

Klickitat River Adult Salmon and Steelhead Monitoring and Trends

Ryan Gerstenberger

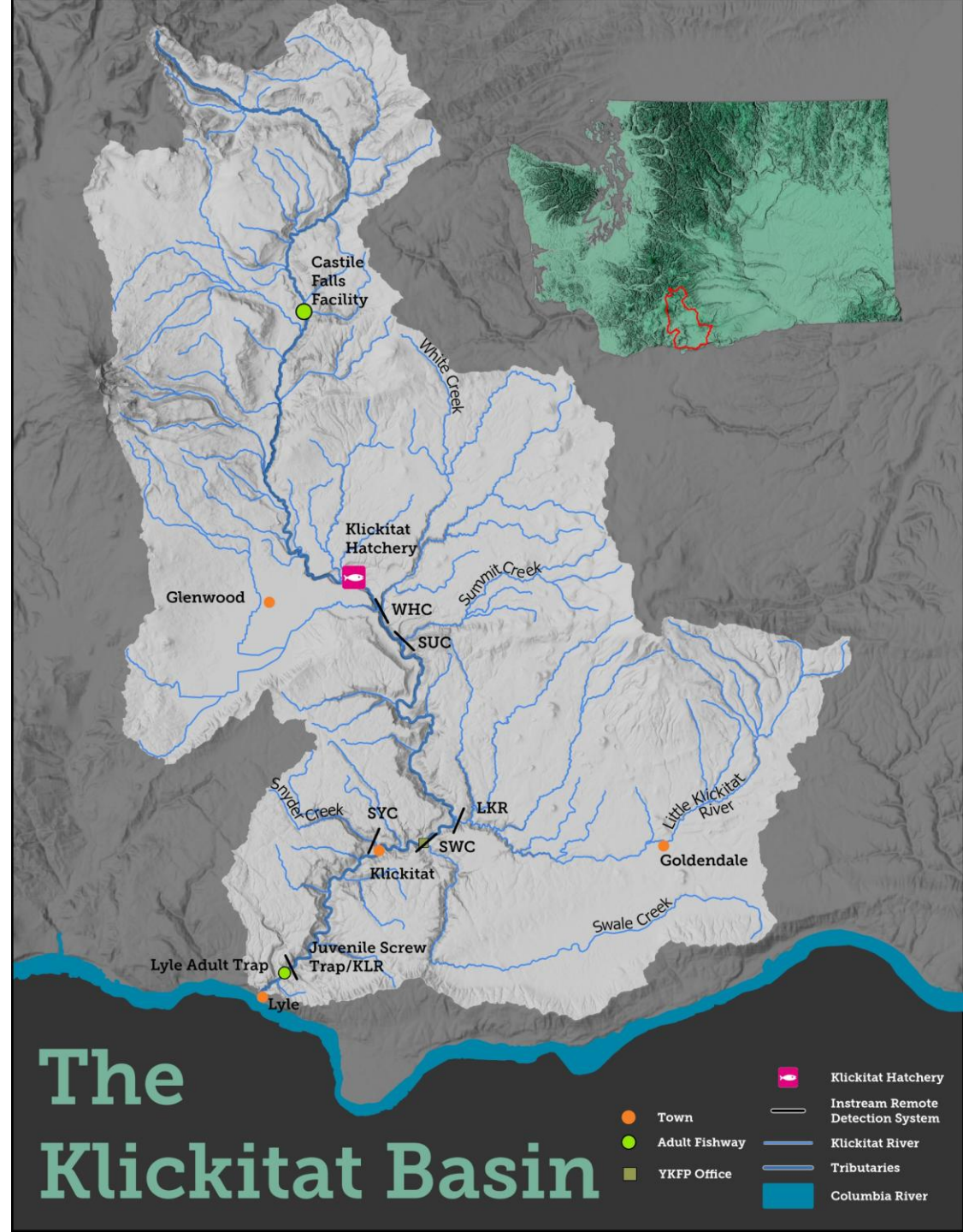
Yakama Nation Fisheries

Klickitat River Monitoring and Evaluation Project



Study Area

- Large watershed draining the east side of Mt Adams up to the Goat Rocks.
- No Dams!
- Lyle Falls ideally located for total basin adult monitoring (RKM 4)
- Other monitoring/detection sites spread throughout the watershed

