

Snake River fall Chinook

Nez Perce Tribal Hatchery Complex

Aaron Penney, NPTHC

Acknowledgments

- **Funding Sources:**



And most important,



Mitigation Goal

- **Interim goal of 2,290 hatchery-origin adults above LMO annually from NPTH production**
- **Long-term goal of 3,750 hatchery-origin adults above LMO annually from NPTH production**
- **Provide ~1,000 adults annually for broodstock**
- **Develop early returning run to the Selway and S.F. Clearwater Rivers**

Management Objectives

- **Develop, increase, and reintroduce natural populations of early-fall, and fall Chinook in the Clearwater River Basin.**
- **Sustain long-term preservation and genetic integrity of target fish populations.**
- **Keep the ecological and genetic impacts of non-target fish populations within acceptable limits.**
- **Provide harvest opportunities for Tribal and non-Tribal anglers.**

Juvenile Release Targets

- **FCS goal: 1.4M release**
 - **500K sub-yearlings from NPTH into Clearwater River**
 - **500K sub-yearlings from North Lapwai Valley AF into Clearwater River**
 - **200K sub-yearlings from Lukes Gulch AF into S.F. Clearwater River**
 - **200K sub-yearlings from Cedar Flats AF into Selway River**

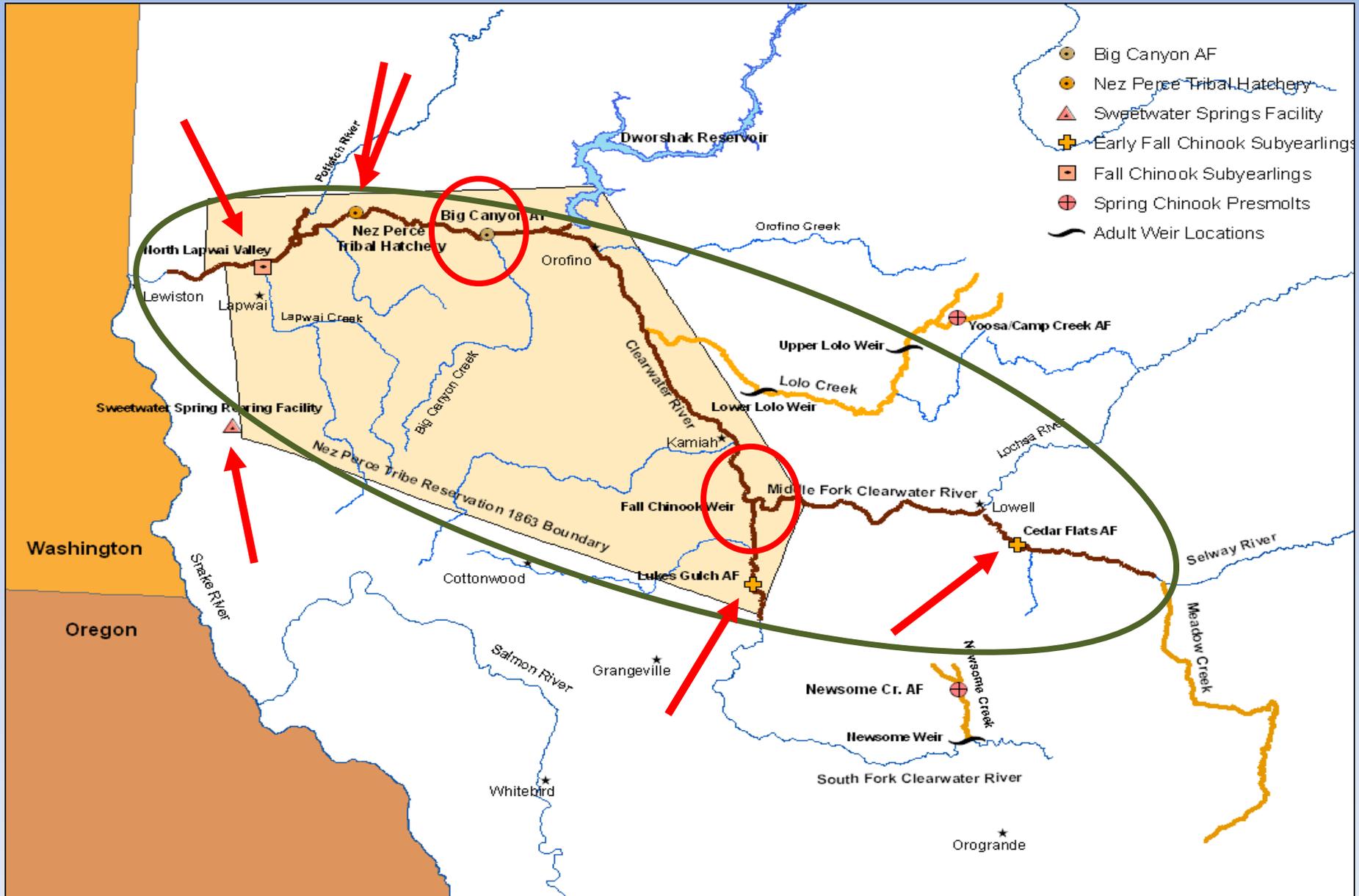
M & E Objectives

- **Determine if program targets for contribution rate of hatchery fish are being achieved and can be improved.**
- **Estimate ecological and genetic effects to fish populations.**
- **Determine how harvest opportunities for early-fall, and fall Chinook salmon can be optimized for tribal and non-tribal anglers within Nez Perce Treaty lands.**
- **Effectively communicate monitoring and evaluation program approach and findings to resource managers.**

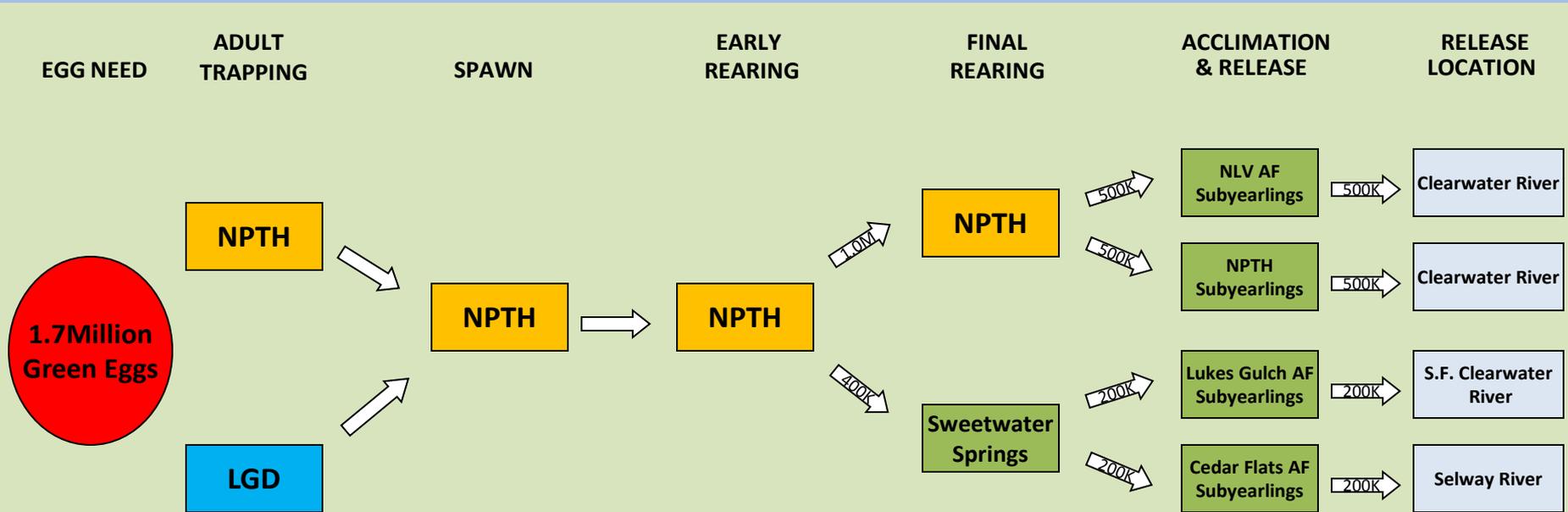
Brief Program History

- Hatchery production began in 2002.
- Broodstock development and collaborative program with Lyons Ferry Hatchery (LSRCP and IPC).
- Working out the kinks with new facility reaching full production.
- Expanding from main NPTH and North Lapwai Valley releases to upstream acclimation releases.

NPTHC Area of Influence



NPTHC Flow of FCS



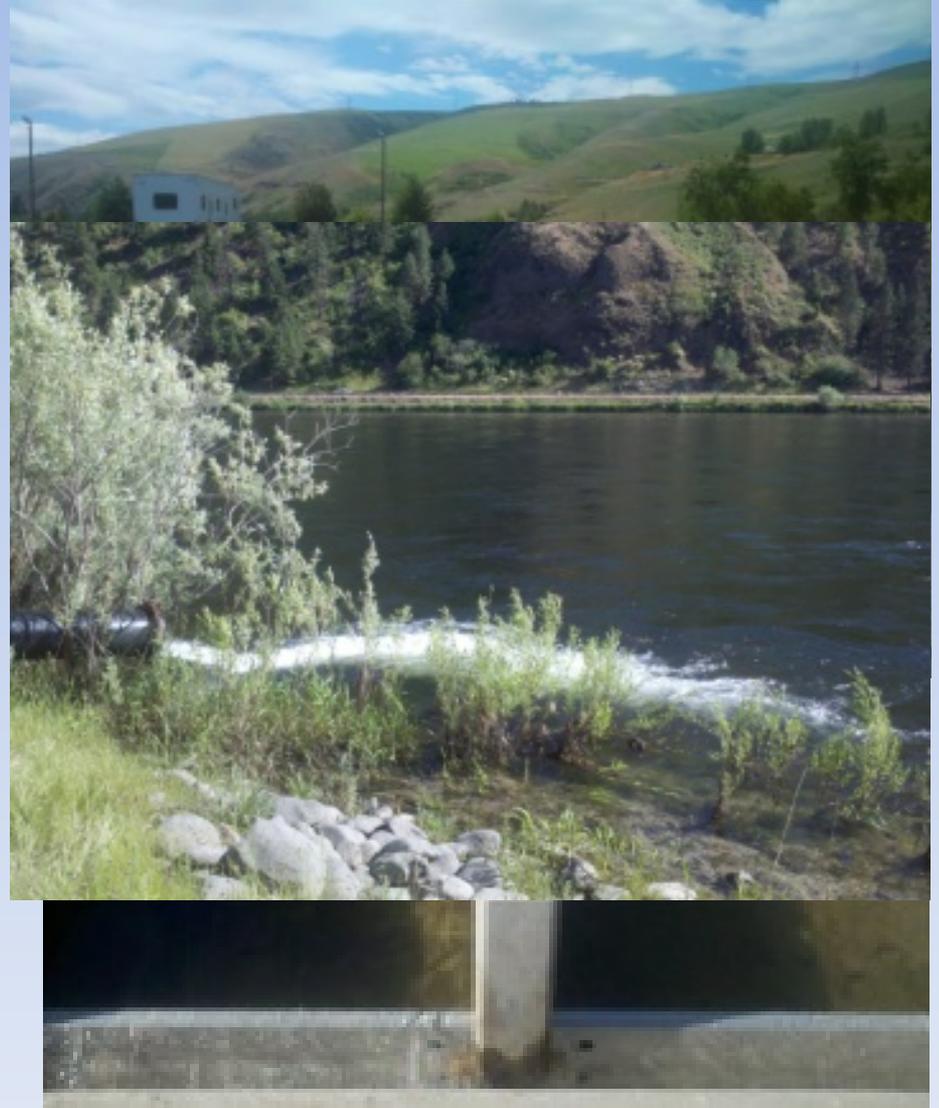
FALL CHINOOK SALMON:

