

2012 Baseline Monitoring of Spring Chinook Salmon Above and Below Project Dams: Middle Fork Willamette River

Cameron Sharpe
Oregon Department of Fish and Wildlife
Willamette Science Review
February 5 -7, 2013



Acknowledgments

- Funding: US Army Corps of Engineers and Federal Sport Fish Restoration Fund
- New Analyses and Archival Data
 - Maps: David Hewlett
 - Hatchery Records: Dan Peck
- PGE: Dan Cramer & Tim Shibahara
- Field Staff: Awesome!

- Spawner Surveys
 - Redd Counts and Carcass Recovery
 - Spawner Abundance, Distribution, Biometrics (Size, Age)
 - Spawner Origin (pHOS using fin clips, CWTs, and otoliths)
 - Spawning Success (PSM)
 - Spawn Timing ($H_0: H \approx W?$)
- Video Monitoring
 - Run Size, Species Comp.
 - Run Timing ($H_0: H \approx W?$)

- Hatchery Sampling: Adults
 - Integration Rates (pNOB)
 - Stray Rates (from CWTs)
- Hatchery Sampling: Juveniles
 - Survival
 - Size at Release
 - Migration
- Hatchery Program Changes

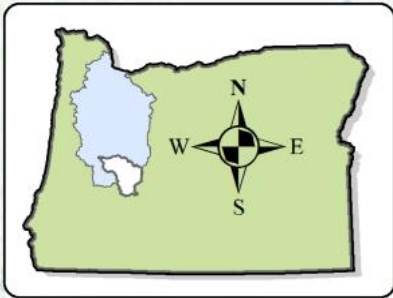
Methods



Carcass
Sampling

Redd
Surveys





Little Fall Creek

N: 31
 d: 3.8
 PSM: 29%
 PHOS: 93%

Fall Creek

N: 58
 d: 2.2
 PSM: 13%
 PHOS: 2%

Below Dexter

N: 76
 d: 5.3
 PSM: 66%
 PHOS: 89%

NF MF
 Willamette

N: 202
 d: 7.0
 PSM: 76%
 PHOS: 98%

Legend

Peak Redd Count



PHOS

PNOS

Barriers

Hatcheries

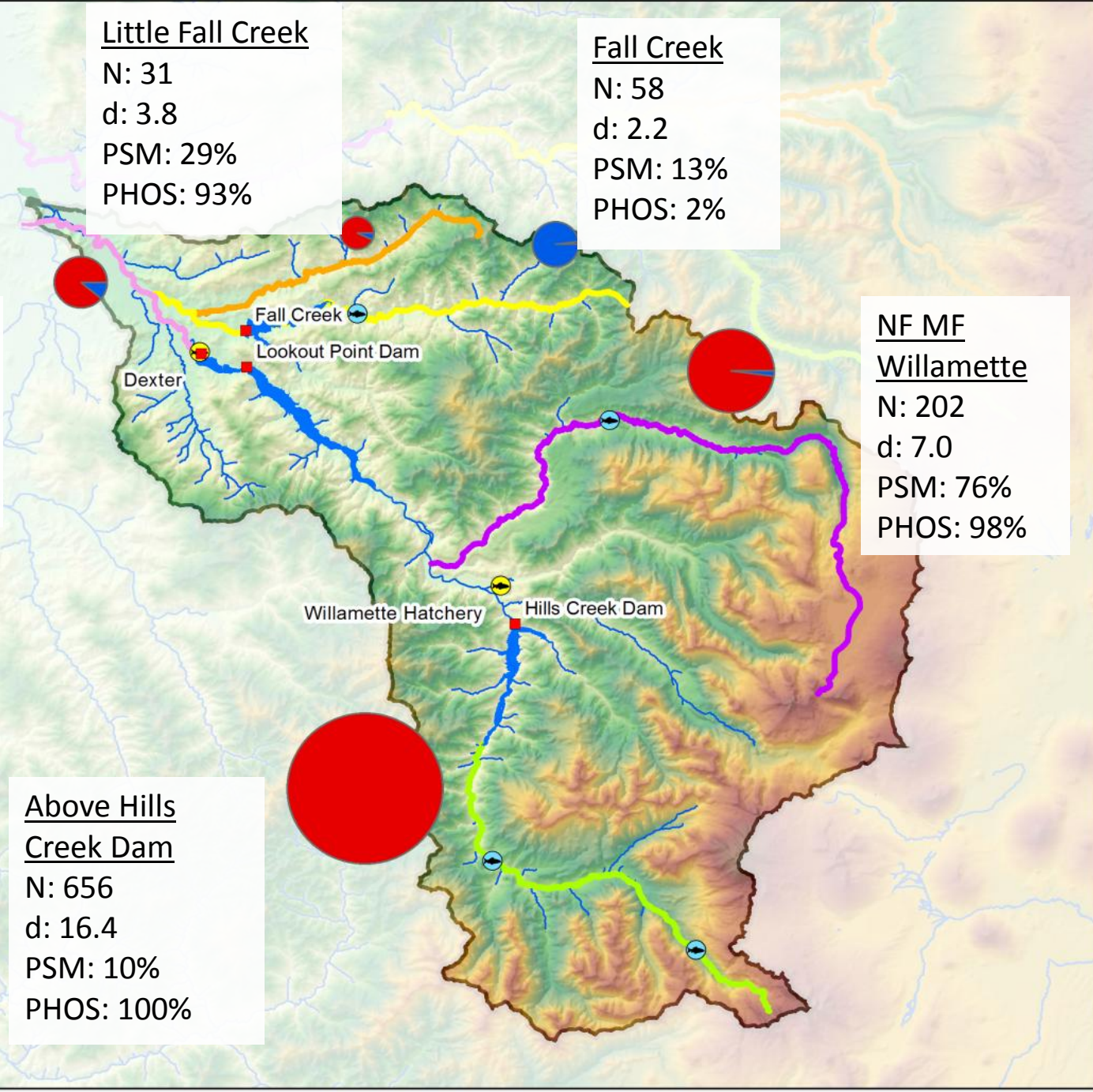
ChS Outplants

Reservoirs

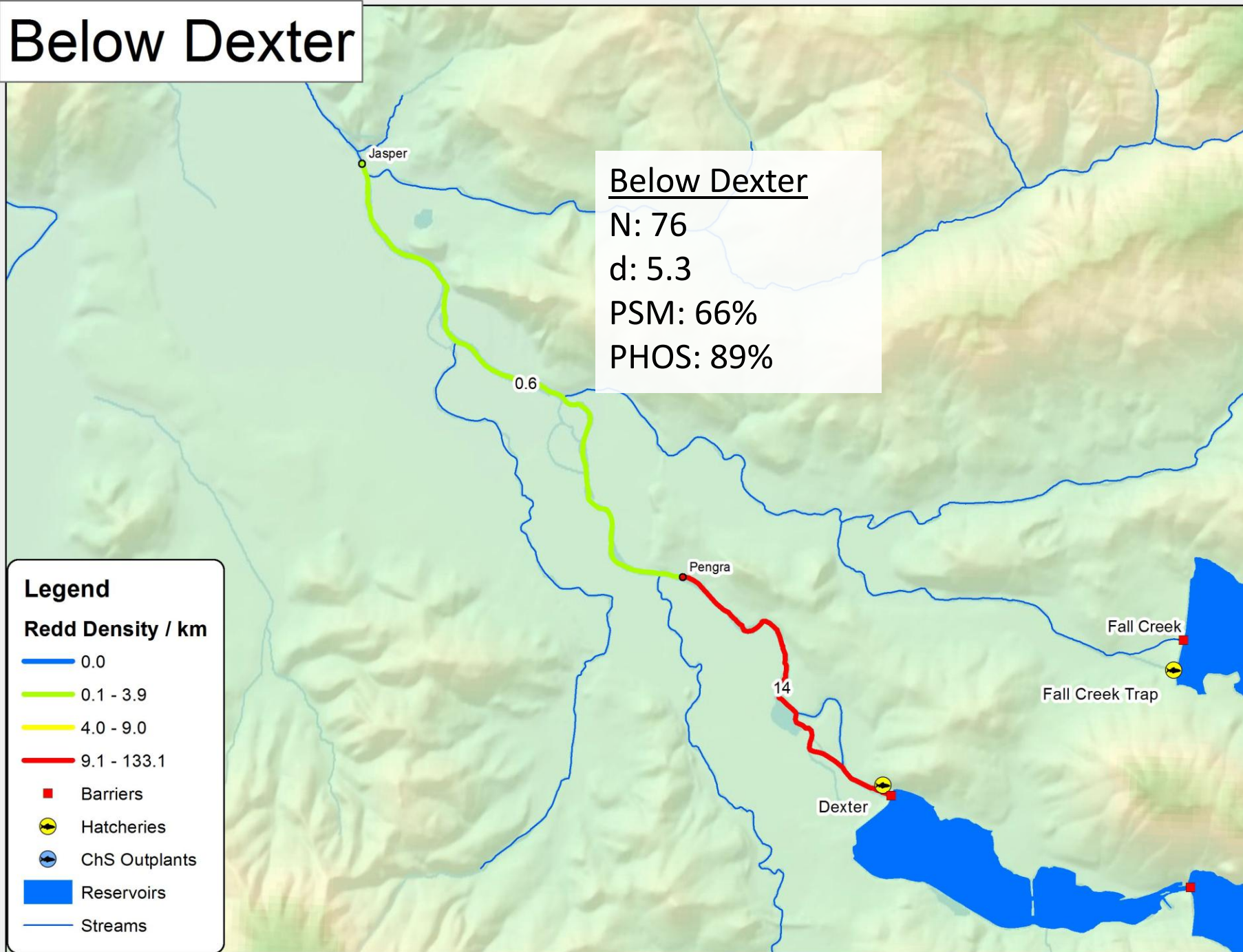
Streams

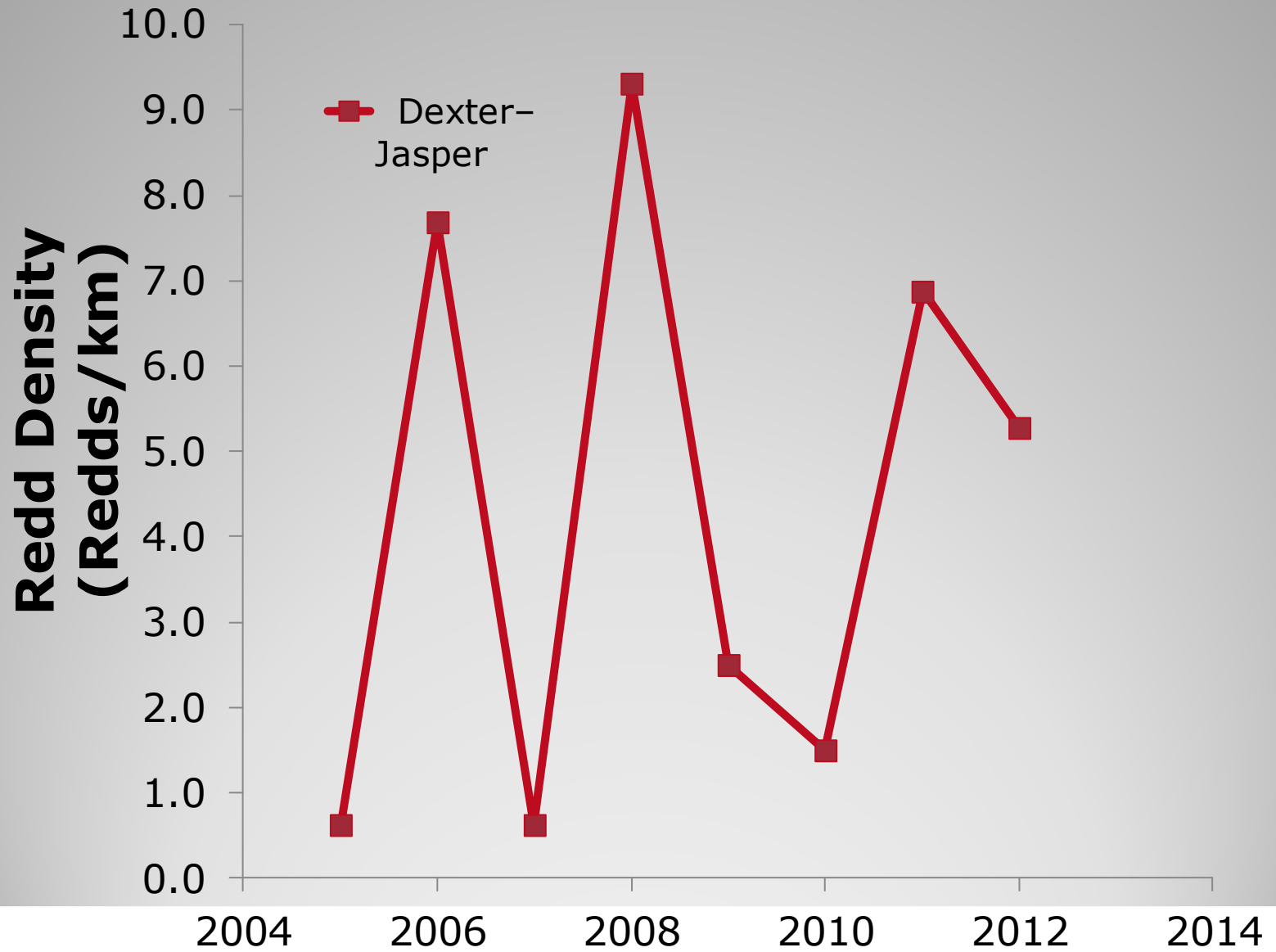
Above Hills
 Creek Dam

N: 656
 d: 16.4
 PSM: 10%
 PHOS: 100%

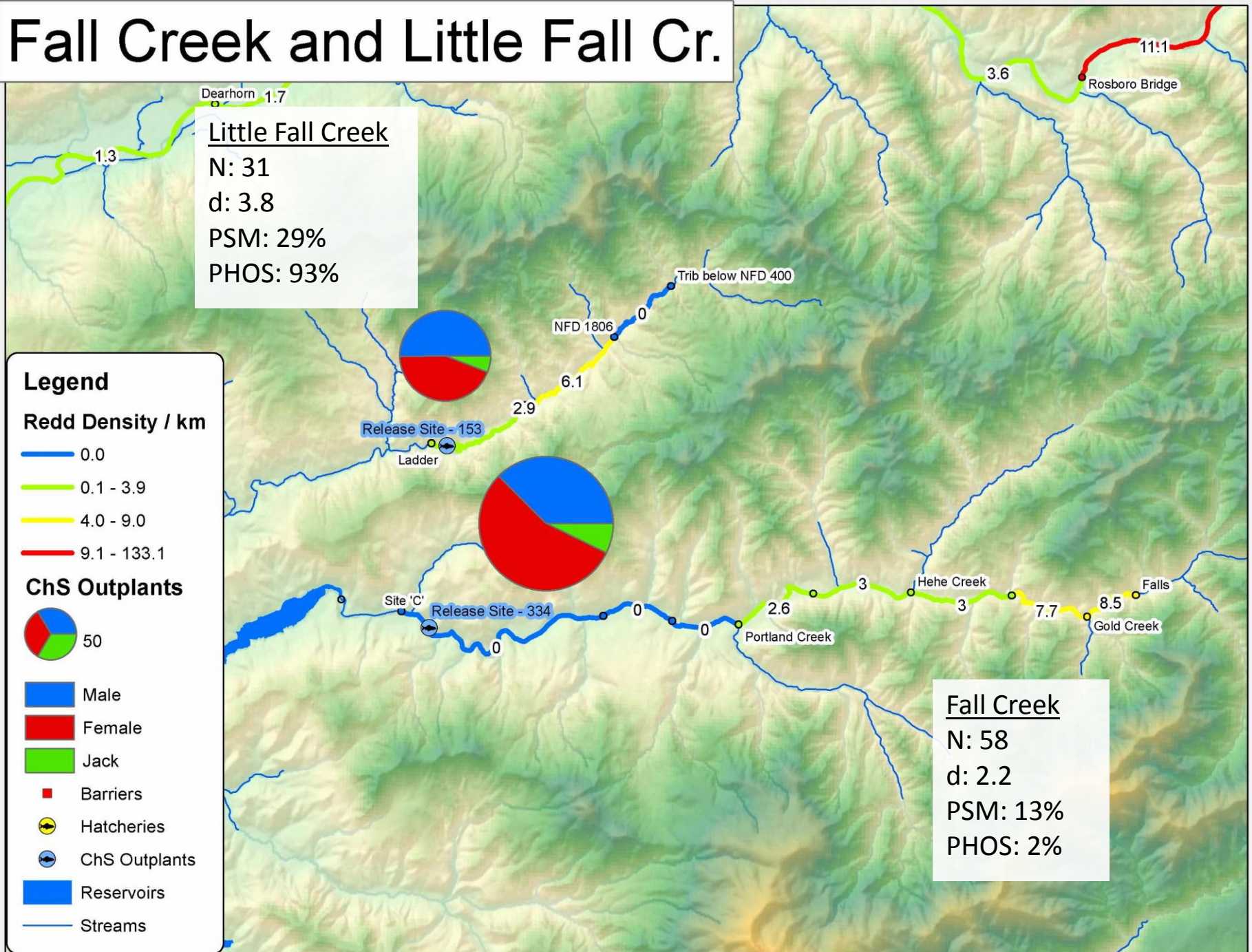


Below Dexter





Fall Creek and Little Fall Cr.



