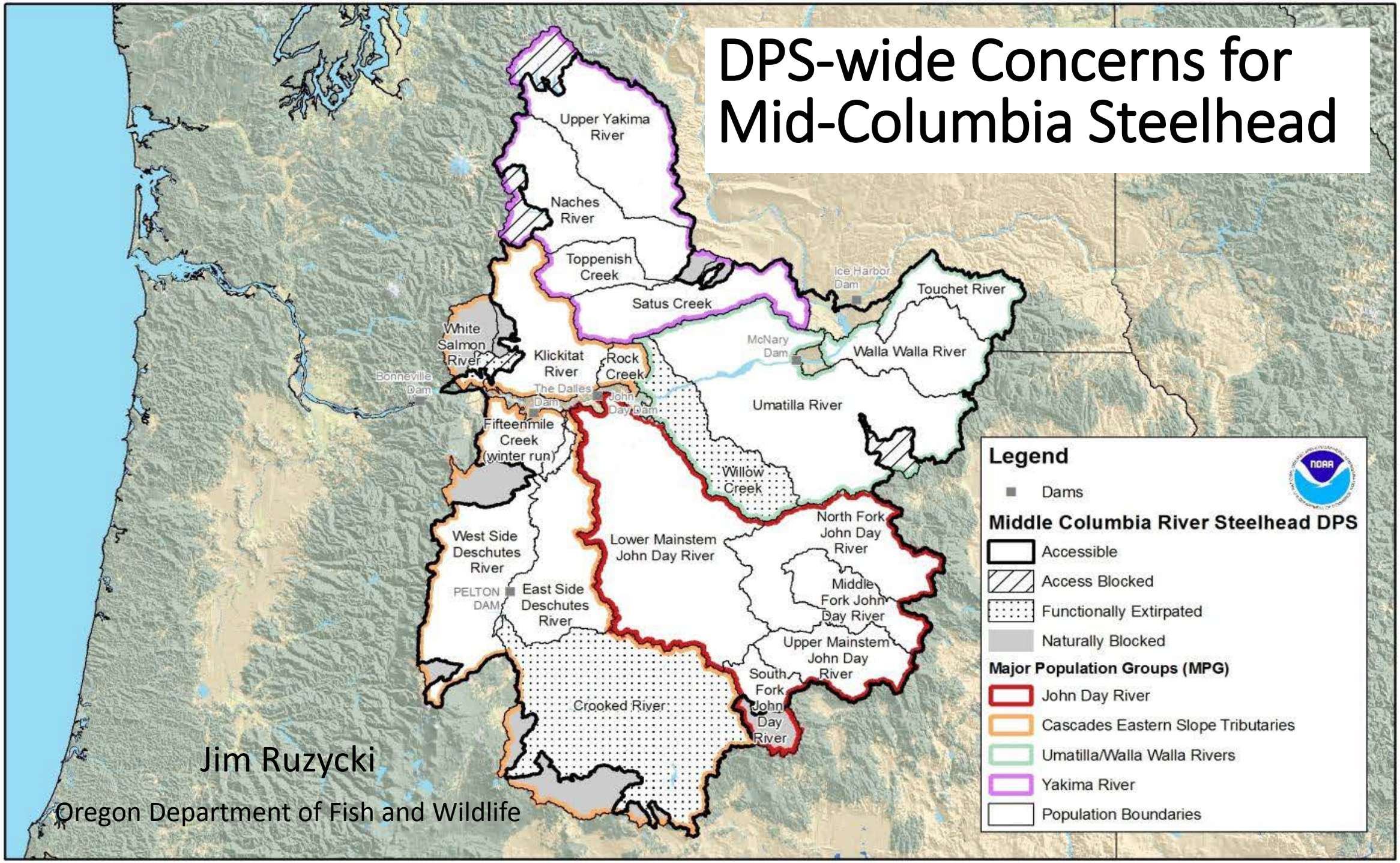
DPS-wide Concerns for Mid-Columbia Steelhead