Nez Perce Tribal Hatchery Complex



Nez Perce Tribal Hatchery Complex

- Located on Clearwater River
- Mid April – June 15th
- Two acclimation ponds
- 500K FCS sub-yearlings
 - 50 FPP at release
- Surface water pumped from Clearwater River mixed with well water



North Lapwai Valley Acclimation

- Located on Lapwai Creek near Clearwater River
- Mid April – May 31st
- Two acclimation ponds
- 500K FCS sub-yearlings
 - 50 FPP at release
- Surface water pumped from Lapwai Creek



Sweetwater Springs

Early rearing facility

- Used by IDF&G until 1978
- Upgraded and used by NPT beginning in 1993
- 400K FCS fingerlings
- March – Mid April



Lukes Gulch Acclimation

- Located on S.F. Clearwater River
- Mid April – June 15th
- 20 ft circular tanks
- 200K FCS sub-yearlings
 - 50 FPP at release
- Portable pumps & Generator
- Well water added

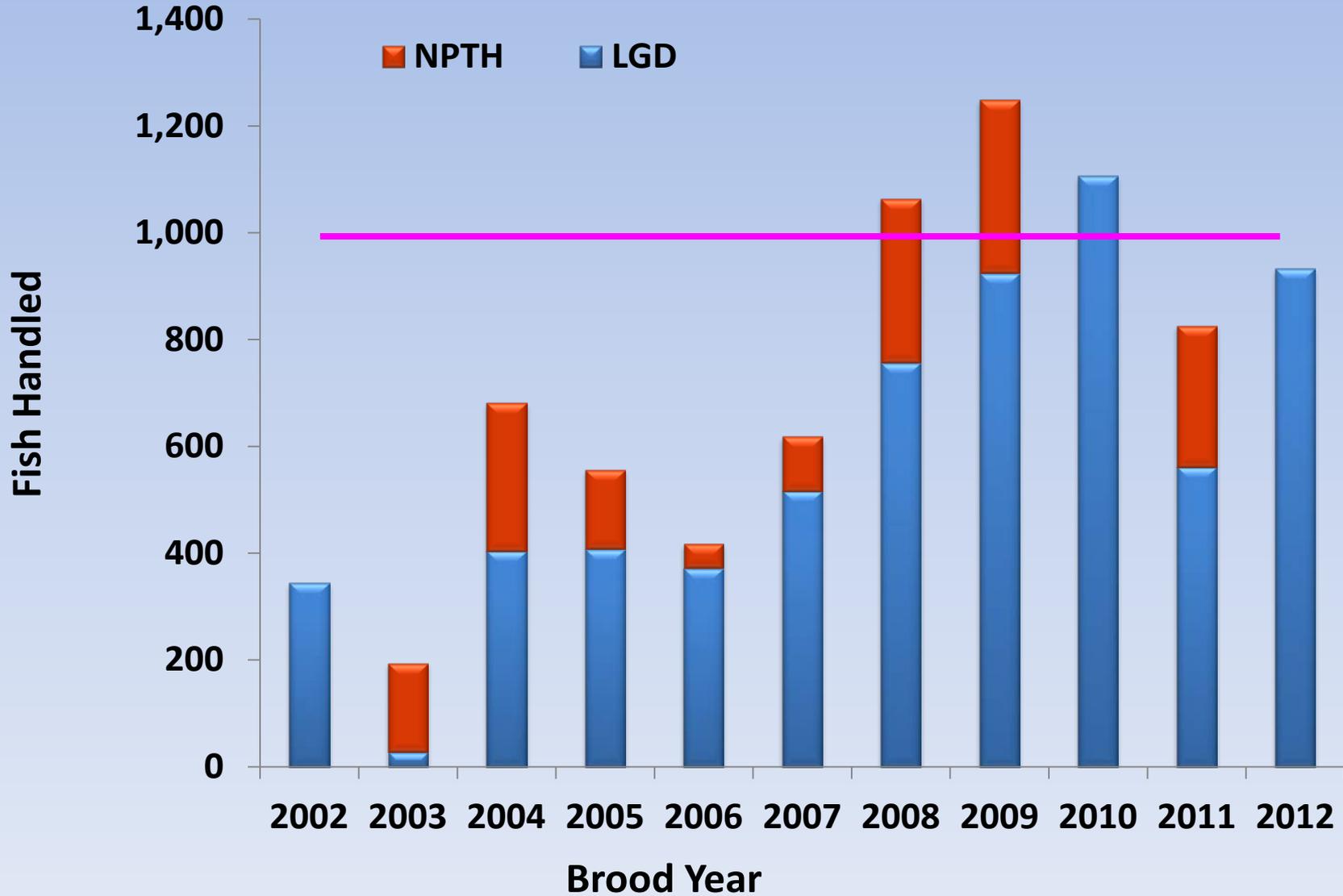


Cedar Flats Acclimation

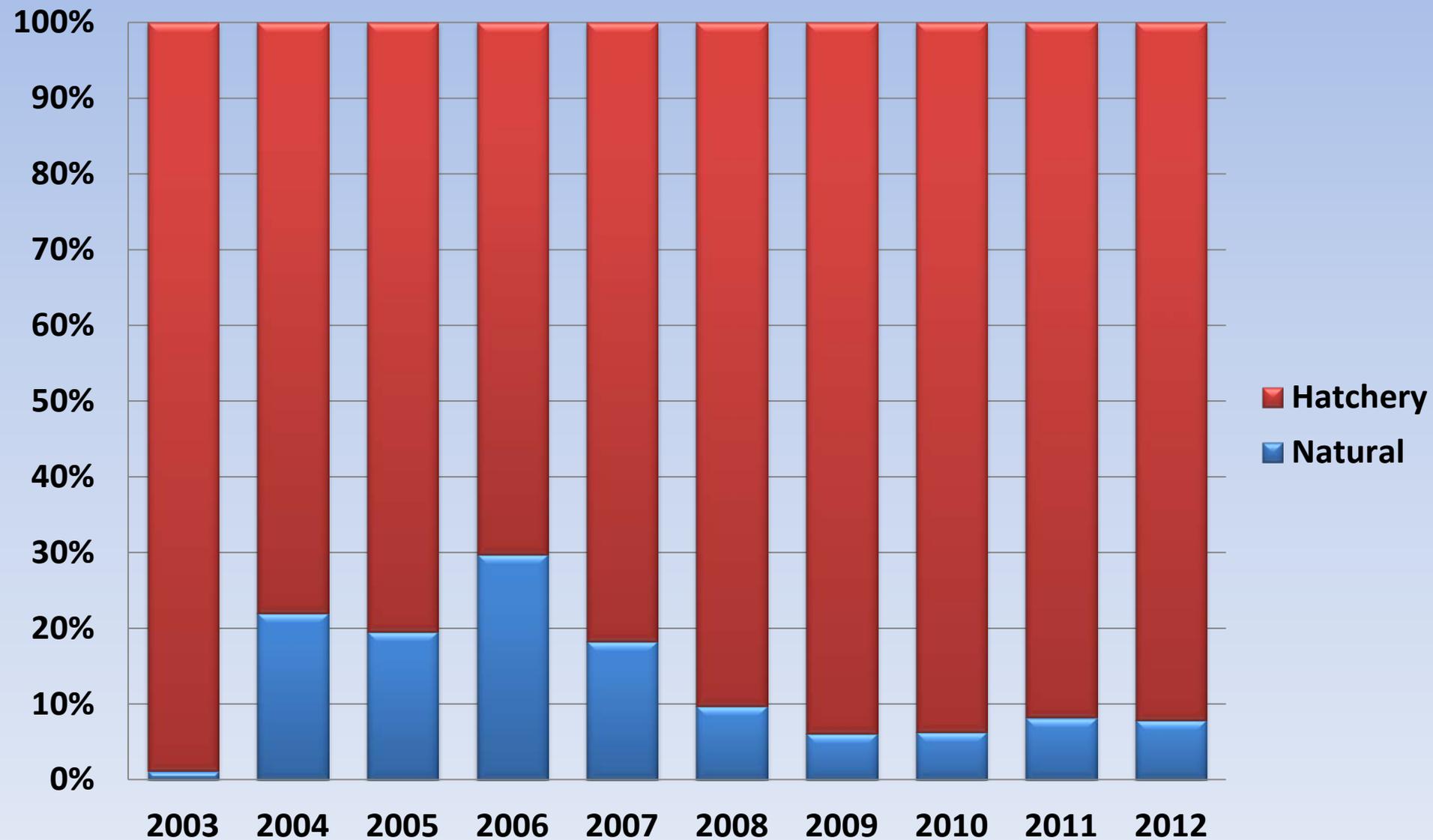
- Located on Selway River
- Mid April – June 15th
- 20 ft circular tanks
- 200K FCS sub-yearlings
 - 50 FPP at release
- Portable pumps & back up Generator