Little Fall Creek
 N: 31
 d: 3.8
 PSM: 29%
 PHOS: 93%

Fall Creek
 N: 58
 d: 2.2
 PSM: 13%
 PHOS: 2%

Legend

Redd Density / km

- 0.0
- 0.1 - 3.9
- 4.0 - 9.0
- 9.1 - 133.1

ChS Outplants

50

- Male
- Female
- Jack

Barriers

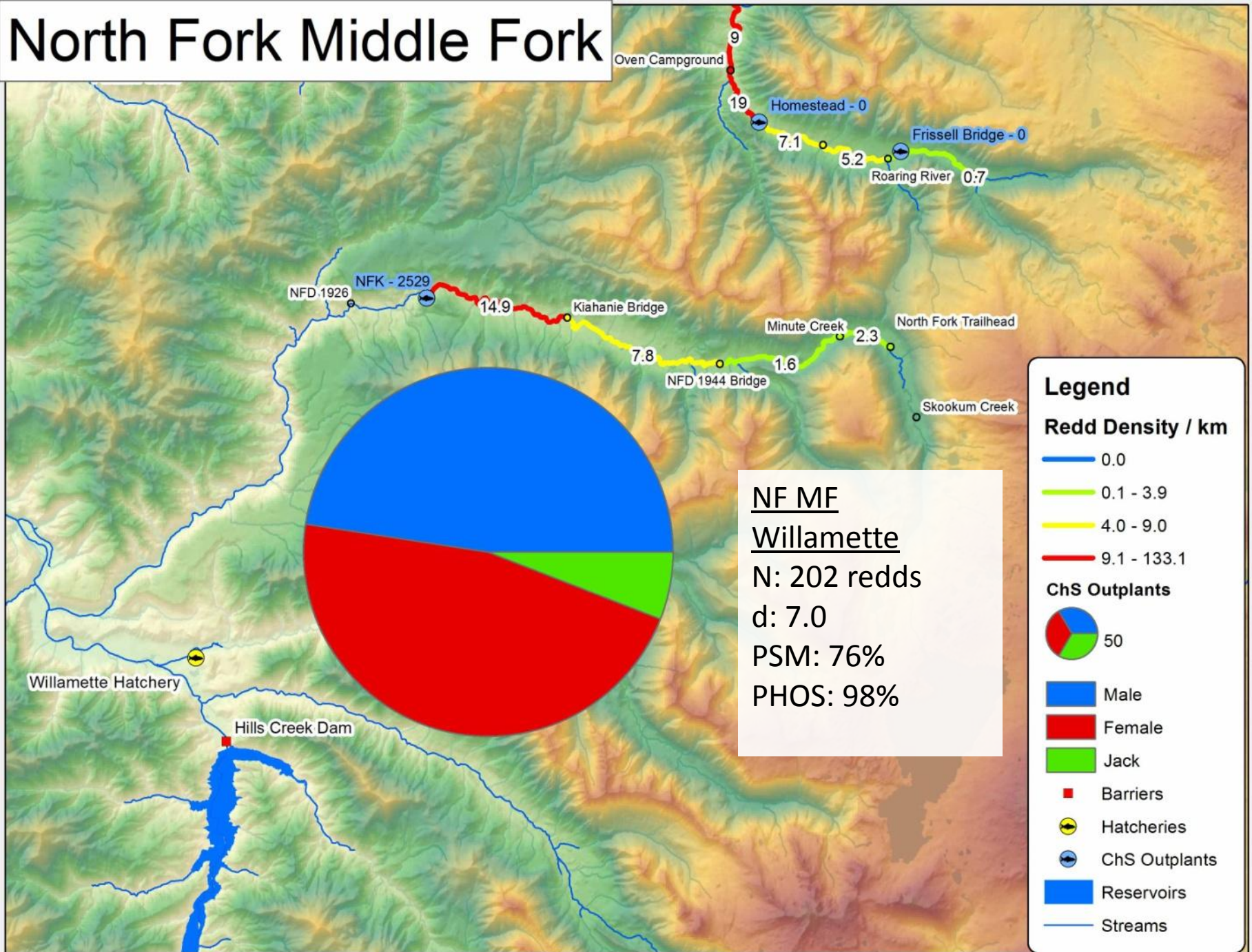
Hatcheries

ChS Outplants

Reservoirs

Streams

North Fork Middle Fork



NFD 1926 NFK - 2529

14.9

Kiahanie Bridge

7.8

NFD 1944 Bridge

Minute Creek

1.6

North Fork Trailhead

2.3

Roaring River

0:7

Frissell Bridge - 0

7.1

5.2