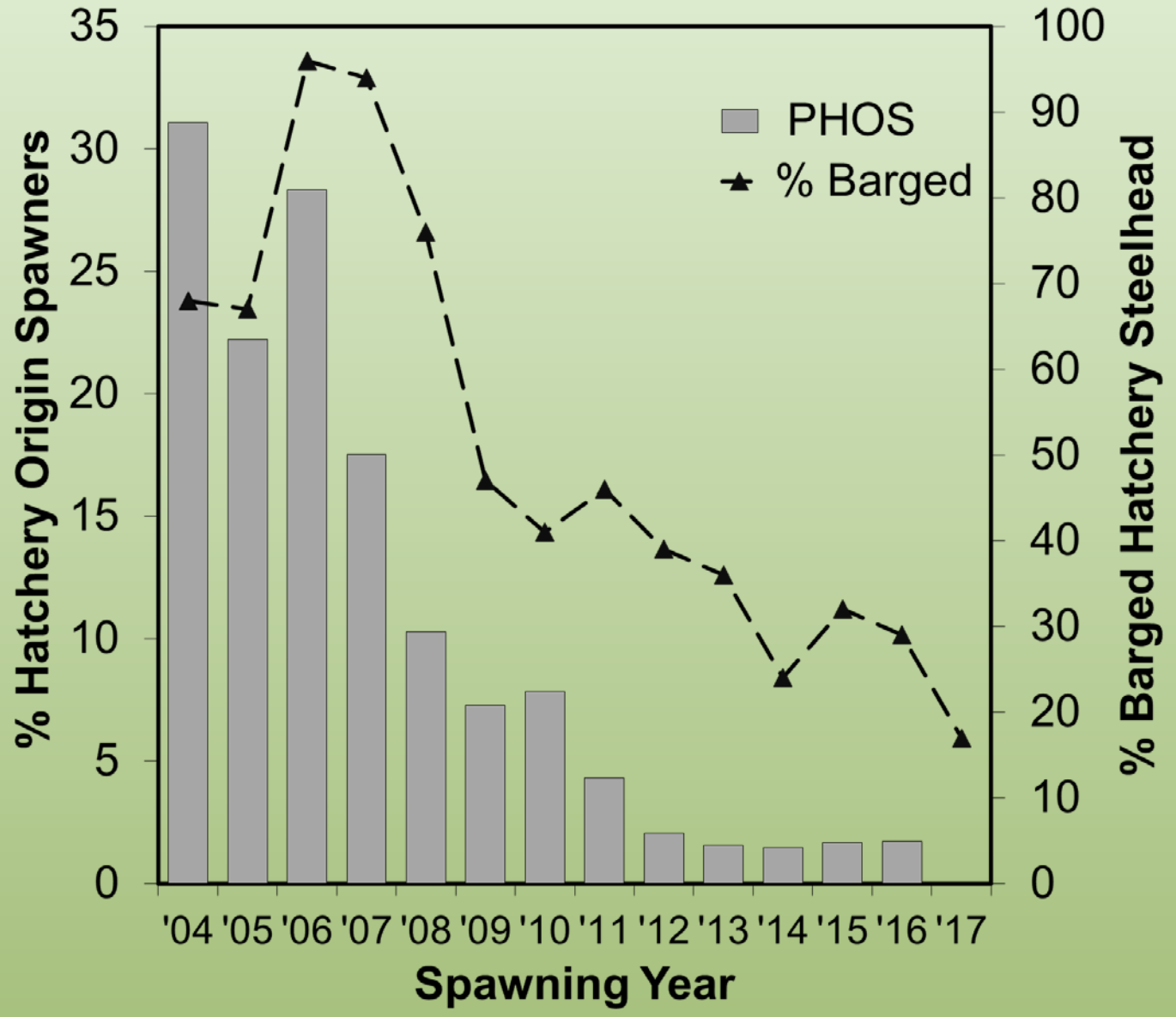


Jim Ruzycki

Oregon Department of Fish and Wildlife

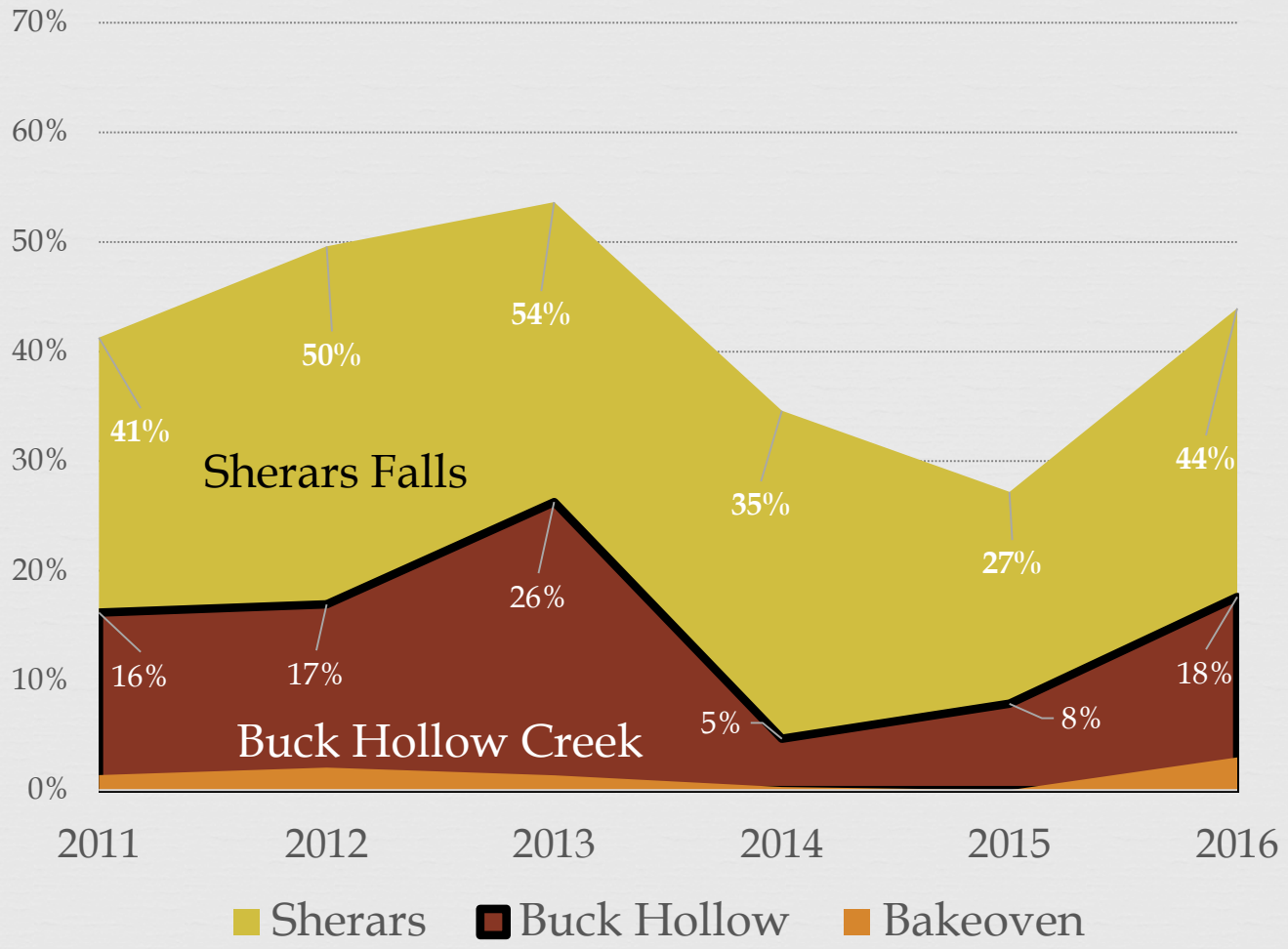
DPS-wide Concerns for Mid-Columbia Steelhead