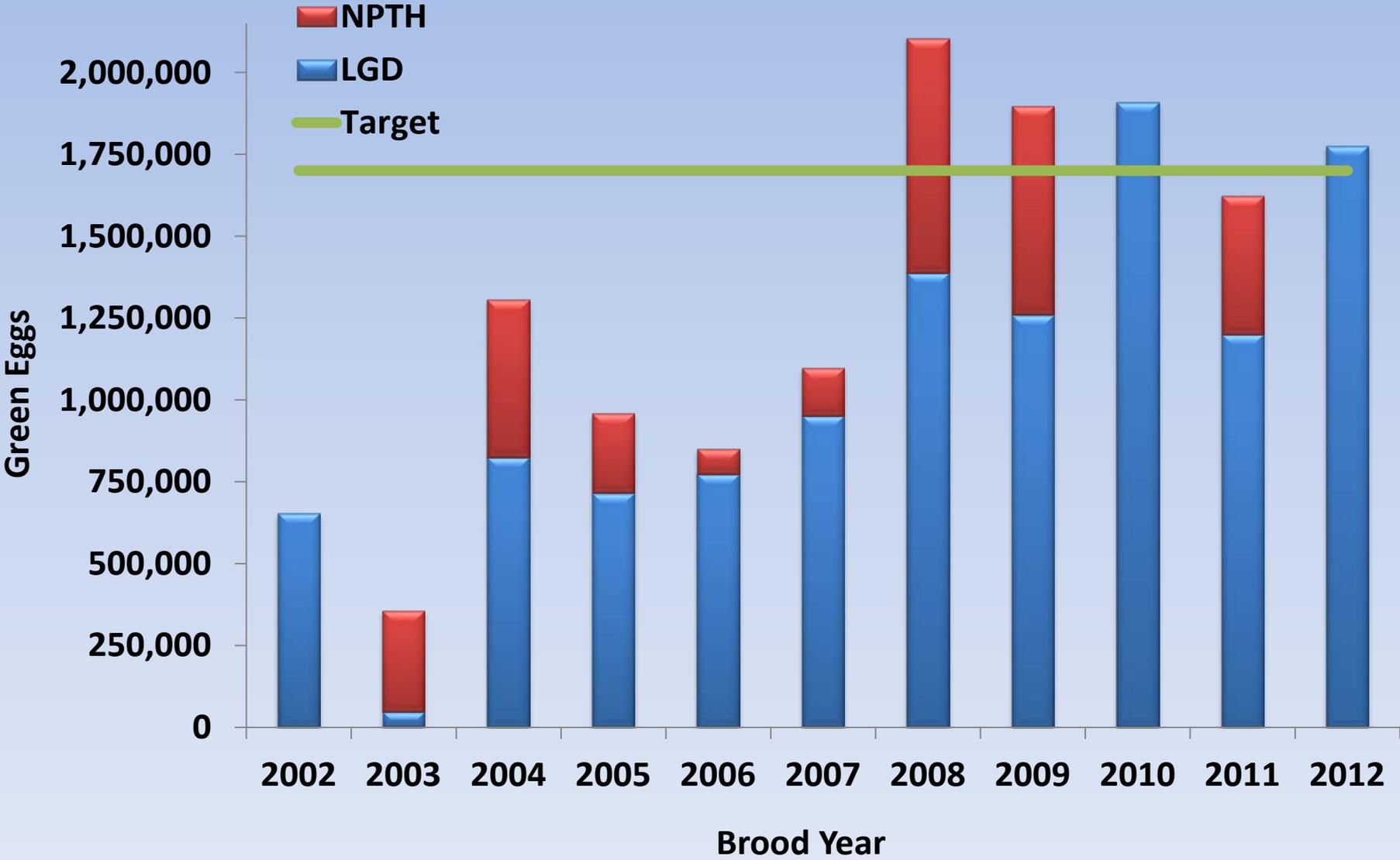
Broodstock Source



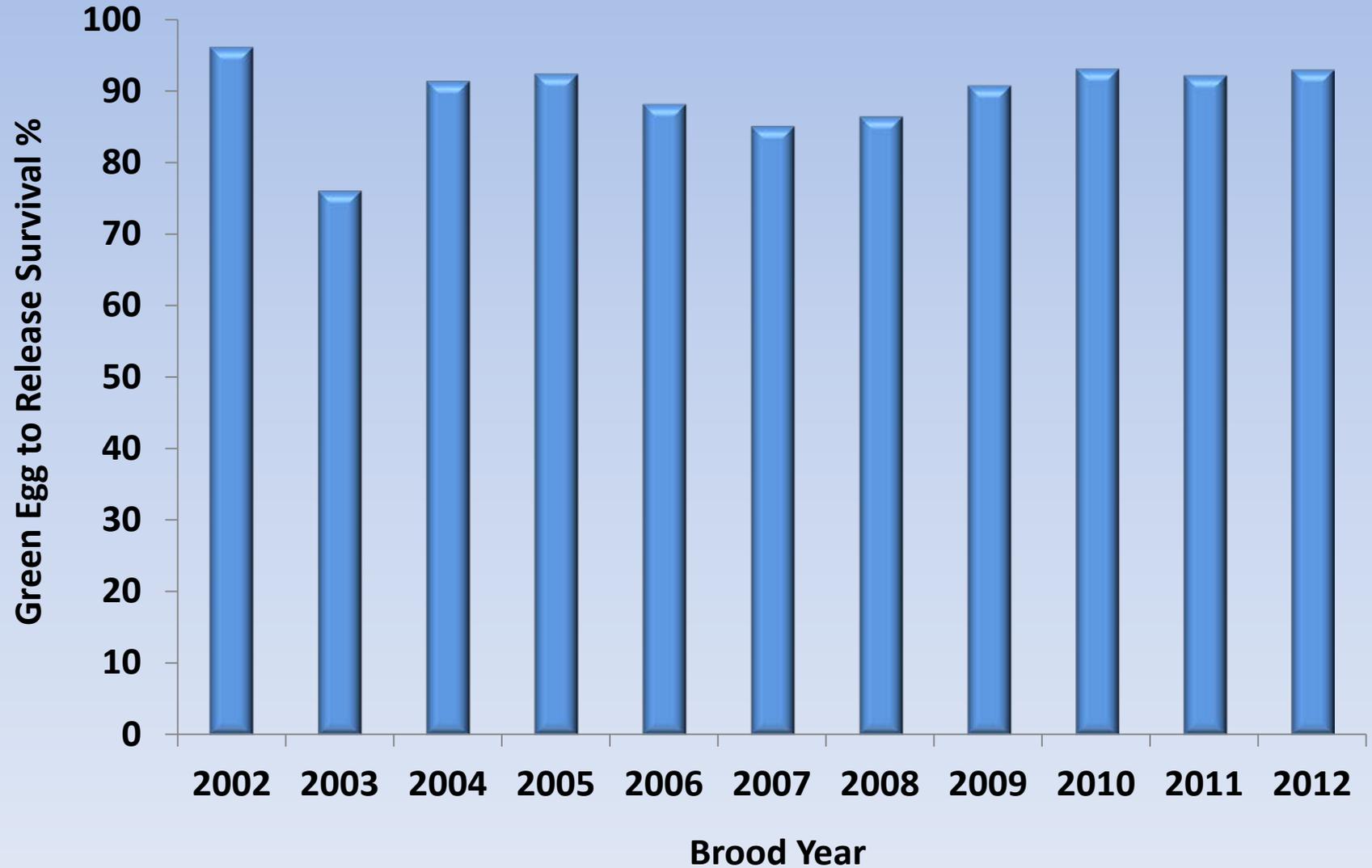
NPTH Broodstock Composition



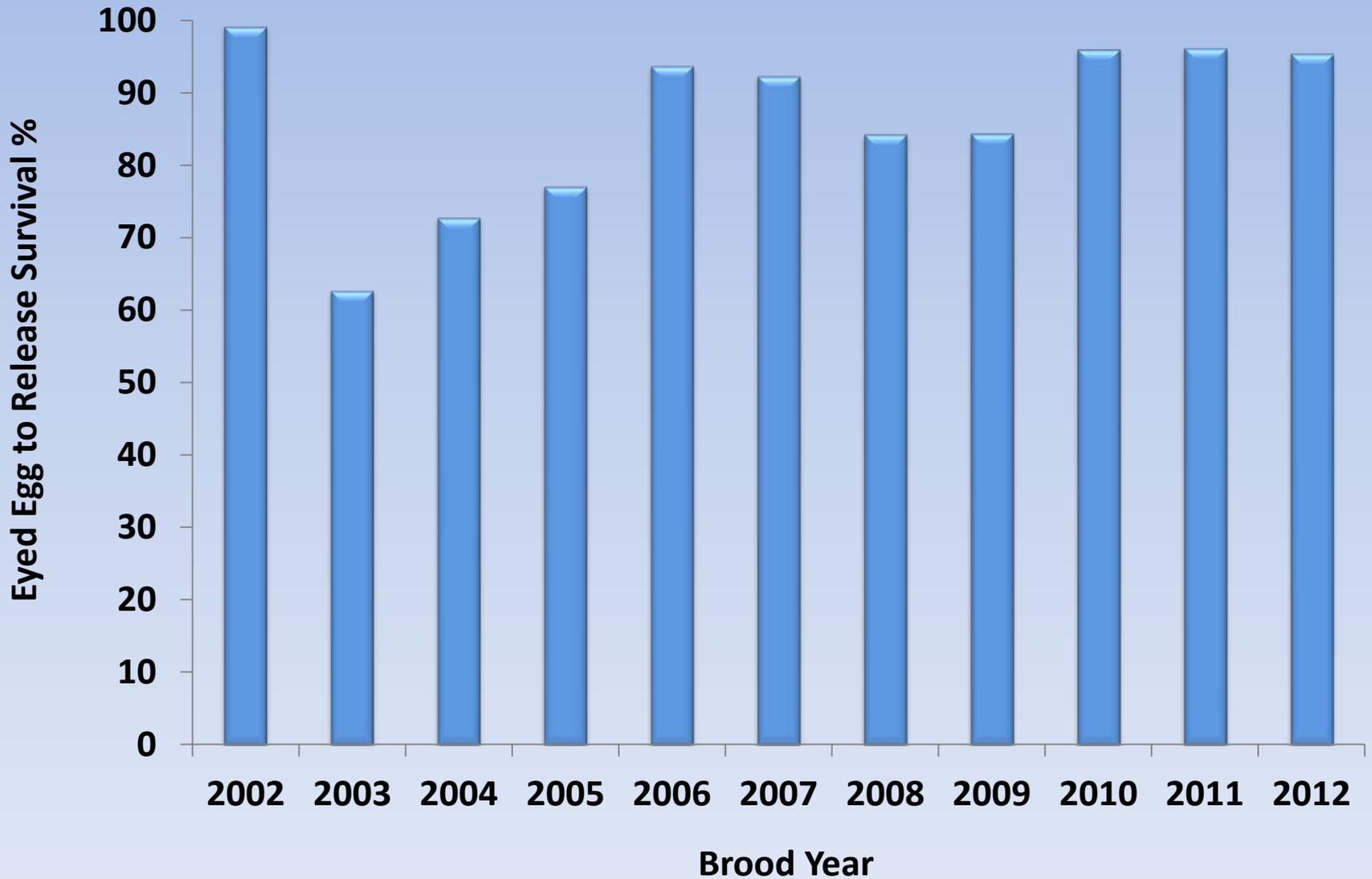
Egg Source



Green Egg to Release Survival

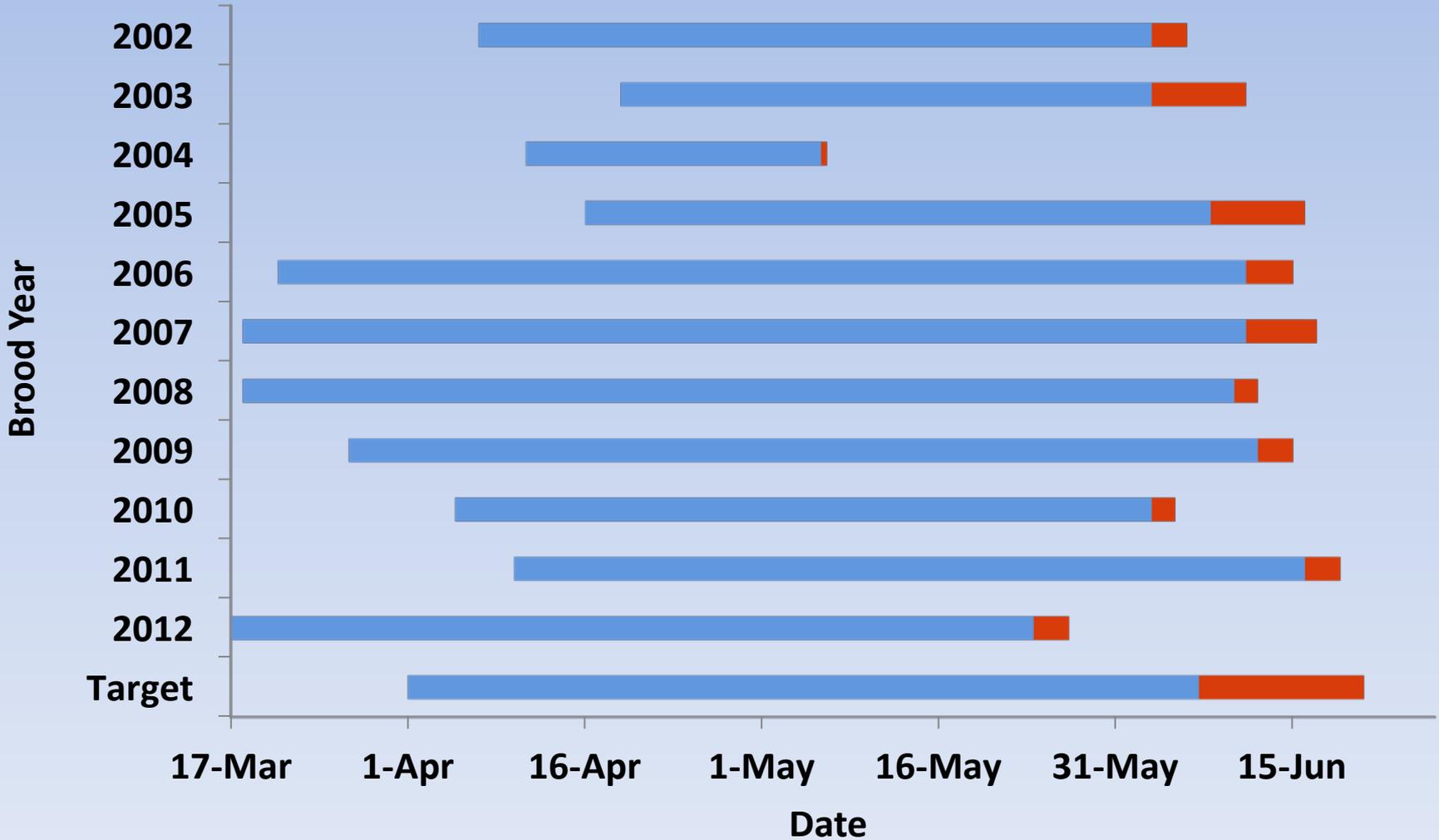


Eyed Egg to Release Survival