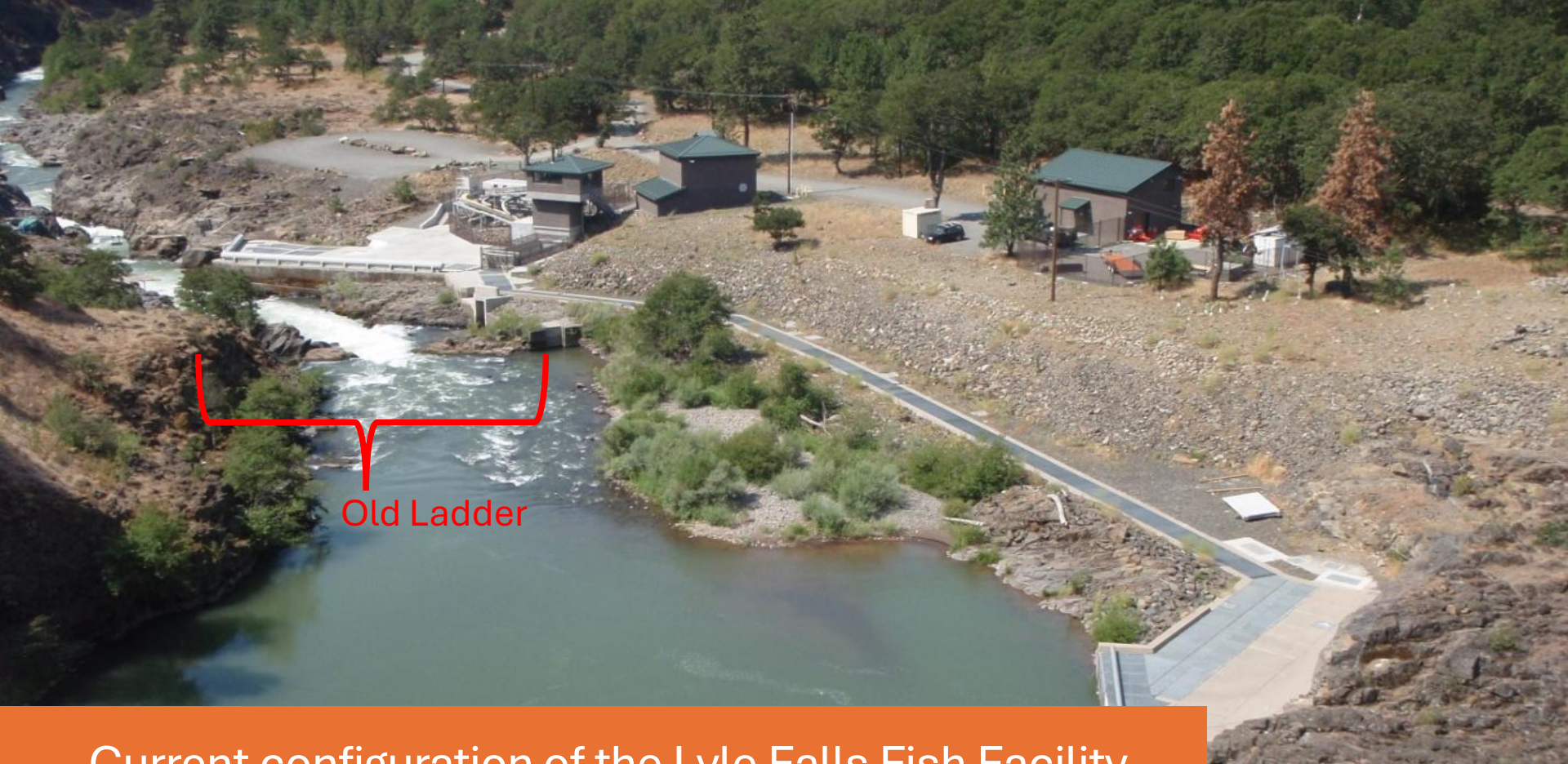


Background & History of Lyle Falls Fishway

Klickitat Falls at Lyle historically passable to steelhead and spring Chinook.