- Ocean influence
- Climate change
- Harvest
- Juvenile migration
- Adult Strays & Barging
- Columbia River Conversion Rates
- Tributary Overshoot
- Solutions
- Monitoring



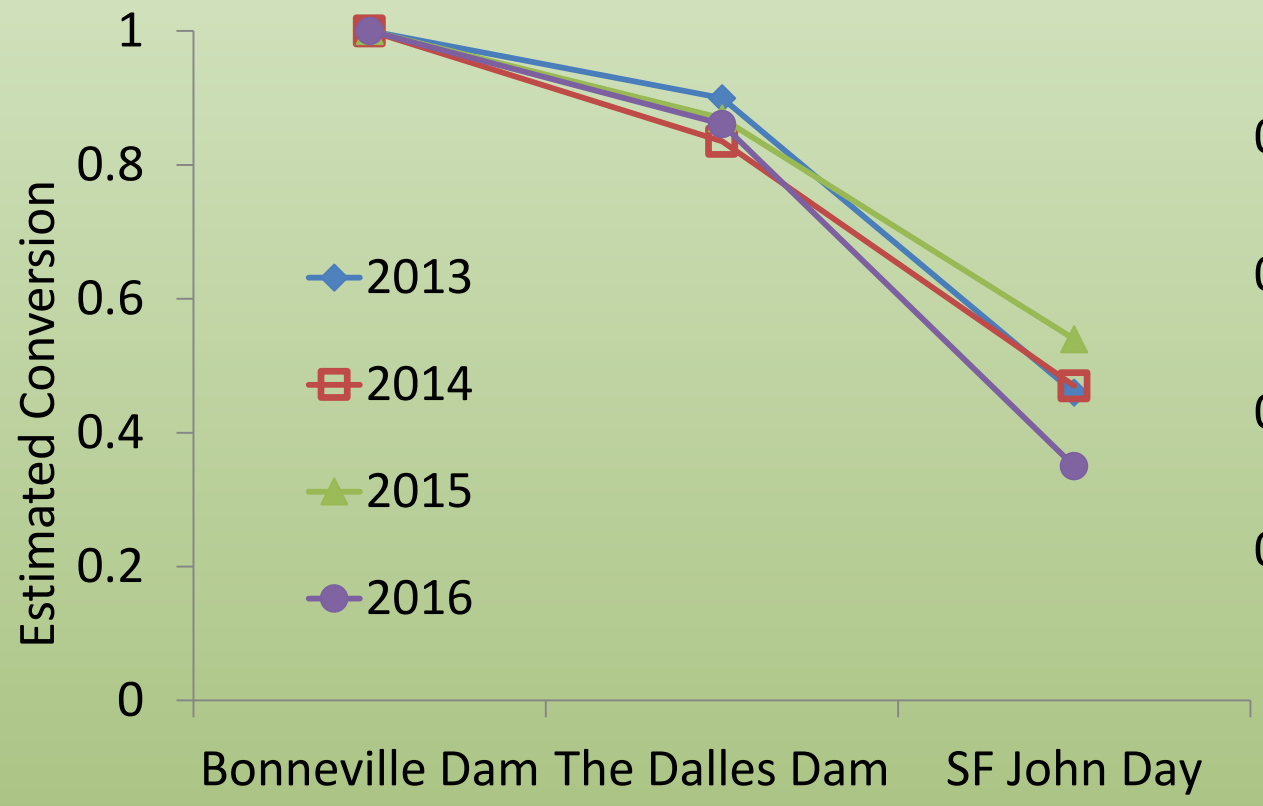
Hatchery strays have declined with reduction in barging rate