Homestead - 0

19

Oven Campground

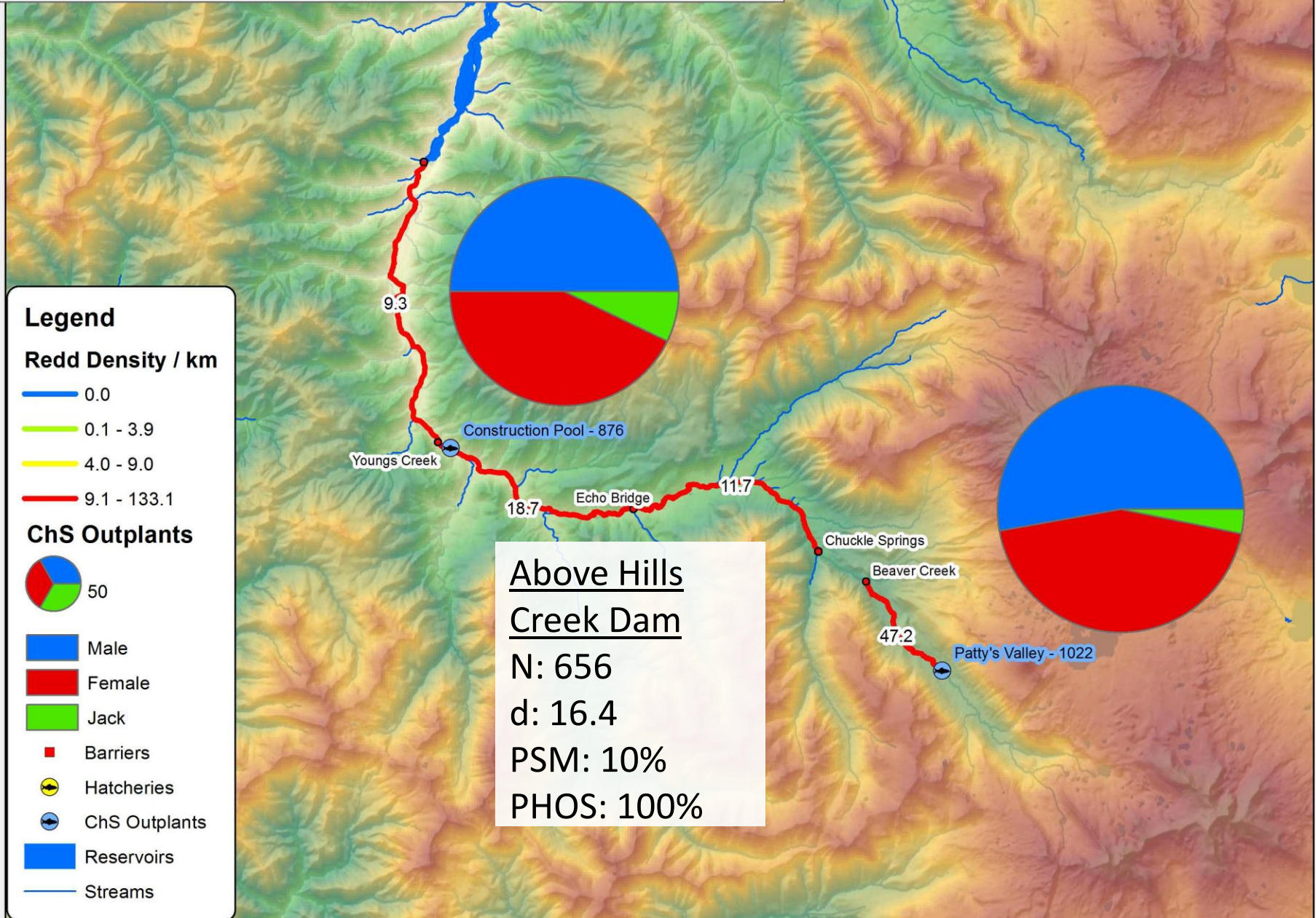
9

Willamette Hatchery

Hills Creek Dam

NF MF
Willamette
 N: 202 redds
 d: 7.0
 PSM: 76%
 PHOS: 98%

Above Hills Creek Reservoir



Legend

Redd Density / km

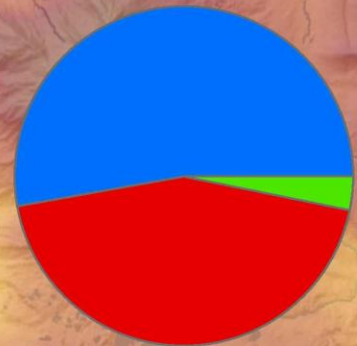
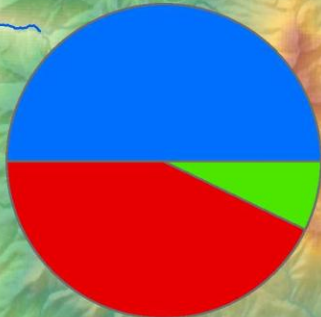
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ChS Outplants

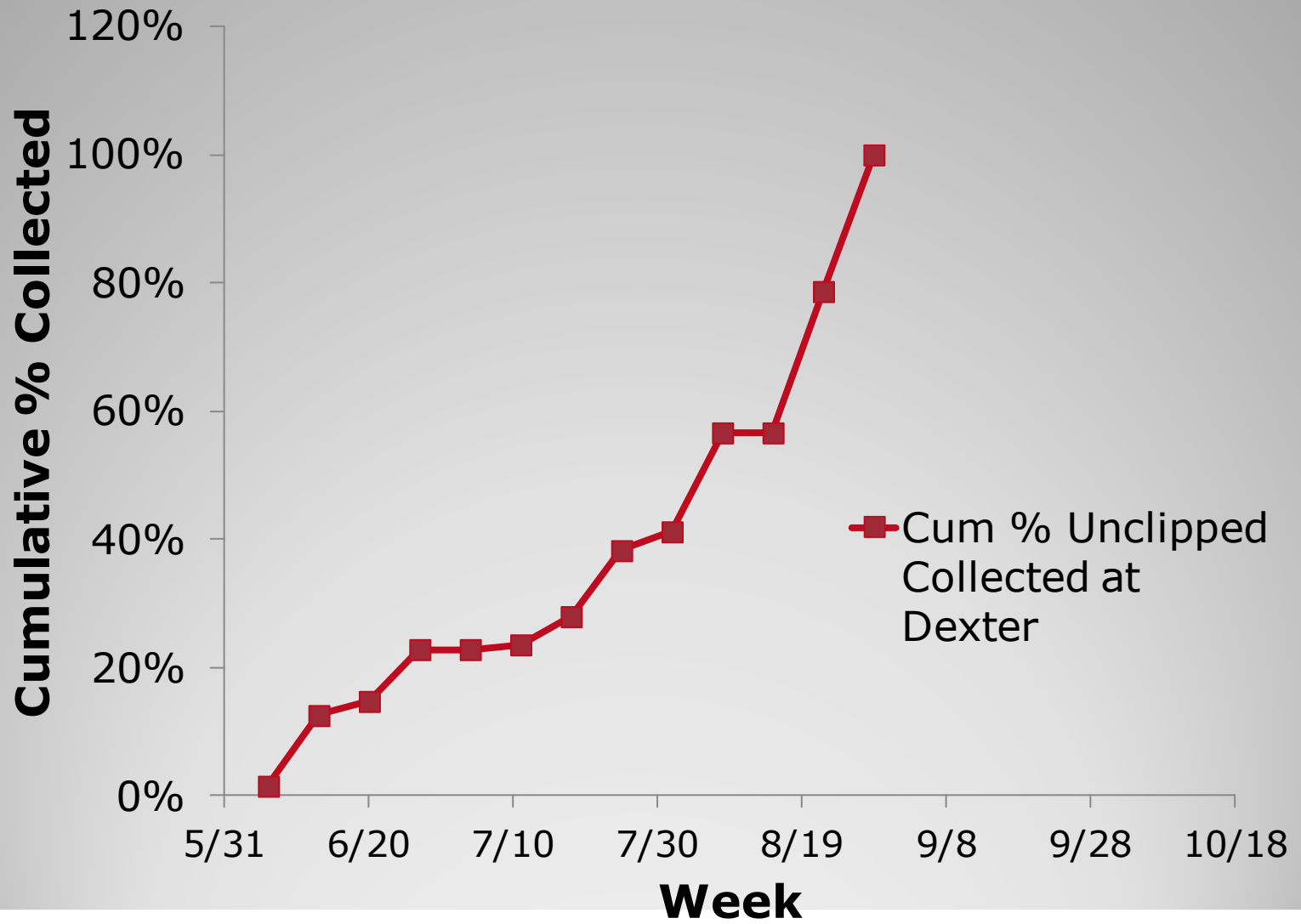


- Male
- Female
- Jack
- Barriers
- Hatcheries
- ChS Outplants
- Reservoirs
- Streams