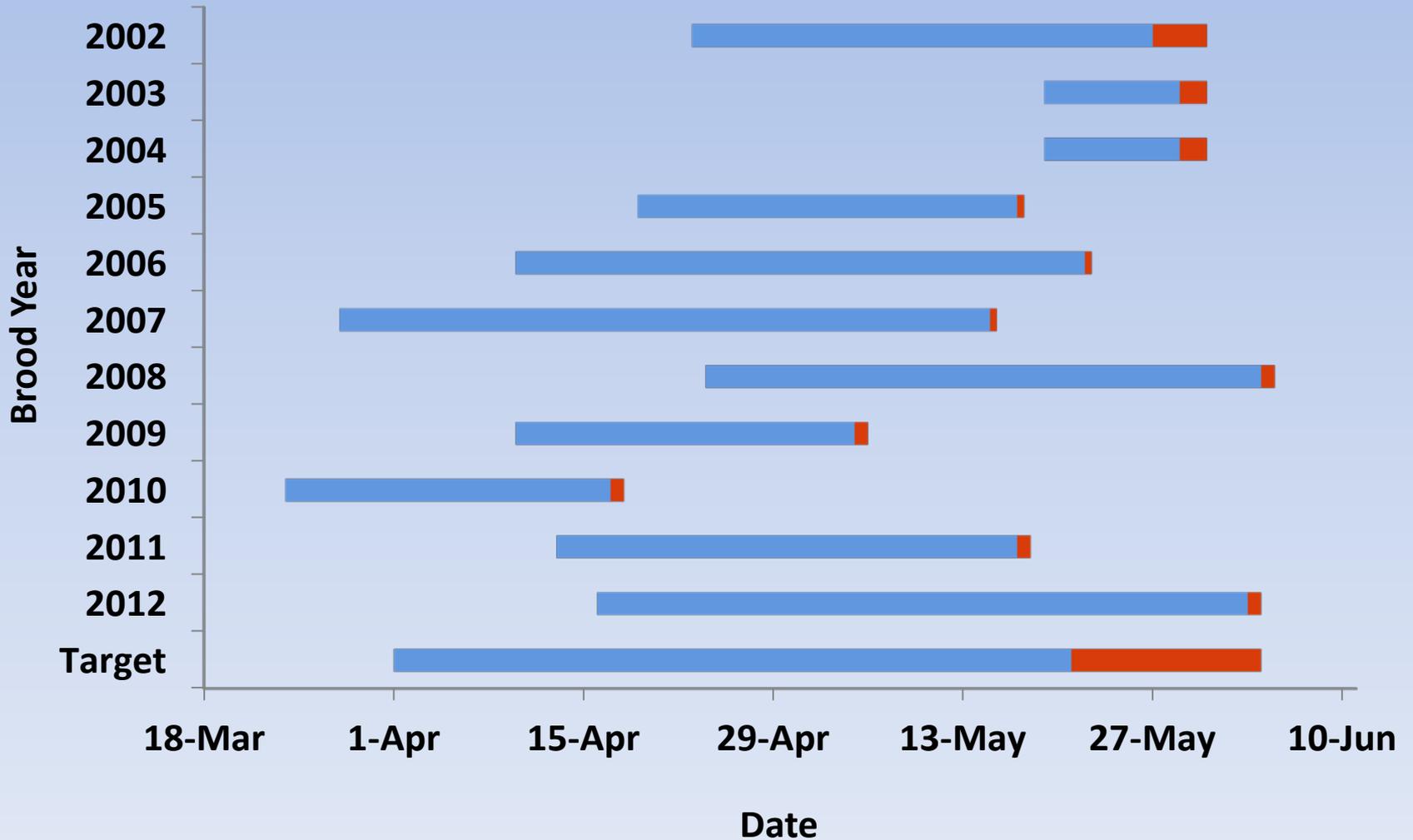
NPTH Acclimation

■ Acclimation Period ■ Volitional Release

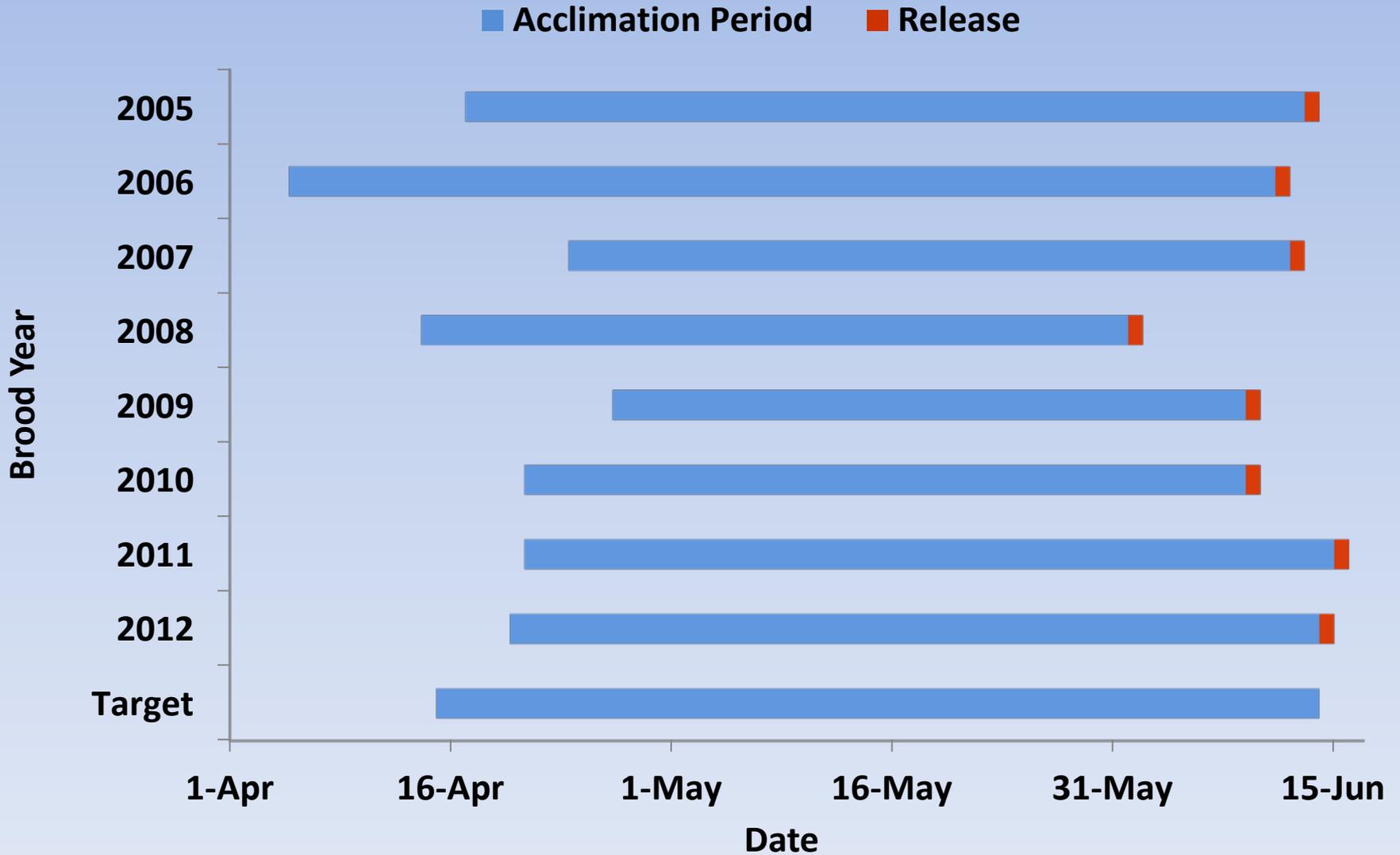


North Lapwai Valley Acclimation

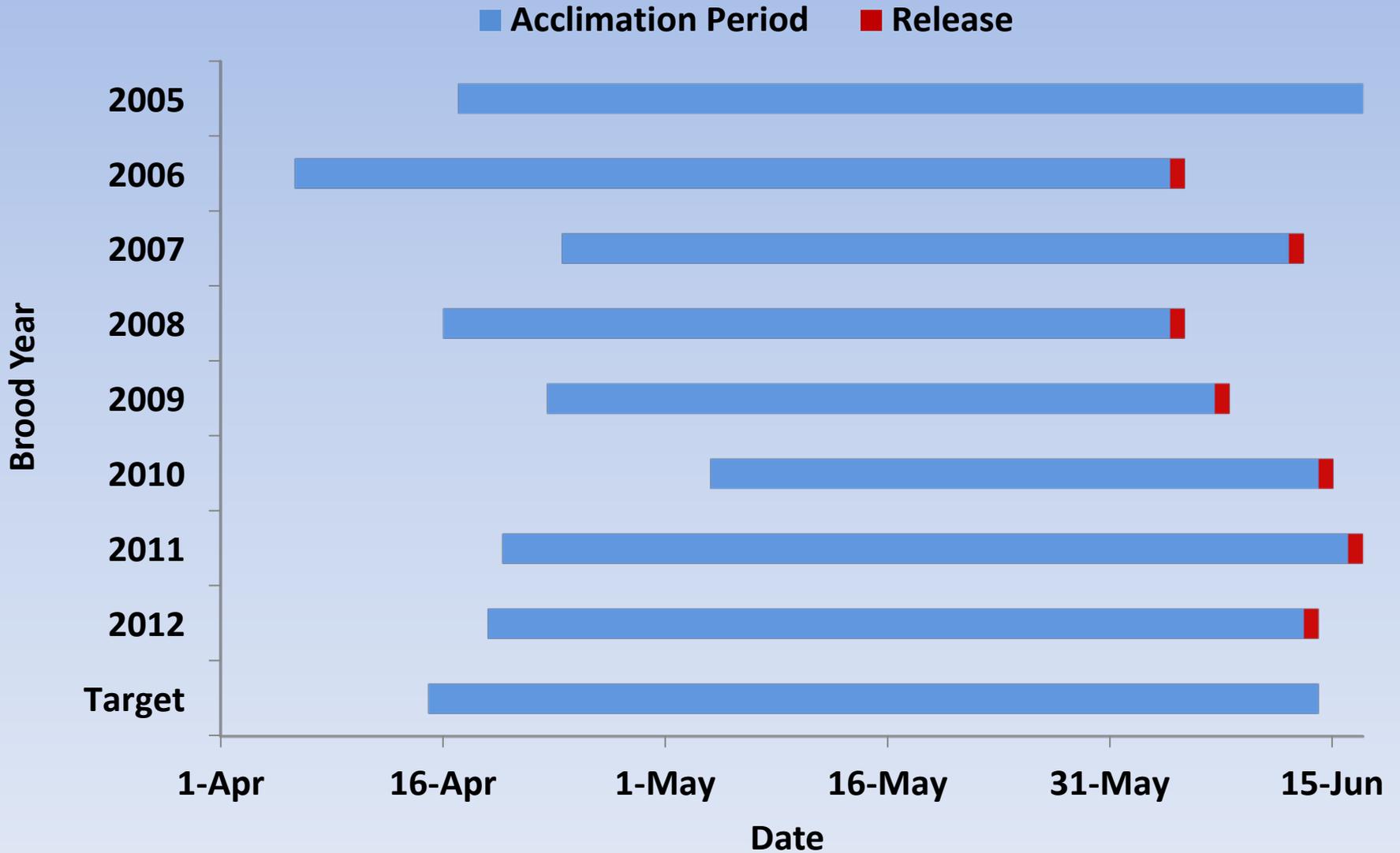
■ Acclimation Period ■ Volitional Release