Out-of-Basin Hatchery Stray Rate

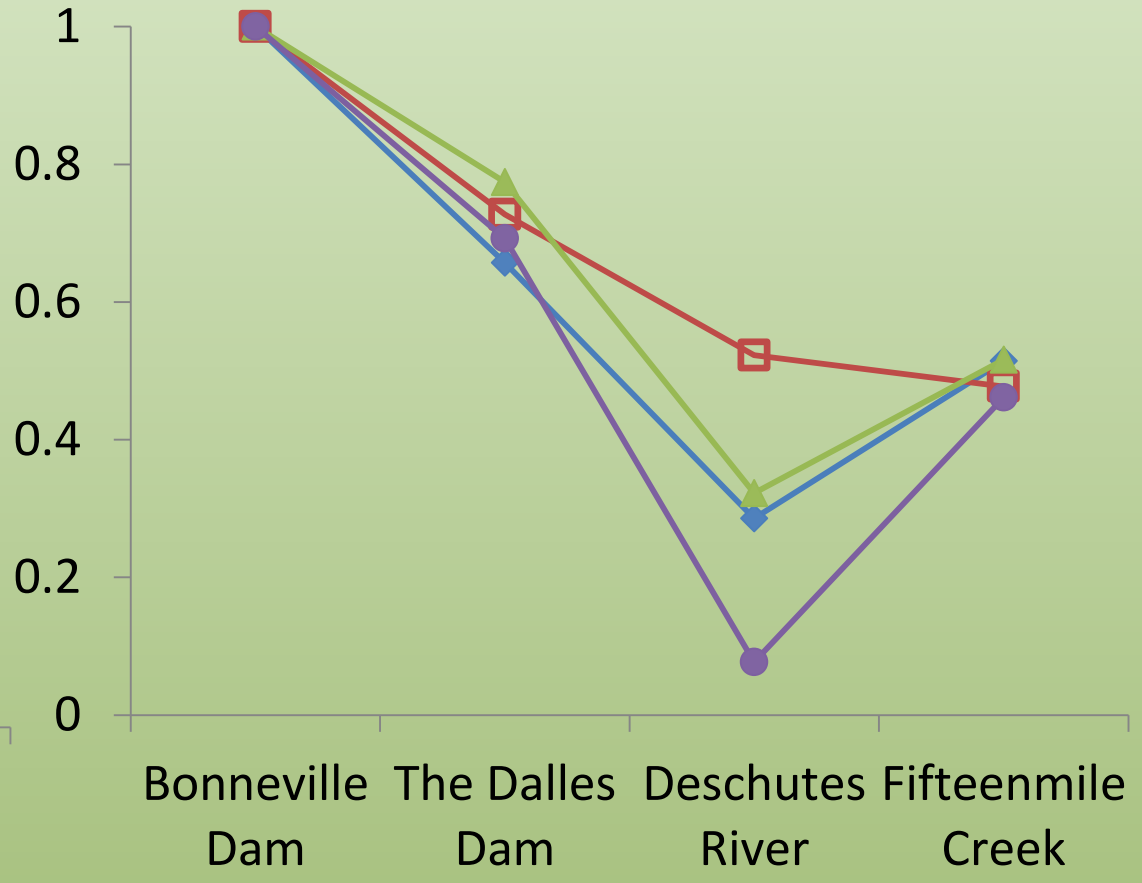


Straying persists in some populations

Adult Steelhead Conversion Rates



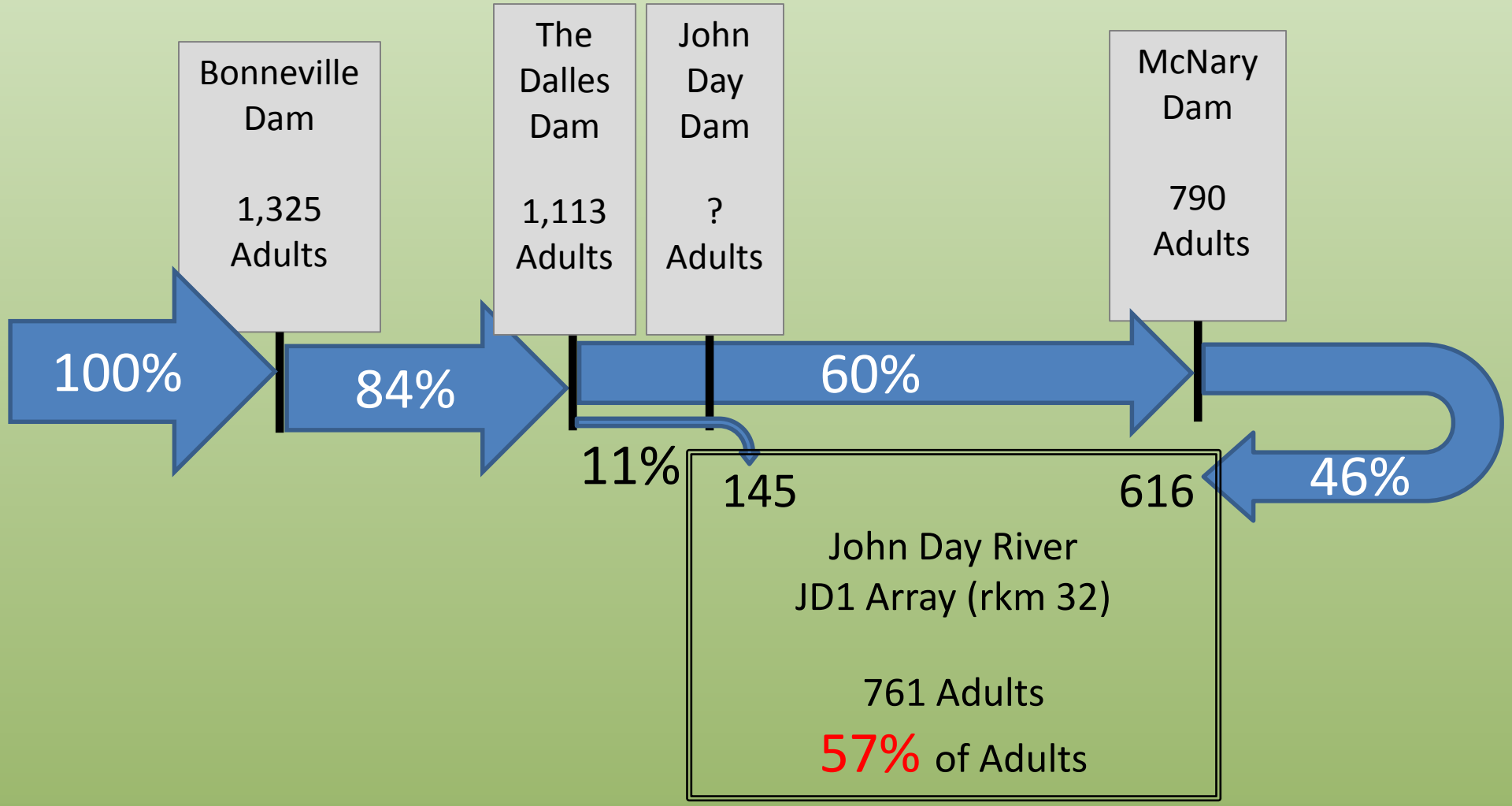