Fishway originally built by WDFW in the 1950's to accommodate fall Chinook and Coho programs

Remodeled by YKFP/BPA in 2012/13 under the Fish Accords



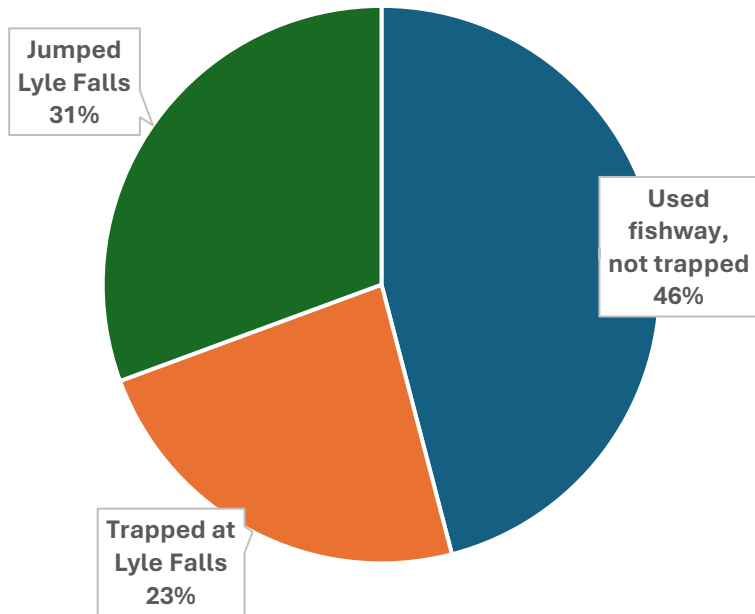
Current configuration of the Lyle Falls Fish Facility

- Fishway extended for better passage and reduced “fallback”
- Modern “water to water” fish collection and sampling facilities added
- Direct database entry and reporting of fish counts on the internet (http://www.ykfp.org/klickitat/Data_LAT.htm)
- PIT antennas operated by PSMFC and data uploaded to PTAGIS hourly

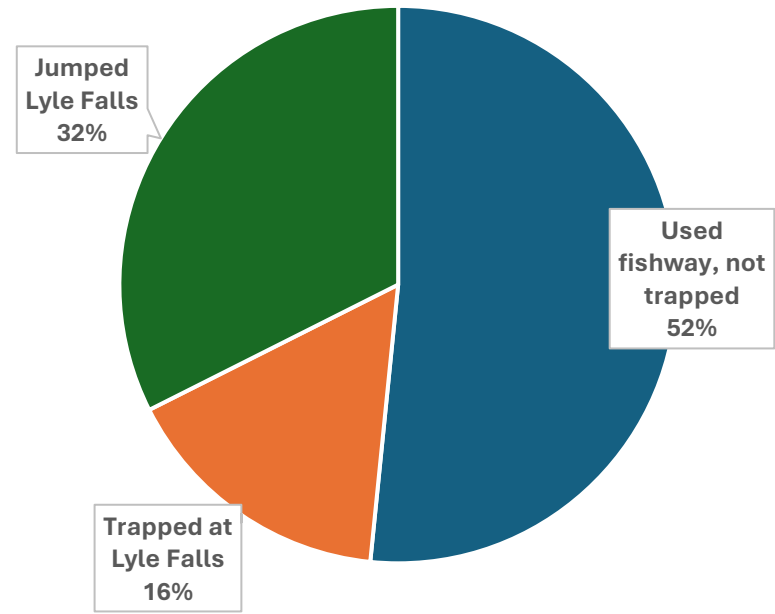
Lyle Falls trap counts are NOT total counts

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Trap Days	127	130	77	132	114	103	178	175	165	159	168	238	244	240

Steelhead (N=209)



Chinook (N=219)



Run estimation methods

- Steelhead: Peterson mark-recapture equation, using angler catch data
- Spring Chinook: Peterson mark recapture equation, using hatchery return data
- Coho: Trap count expansions*
- Fall Chinook: Trap count expansions*