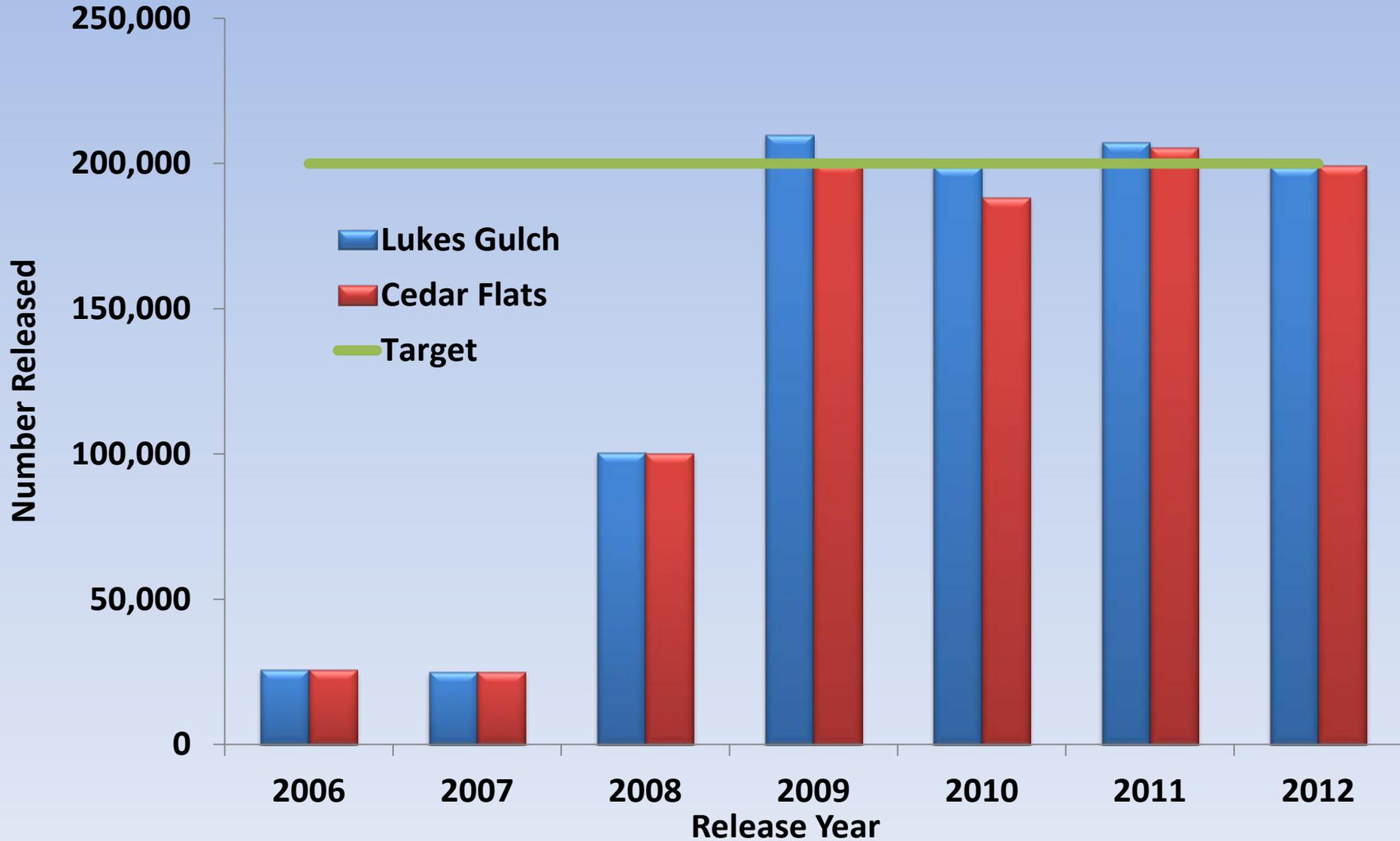
Lukes Gulch Acclimation



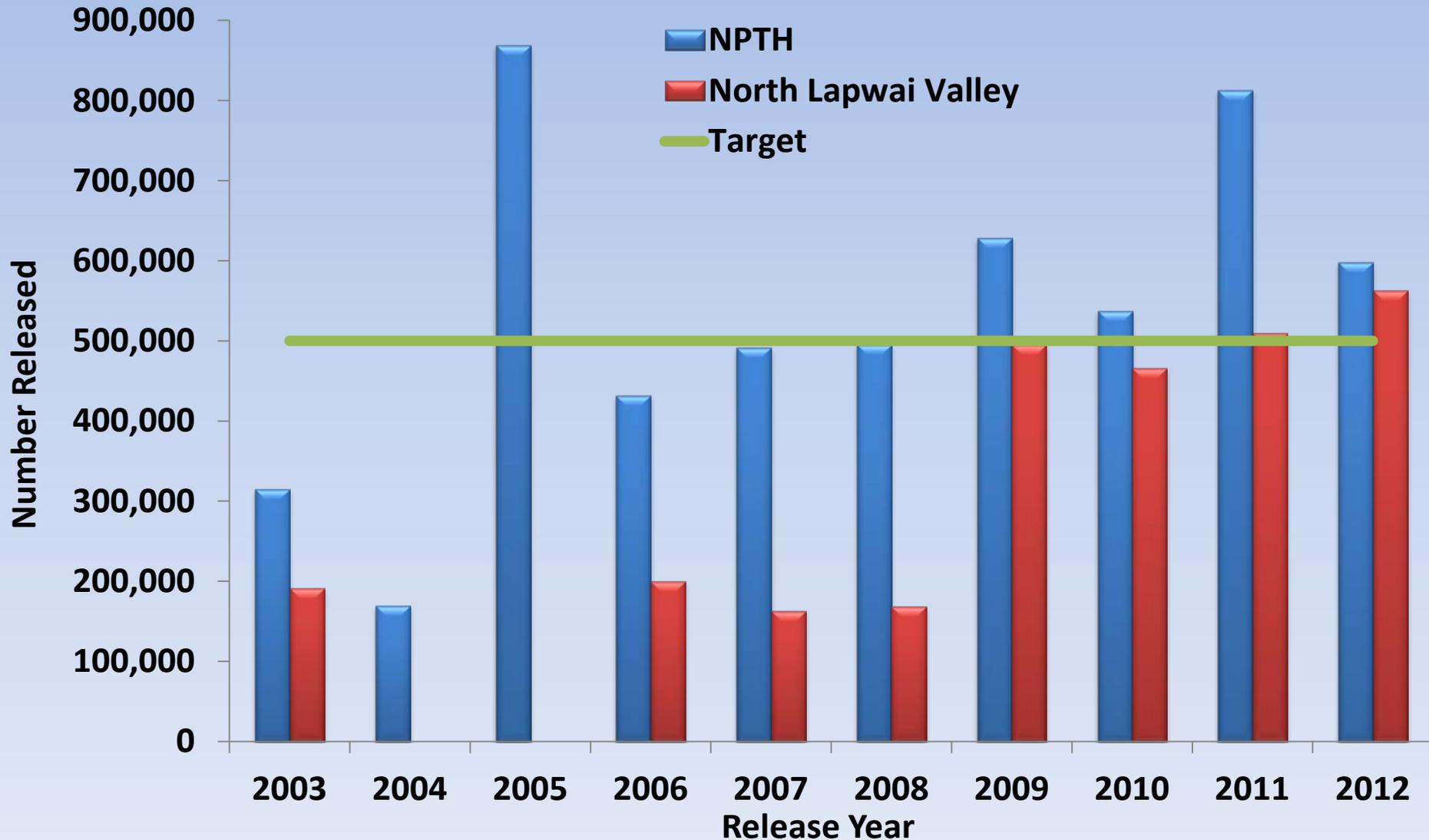
Cedar Flats Acclimation



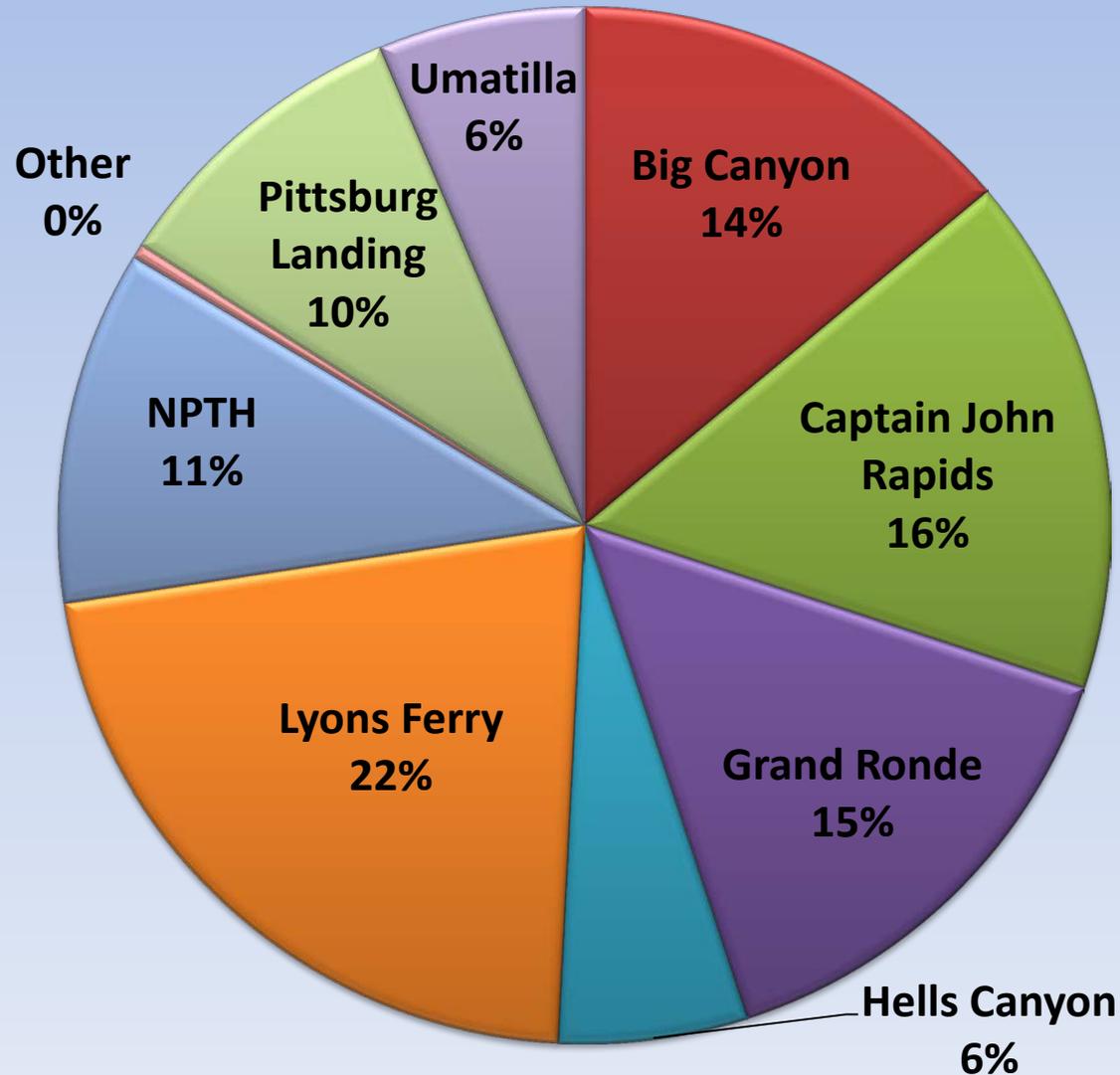