South Fork John Day Population



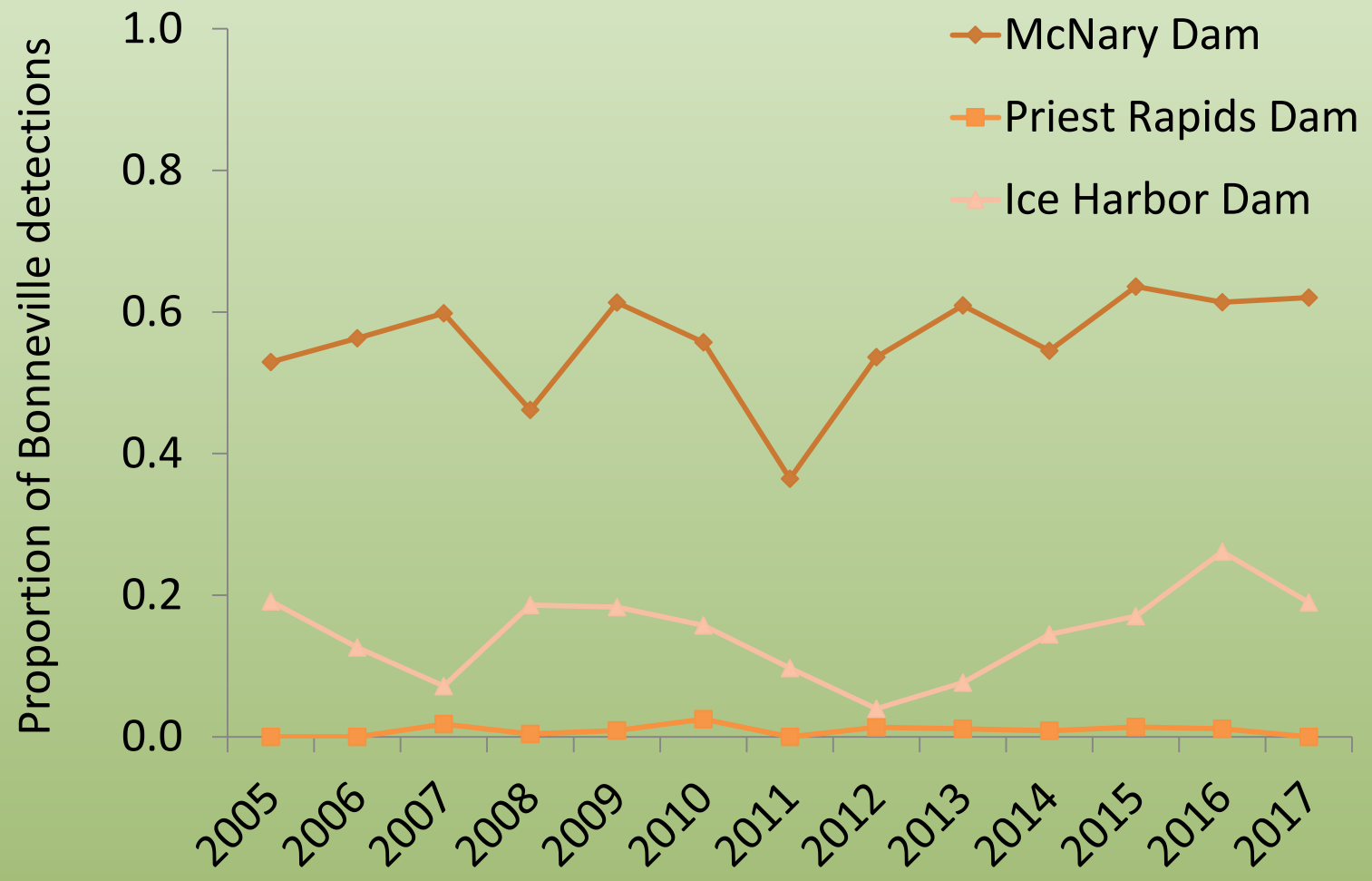
Fifteenmile Creek Population

Columbia River Conversion

South Fork John Day River Population

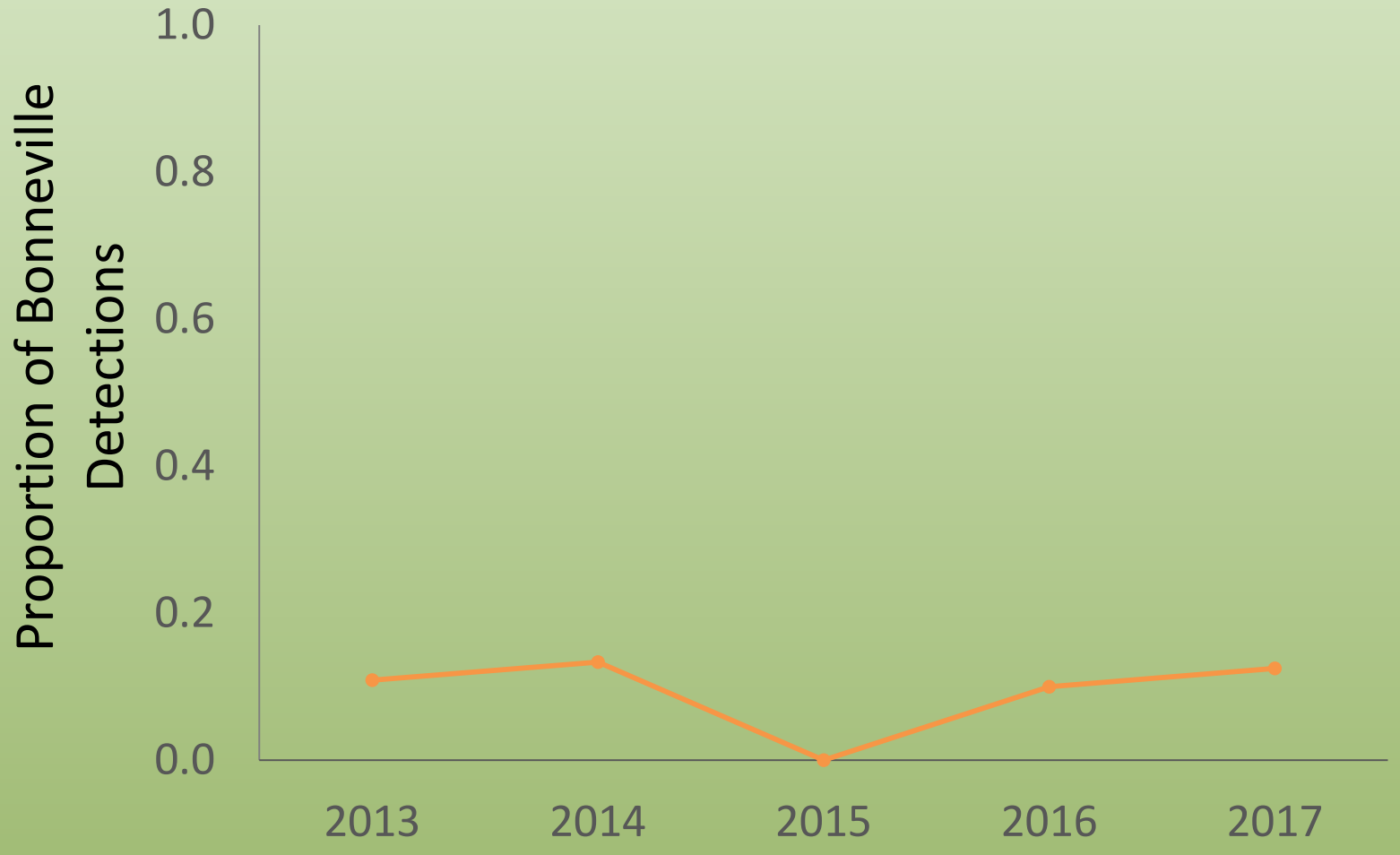