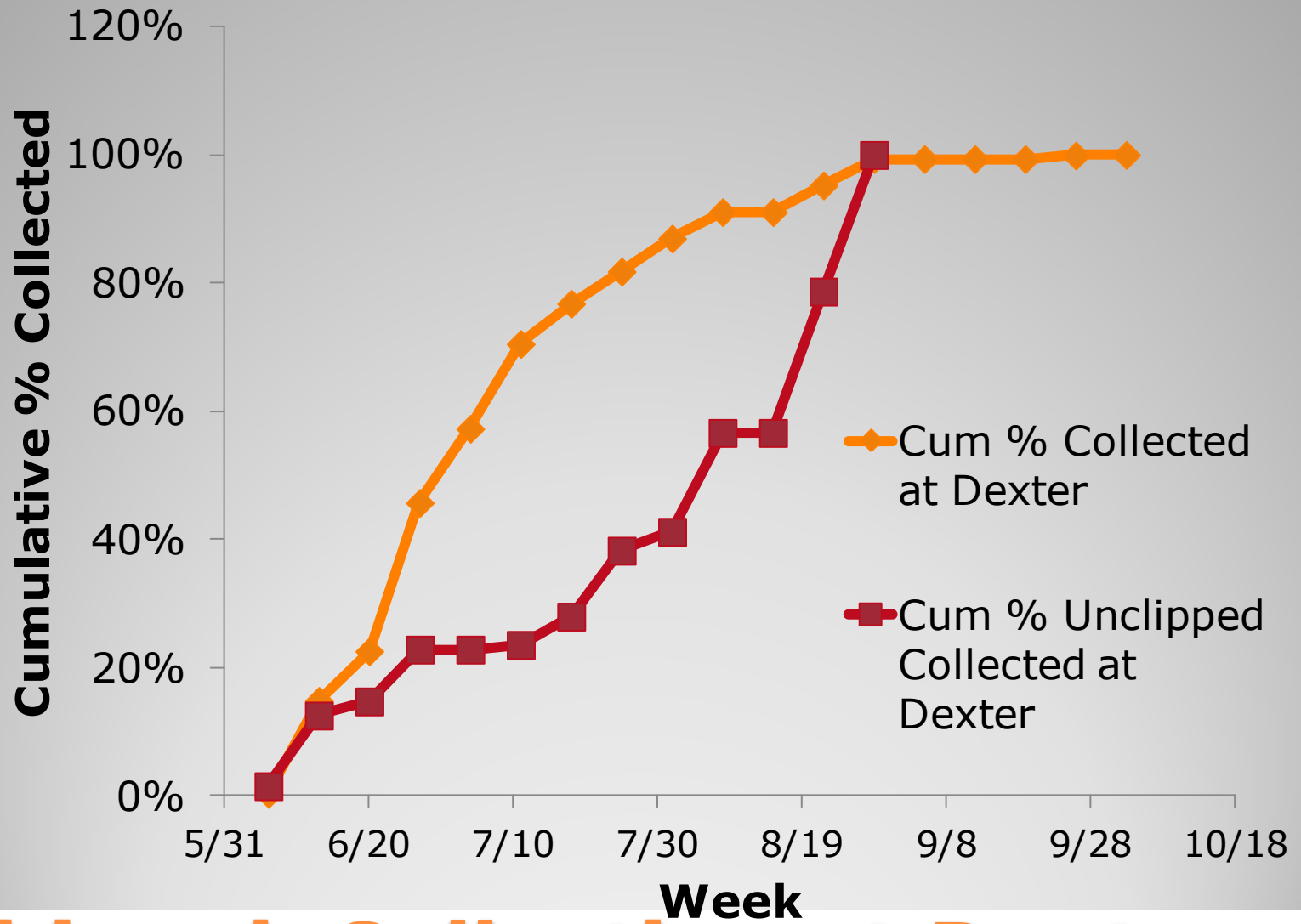
**Above Hills
Creek Dam**
 N: 656
 d: 16.4
 PSM: 10%
 PHOS: 100%



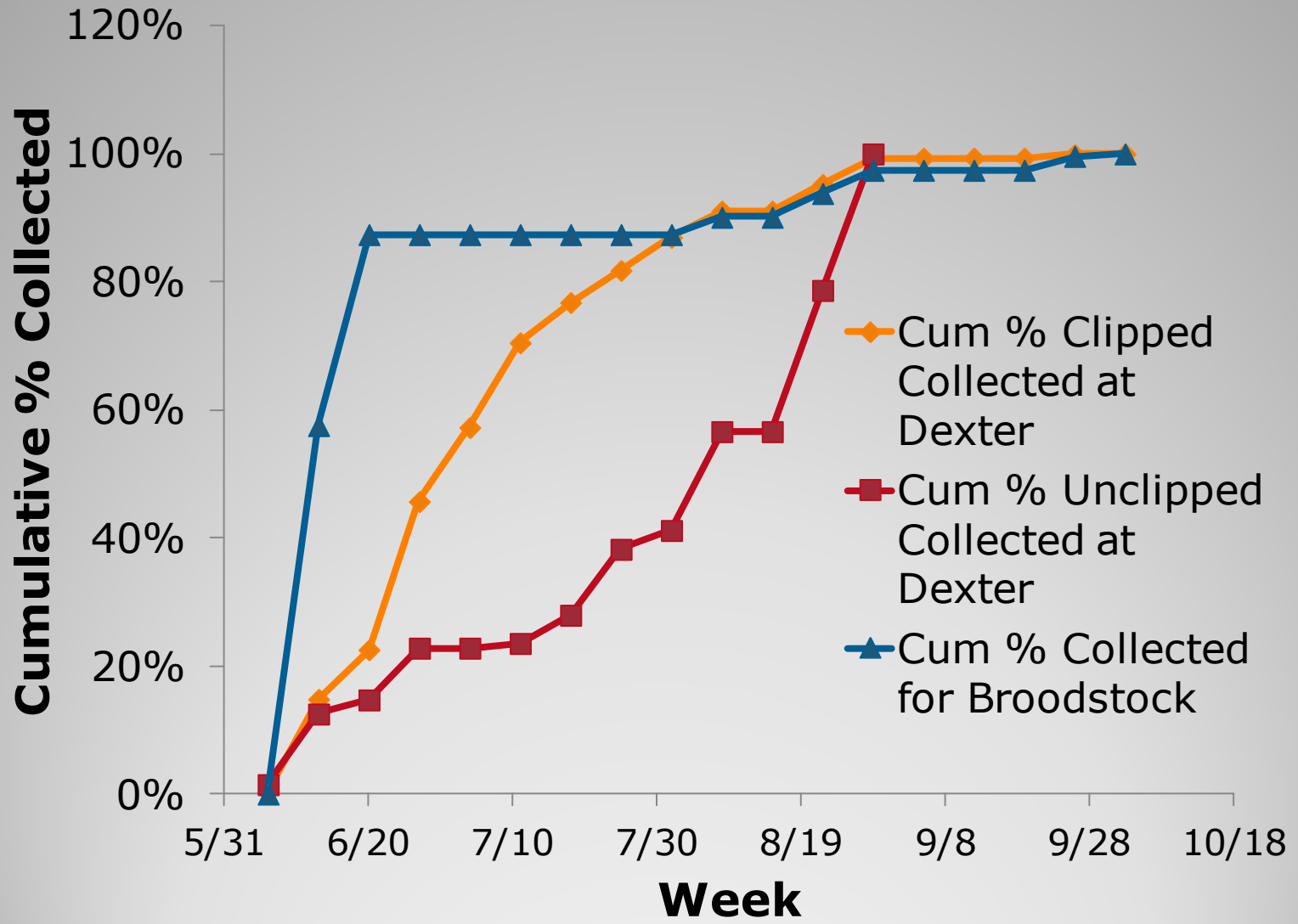
Run Timing: Does
timing of collection
into the hatchery
(includes broodstock)
match run timing of
naturally-produced
fish?