Lukes Gulch and Cedar Flats Releases



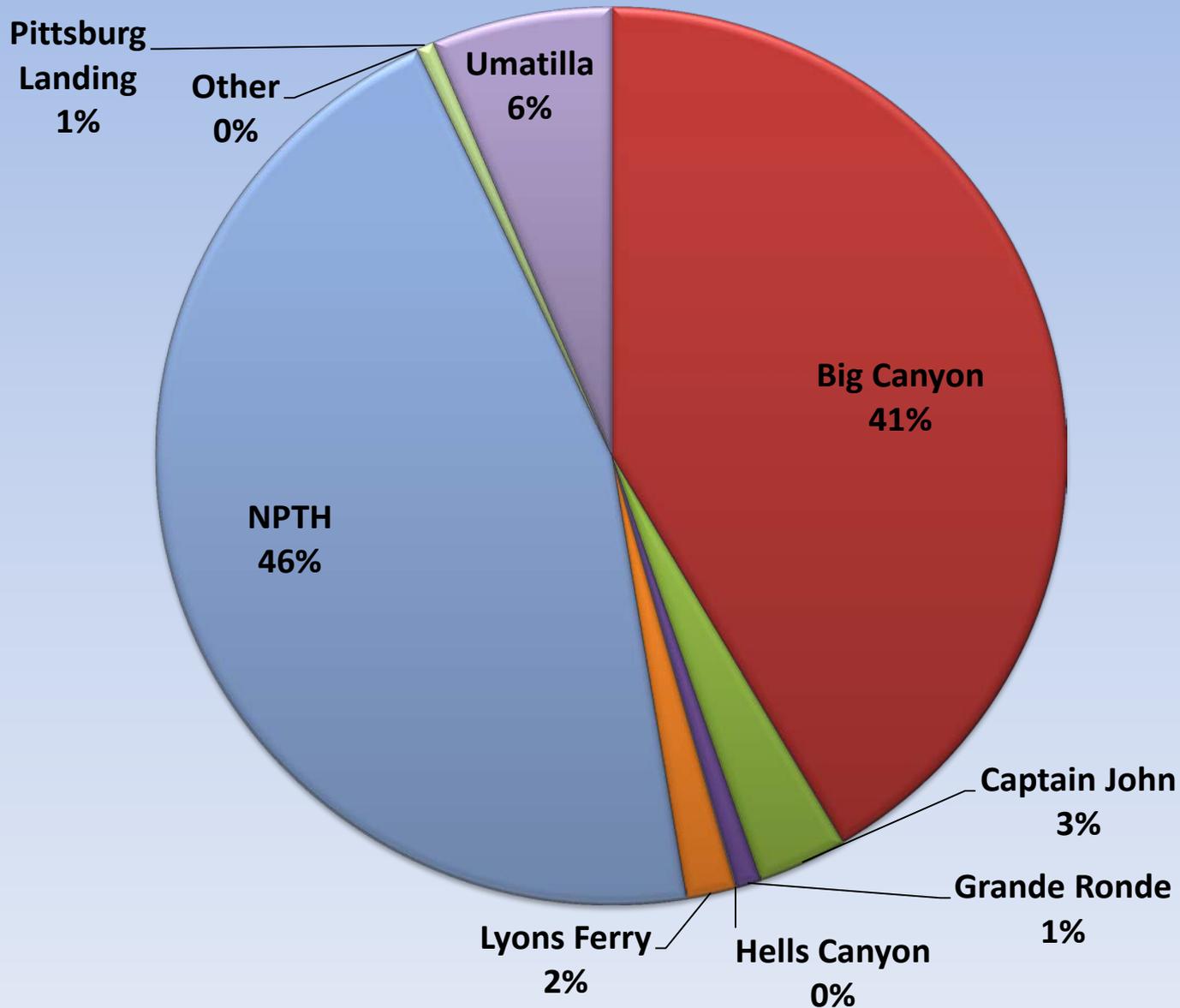
NPTH and North Lapwai Valley Releases



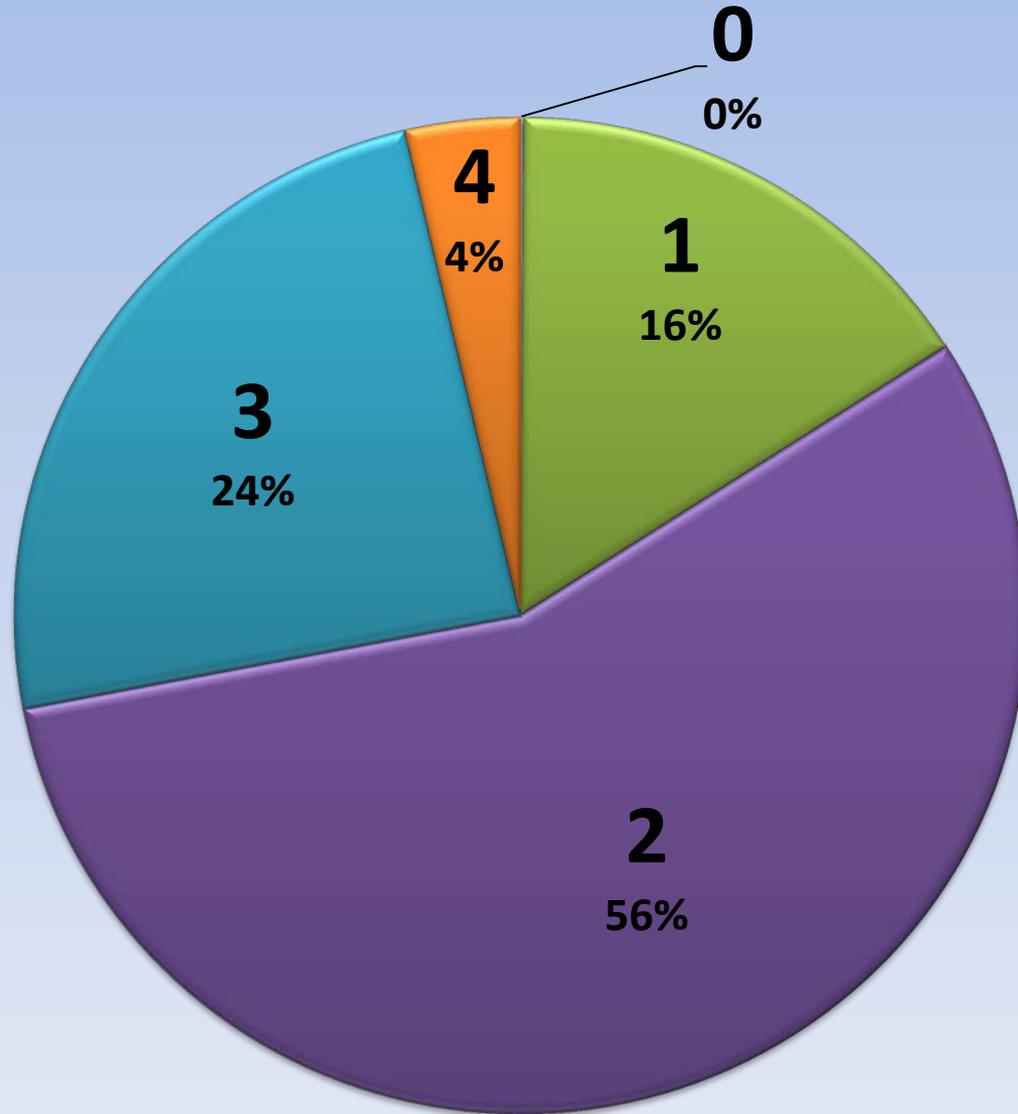
Lower Granite Transferred Adults Spawned at NPTH