John Day River Overshoot

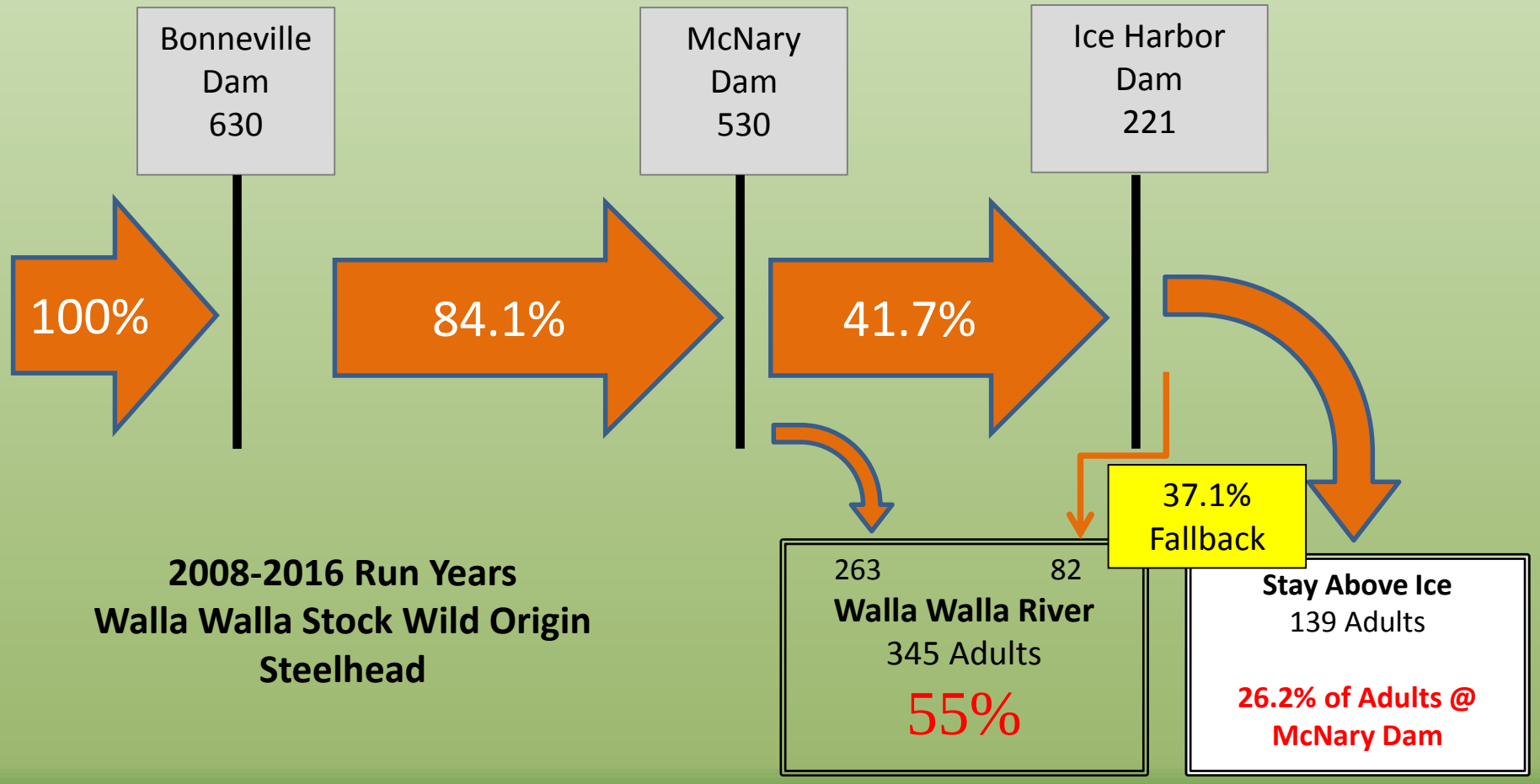


Richins 2017--https://digital.lib.washington.edu/researchworks/handle/1773/40148

For Comparison… Yakima Overshoot to PRD