Unmarked Chinook Collection at Dexter



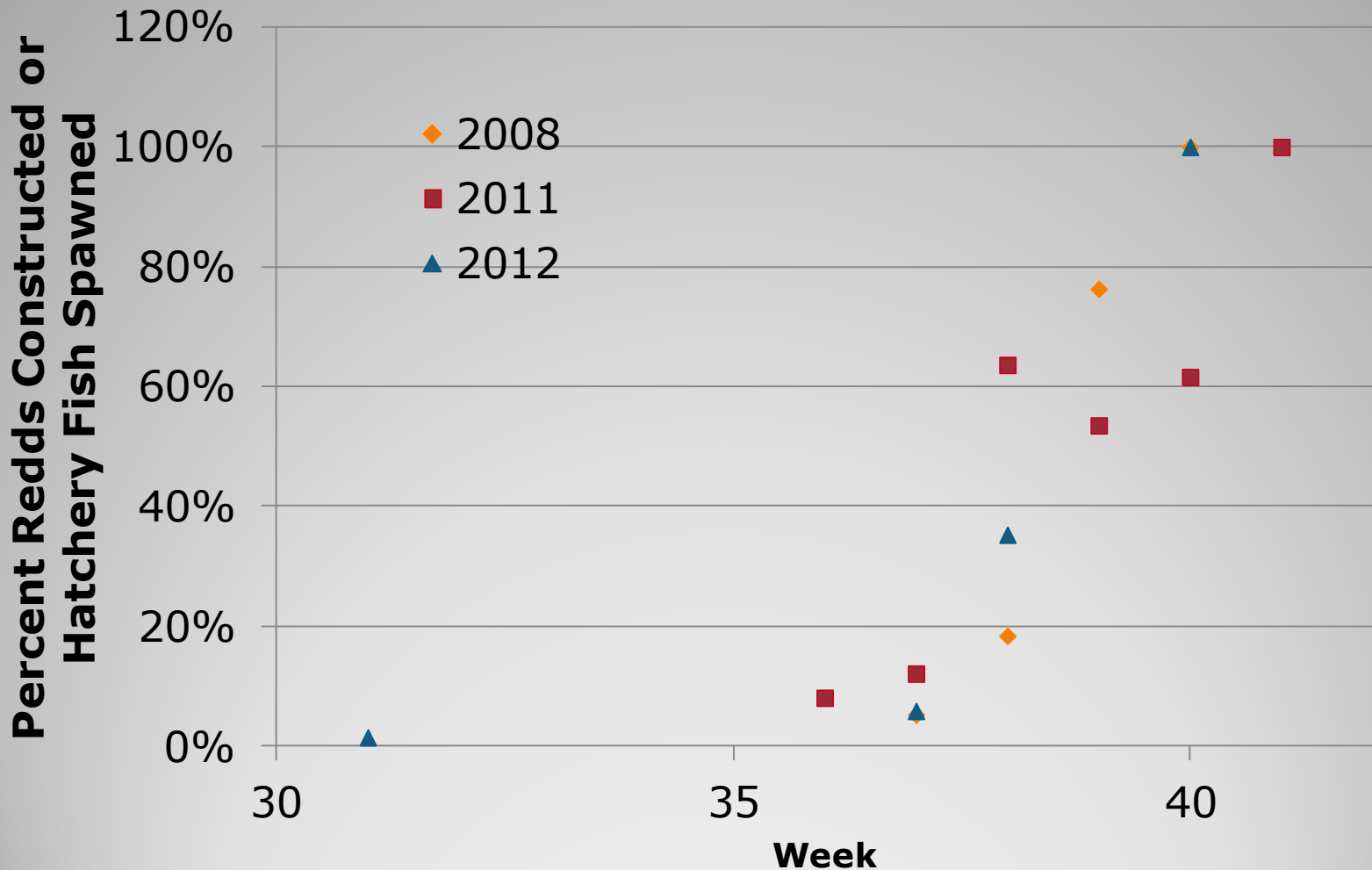
Chinook Collection at Dexter



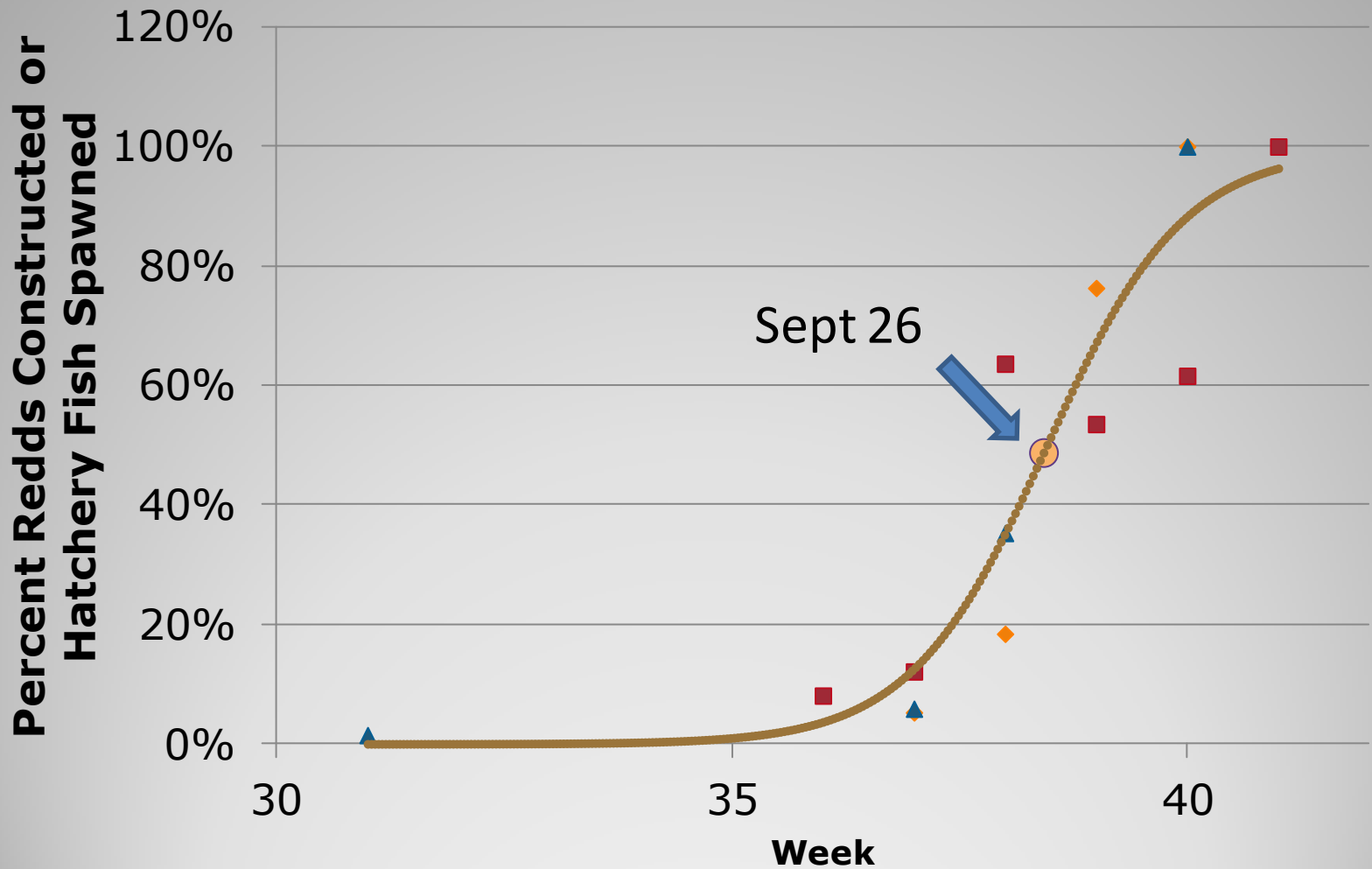
Chinook Collection at Dexter

Spawn Timing:

Does timing of spawning in the hatchery match timing of naturally-spawning fish?