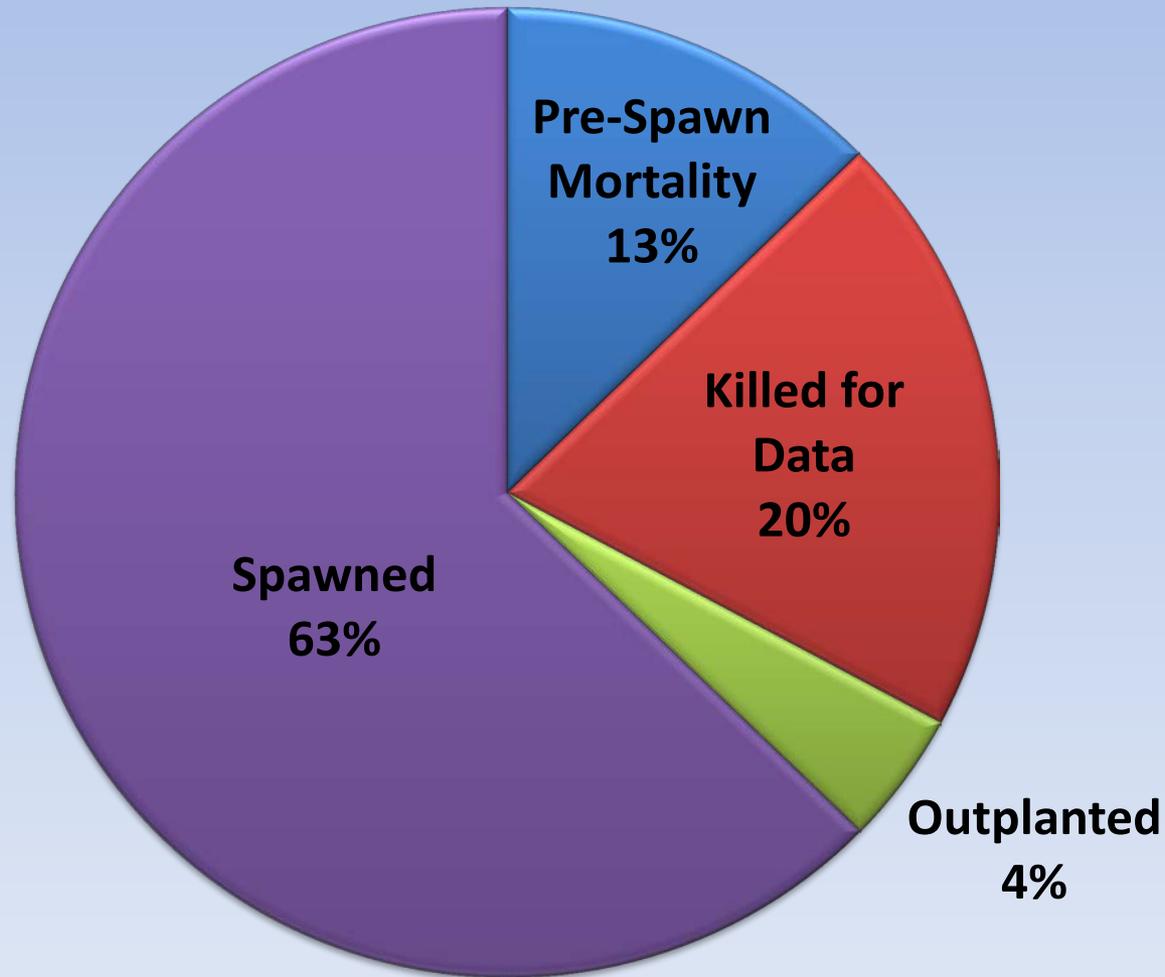
Volunteers Spawned at NPTH



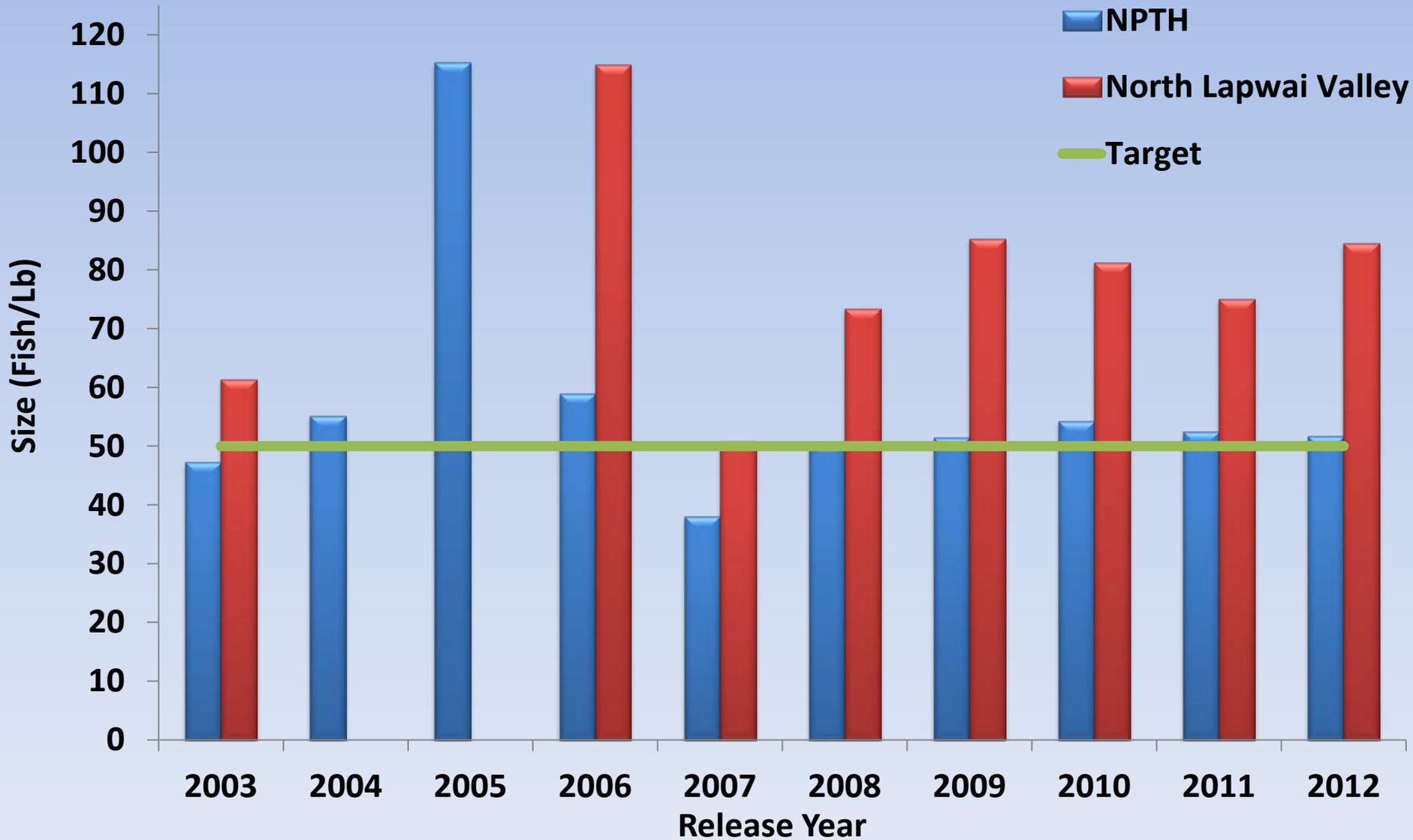
Age Composition of Spawned Fish at NPTH



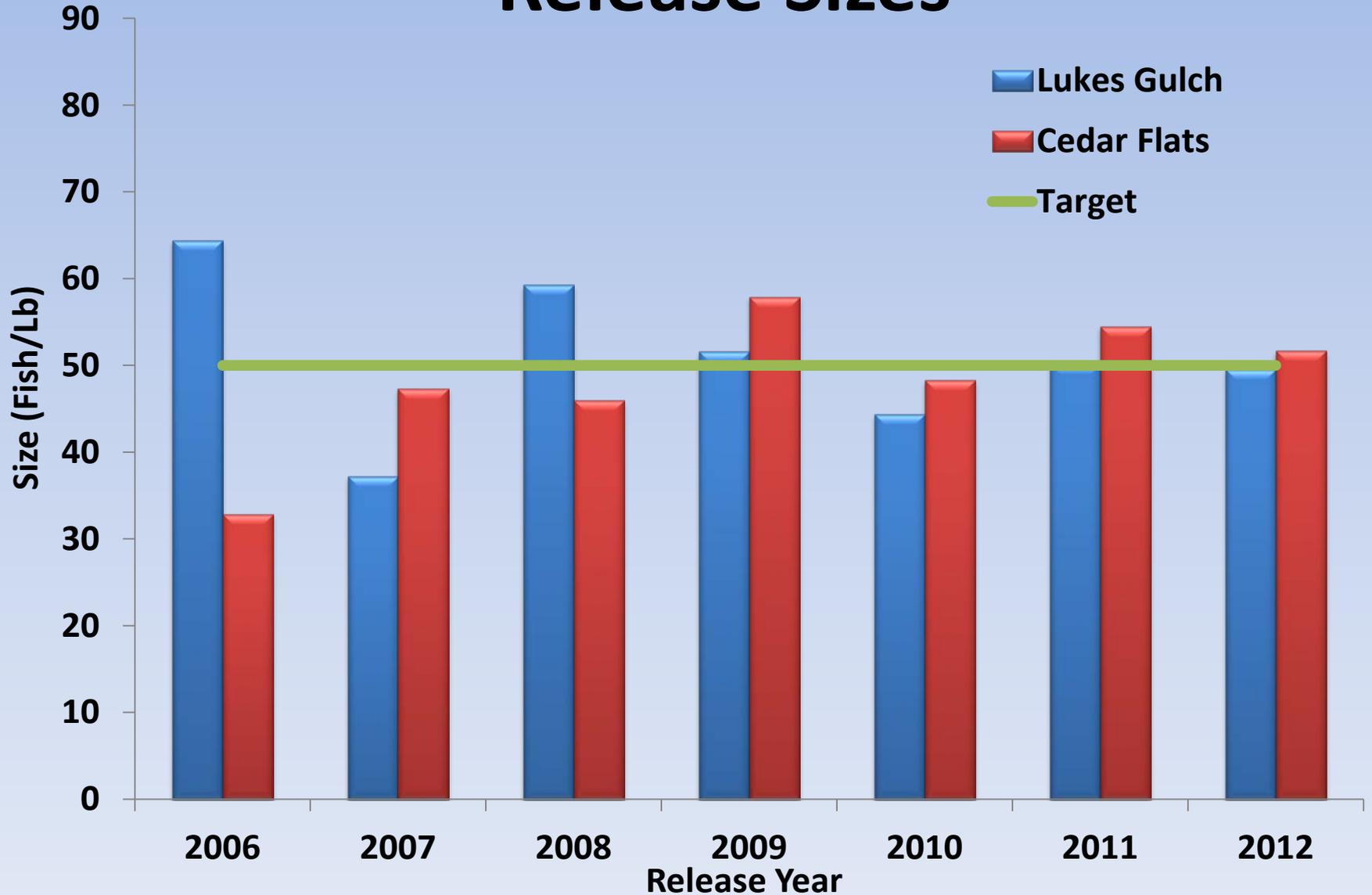
Disposition of Adult FCS at NPTH



NPTH and North Lapwai Valley Release Sizes

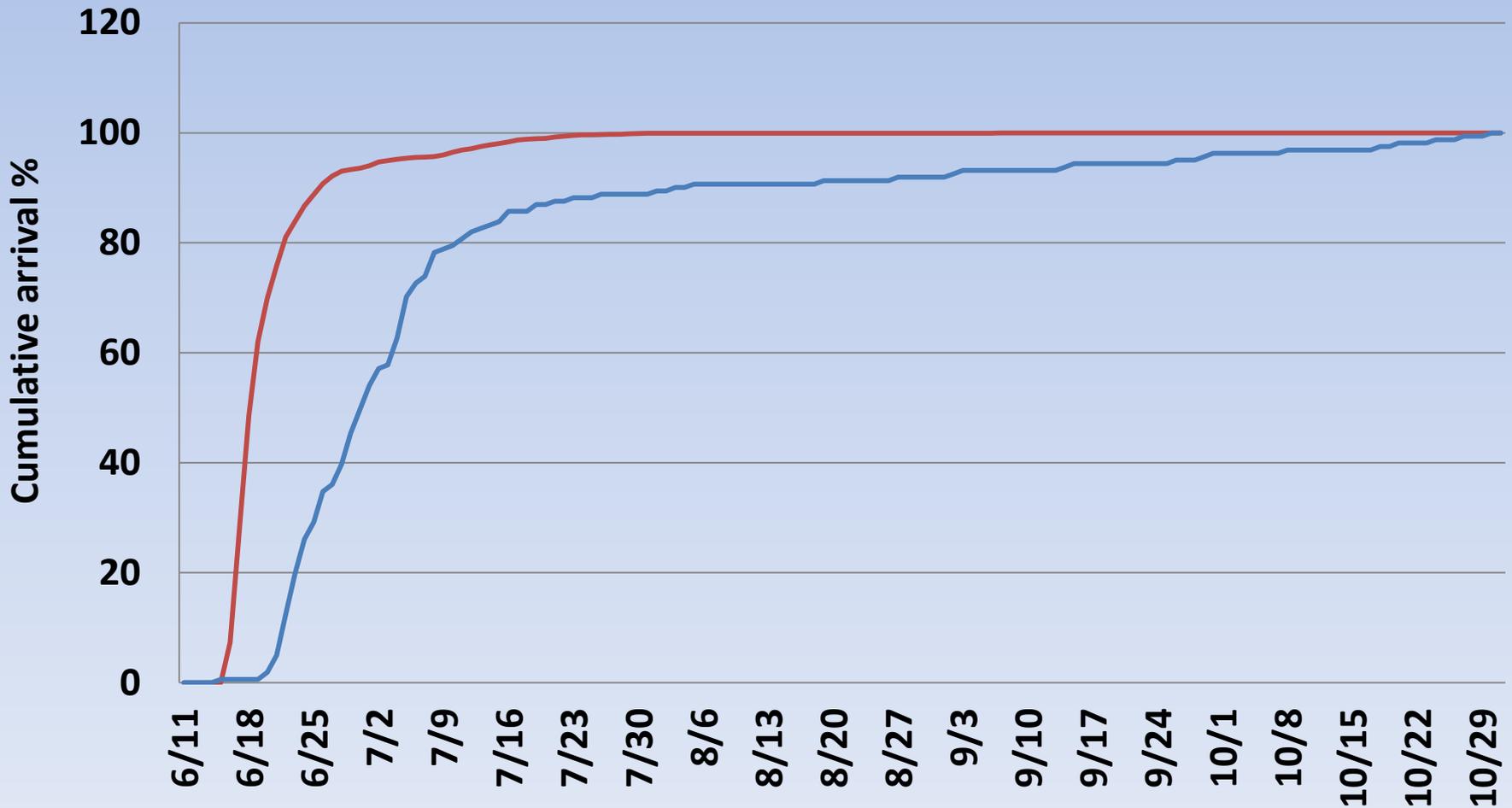


Lukes Gulch and Cedar Flats Release Sizes

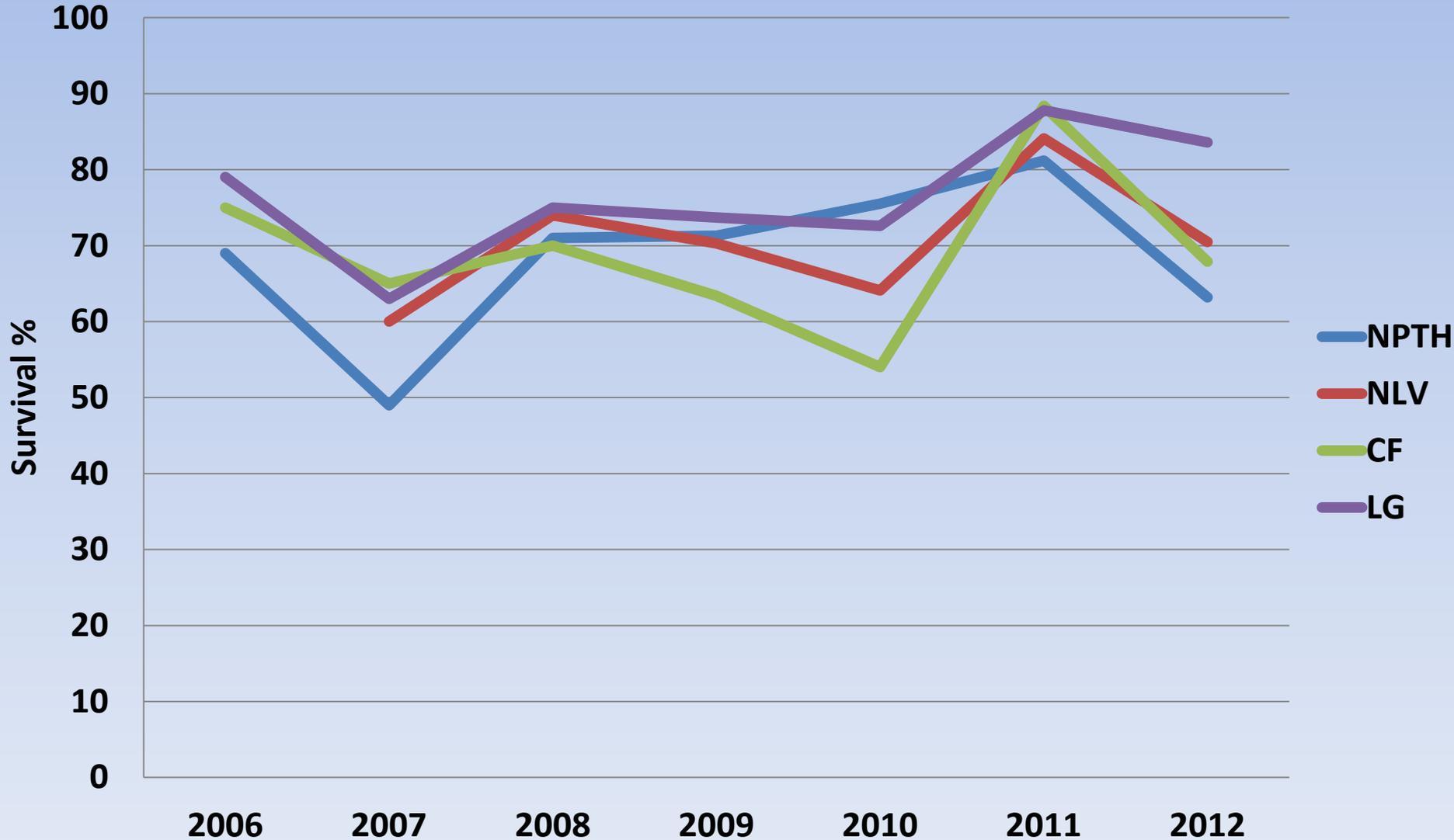


NPTH Subyearling Arrival Timing at Lower Granite Dam

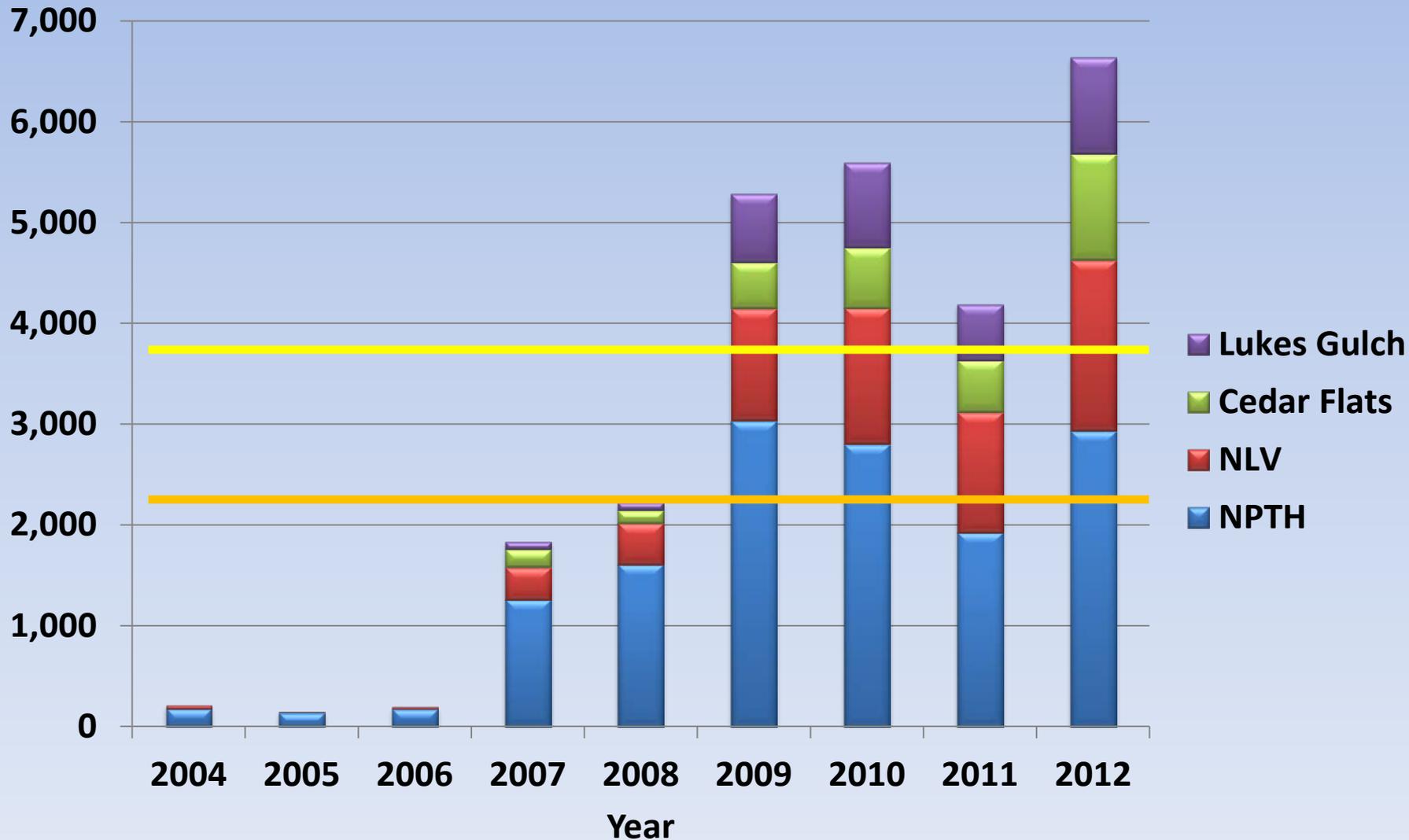
— Lukes Gulch BY'10 MY'11 — Cedar Flats BY'06 MY'07



Expanded Survival Estimates of Juveniles to Lower Granite Dam



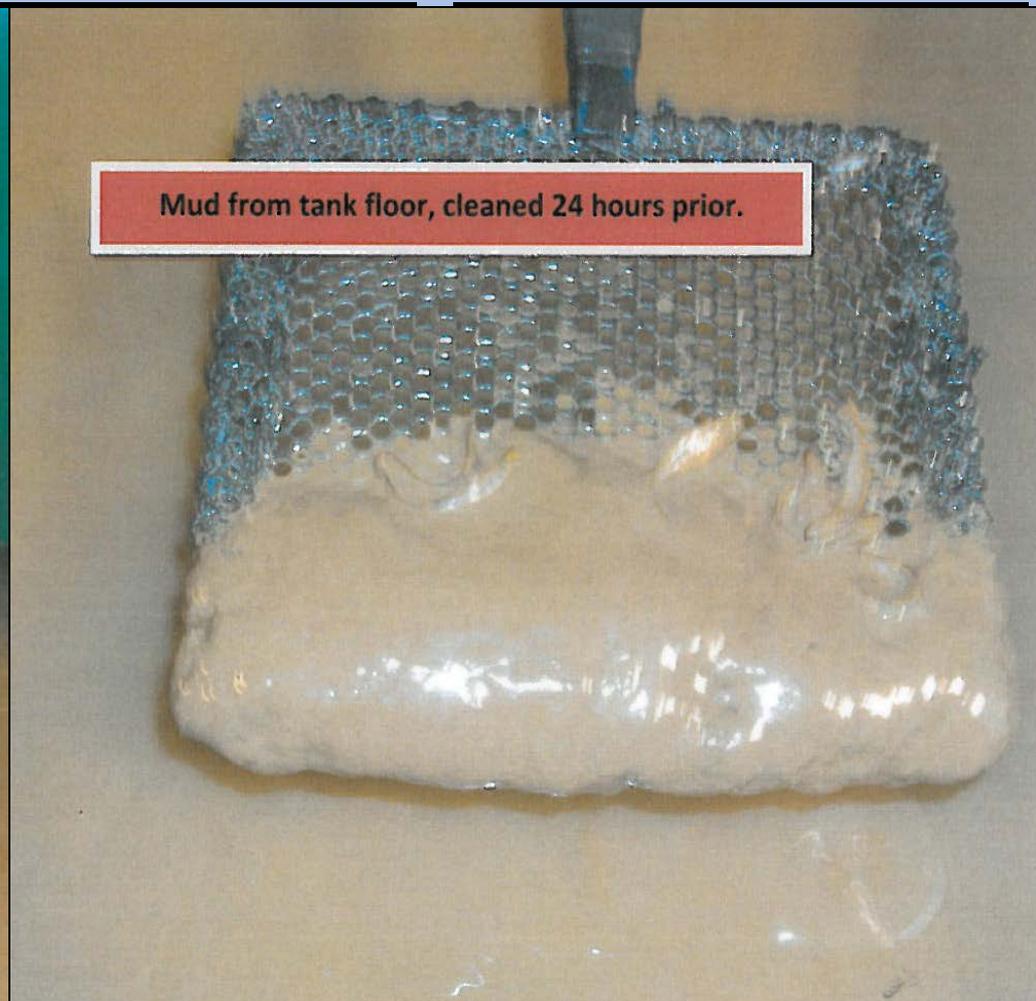
NPTH Adult Returns to Lower Granite Dam



Fish Health Highlights

- **Injections of female broodstock with erythromycin three weeks before spawning**
- **Ovaplant (sGnRHa) pellet injection to accelerate egg maturation in unripe females**
- **Lower levels of culling for Bacterial Kidney Disease**
- **Bacterial Gill Disease outbreaks greatly reduced (cooler incubation and rearing temperatures)**

Turbid Water Events at Nez Perce Tribal Hatchery



Adaptations in response to identified problems

- **Ovaplant injections to unripe females.**
- **Cooler incubation and early rearing.
temperatures – No Bacterial Gill Disease.**
- **Changed incubation cleaning protocols.**
- **North Lapwai Valley early releases.**
- **North Lapwai Valley instream water supply
issue and alteration.**