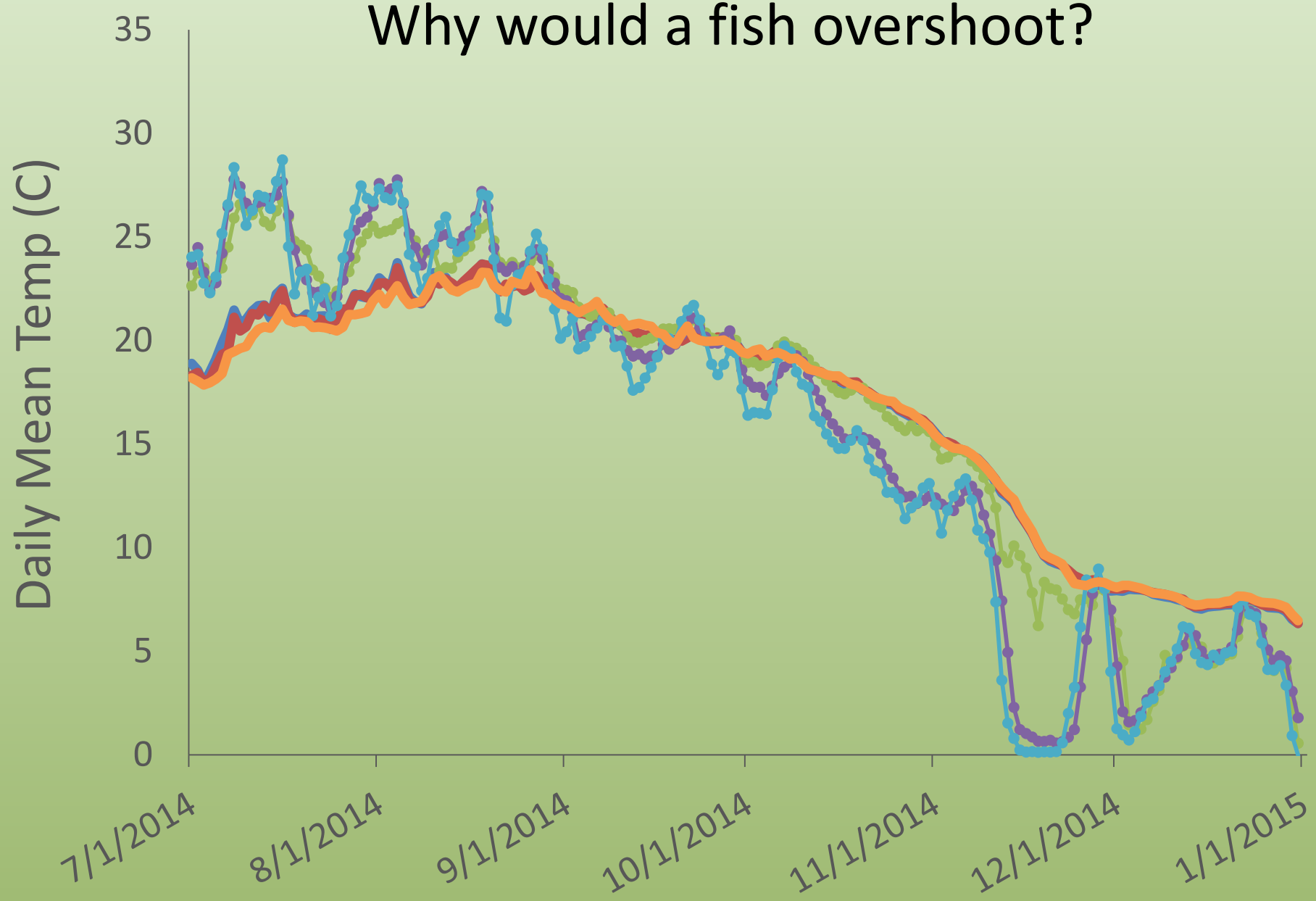


Walla Walla Steelhead (Wild Origin) 2005-2016 Run Years



2008-2016 Run Years
Walla Walla Stock Wild Origin Steelhead

Why would a fish overshoot?