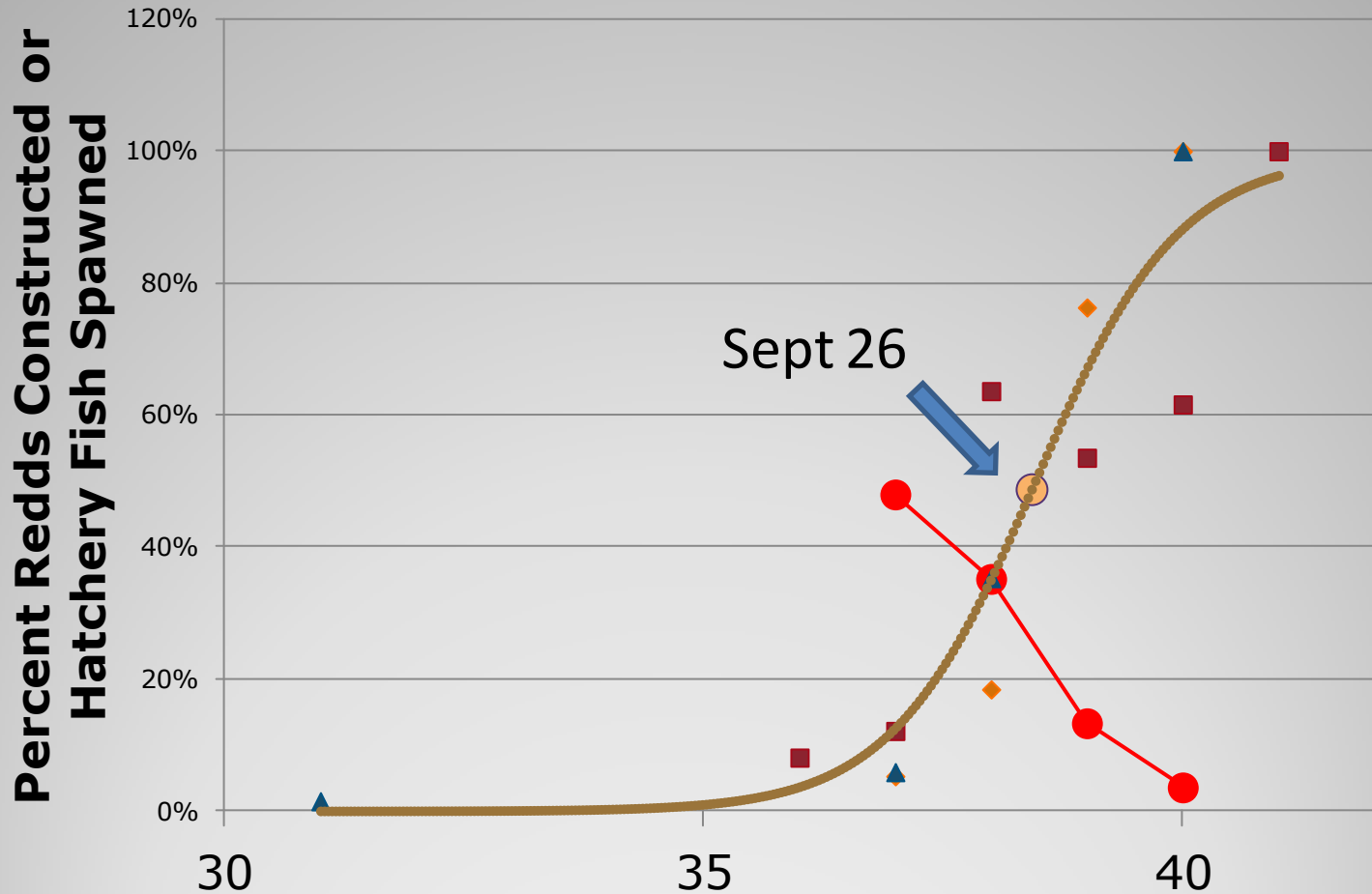


Cumulative Middle Fork Willamette Redd Counts: 2008, 2011, & 2012

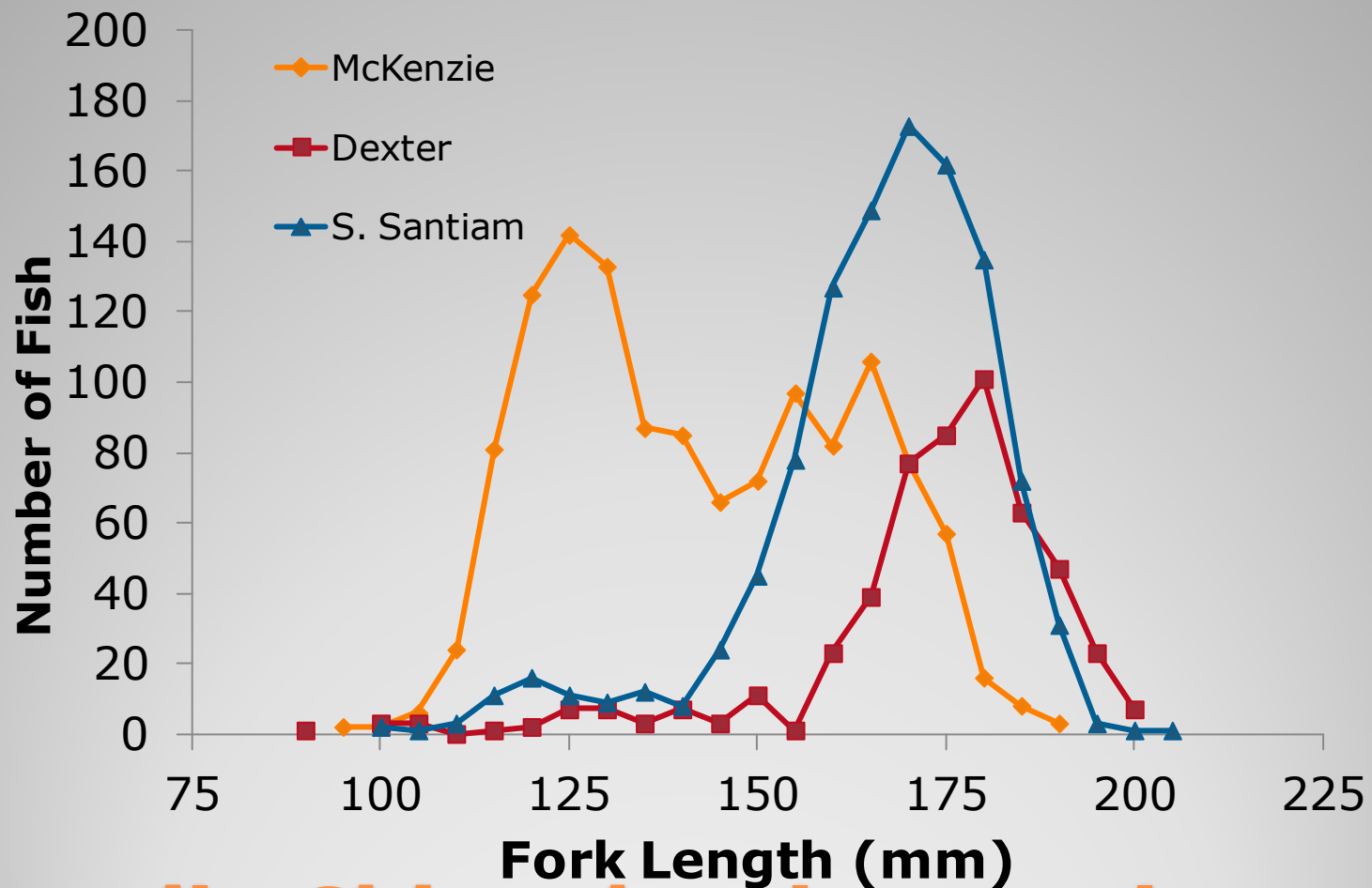


Maximum rate of redd construction

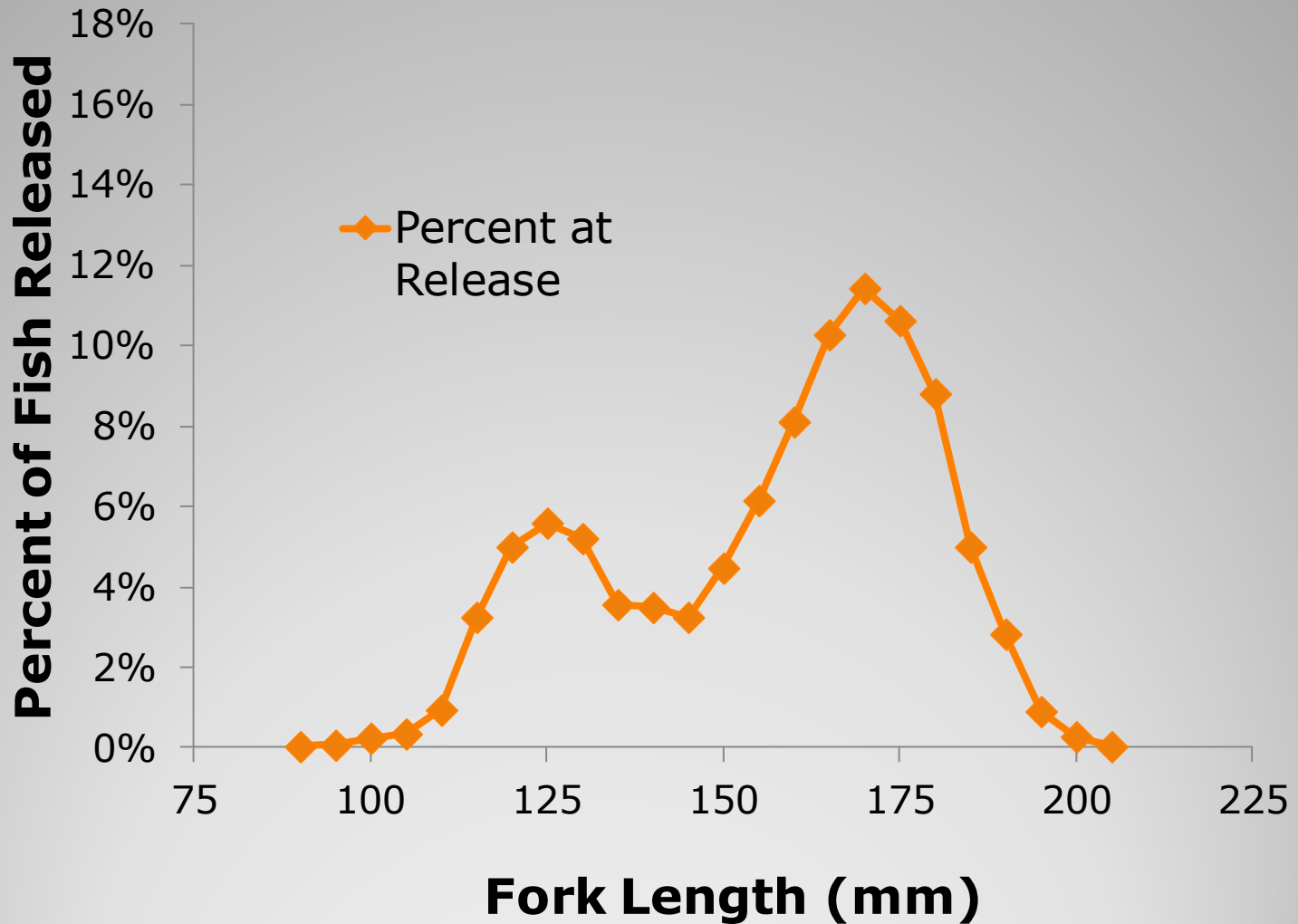
Middle Fork Willamette



**Spawning at Willamette
Hatchery in 2012**



**Juvenile Chinook salmon released
in 2012 (November Release)**



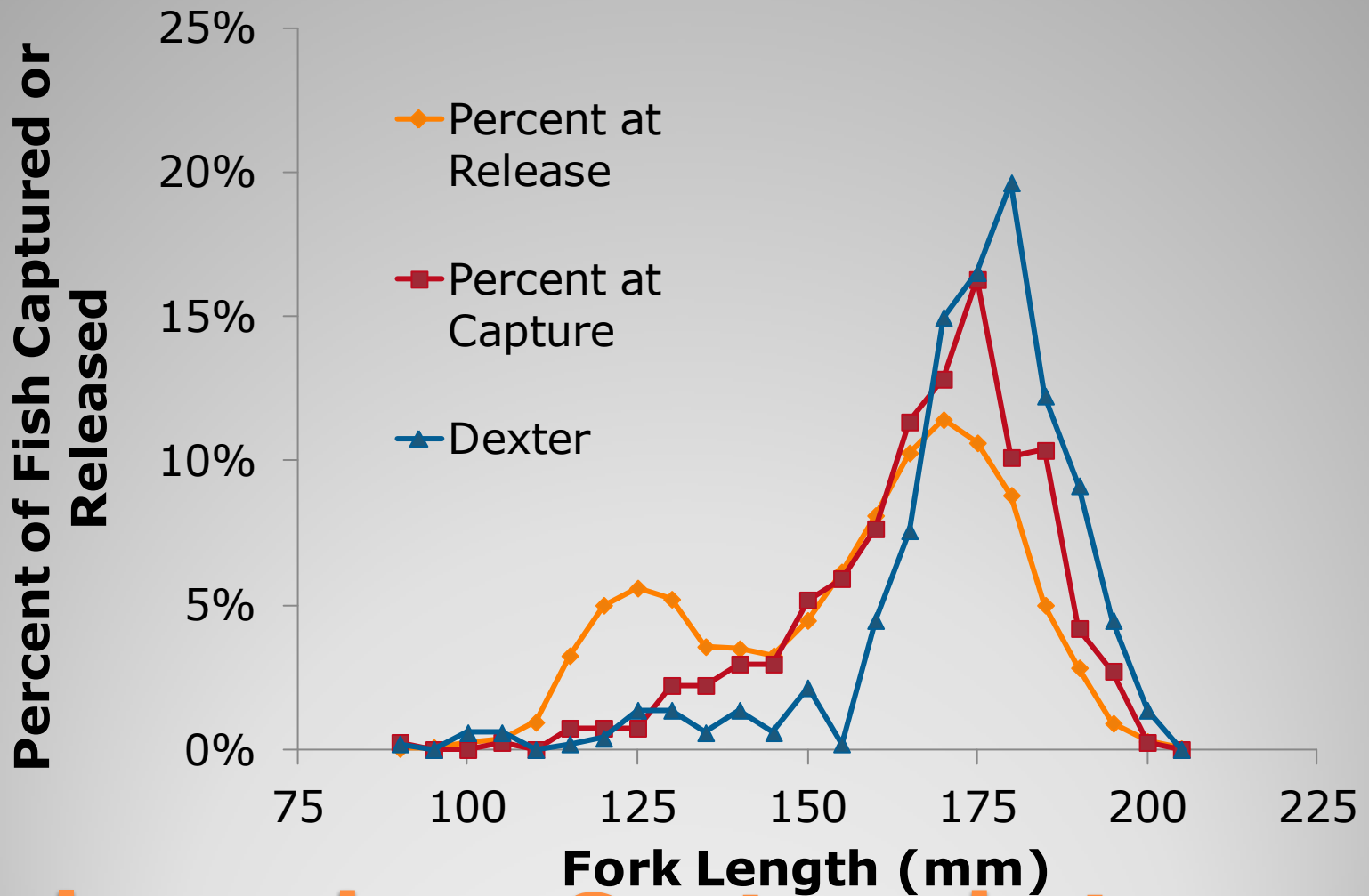
**Juvenile Chinook salmon released
in 2012 (November Release)**







- Willamette Falls Sampling
 - Species Composition (Hatchery and Wild)
 - Biometrics (FL, Wt, Morphology)
 - CWT detection/recovery
 - PIT tag detection



Released vs. Captured at Willamette Falls

- Fish Pathology
 - CHS: Columnaris and Furunculosis outbreak -- Treated. Low BKD, low CWD, no virus pathogens detected – No treatment required
 - StS: No problems.

Fish Pathology Report:
Willamette/Dexter H. Complex

- Program Changes
 - Reprogramming McKenzie CHS for Coast Fork Releases(Use Willamette stock for 267K Coast Fork Releases
 - Reconstruction of Dexter Fish Collection Facility

Program Changes:

Willamette/Dexter H. Complex

- Willamette BiOp and SFR Website
- <http://oregonstate.edu/dept/ODFW/willamettesalmonidrme/home>

WRITE THIS DOWN!!!



Photo by Brian Franklin 9/21/2012