OregonLive.com

Everything Oregon

Nez Perce hatchery strategy pays big dividends for Snake River fall chinook, raises big questions for Northwest

Published: Saturday, December 10, 2011, 10:30 PM Updated: Sunday, December 11, 2011, 7:46 AM



By **Scott Learn, The Oregonian**



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Bruce Ely, The Oregonian

Brett Bibebe, a technician at the Nez Perce Tribal Hatchery, passes an adult fall chinook to a holding trough before spawning last month. The hatchery near Lewiston, Idaho, began releasing young hatchery-raised fish into rivers throughout the Snake River Basin in 2003, a "supplementation" strategy that has boosted numbers of adult fish returning from the ocean to traditional tribal fishing spots.

LEWISTON, Idaho -- Into the 1930s, the **Nez Perce** tribe's foothold in the Snake River basin teemed with nearly half a million fall chinook.

By the 1980s, returns averaged 600 a year, thanks largely to hydropower dams that eliminated 85 percent of the king salmon's habitat. Salmon nests, or "redds," on the Snake and nearby Clearwater River were down to a handful.

Cut to early November. Becky Johnson of **Nez Perce Fisheries** stands beside a lonely stretch of the Snake, watching through video goggles as a remote-control helicopter with a camera in tow buzzes above the river.

The lens zeroes in on huge redds dug by spawning chinook. From overhead, they look like light-gray



Questions ?