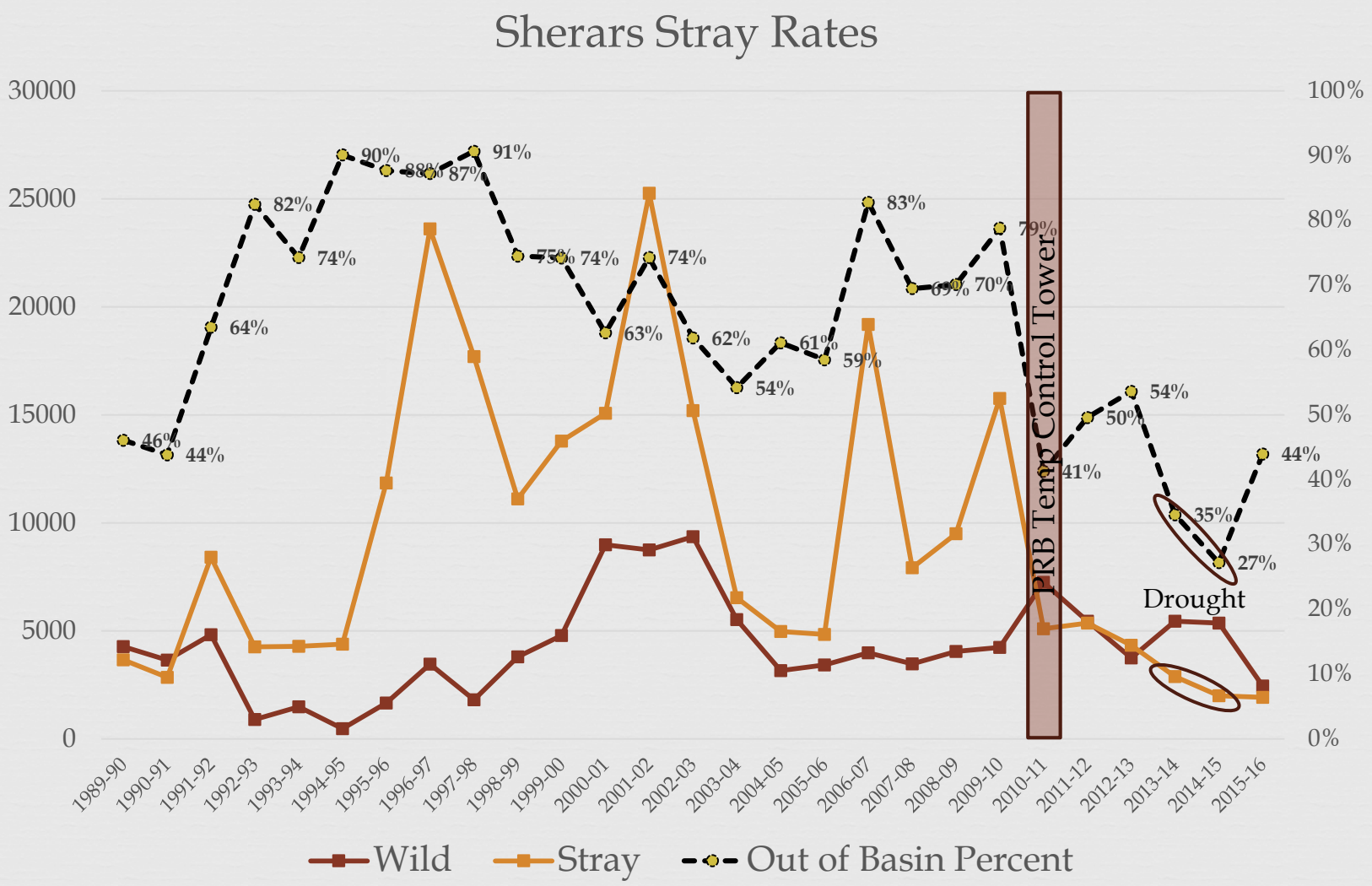


Recovery Opportunities

- Minimize time adults spend in Columbia River
- Enhance downstream passage routes at dams
- Best long-term solution is to reduce overshoot
  - Provide more flow in tributaries
  - Reduce tributary & mainstem water temperature
    - ↓ Density dependence in tributaries
- Juvenile migration survival
    - ↓ migration time
    - ↓ predation
- Monitoring support
    - VSP parameters
    - Prioritization of implementation

Questions?

Photo: J. McMillan


Sherars Stray Rates
30000
25000
20000
15000
10000
5000
0
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
46%
44%
64%
82%
74%
90%
88%
87%
91%
75%
74%
63%
74%
62%
54%
61%
59%
83%
69%
70%
79%
41%
50%
54%
35%
27%
44%
PRB Temp Control Tower
Drought
1989-90
1990-91
1991-92
1992-93
1993-94
1994-95
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
Wild
Stray
Out of Basin Percent