*Do not account for fish that jump the falls



Sampling Techniques

- **Electronarcosis for handling**
- **Species/run type**
- **Fin clip presence/absence**
- **Floy Tag**
- **PIT tag**
- **DNA tissue punch**
- **Scales**

Steelhead

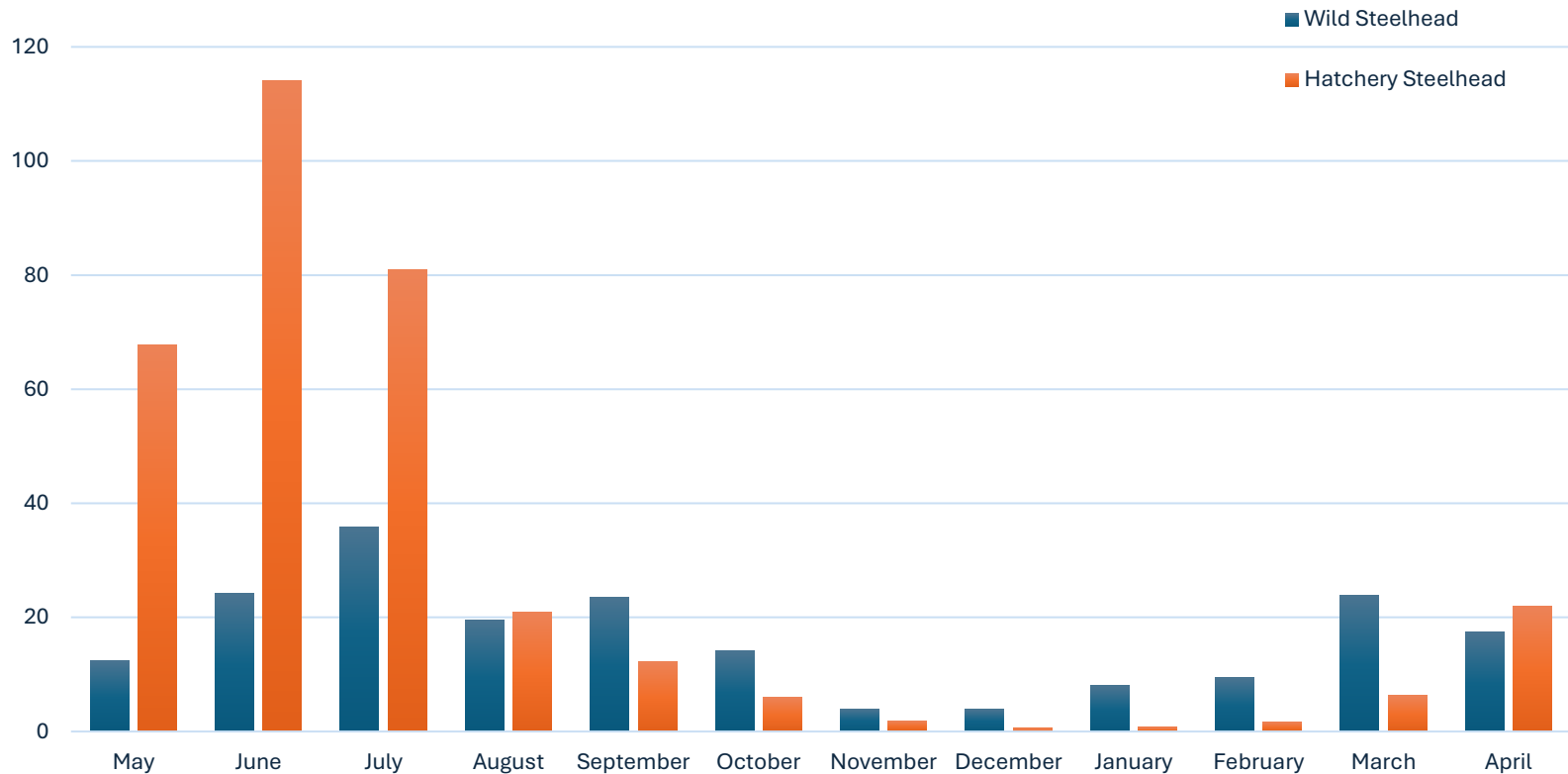


Diverse native population with multiple run types

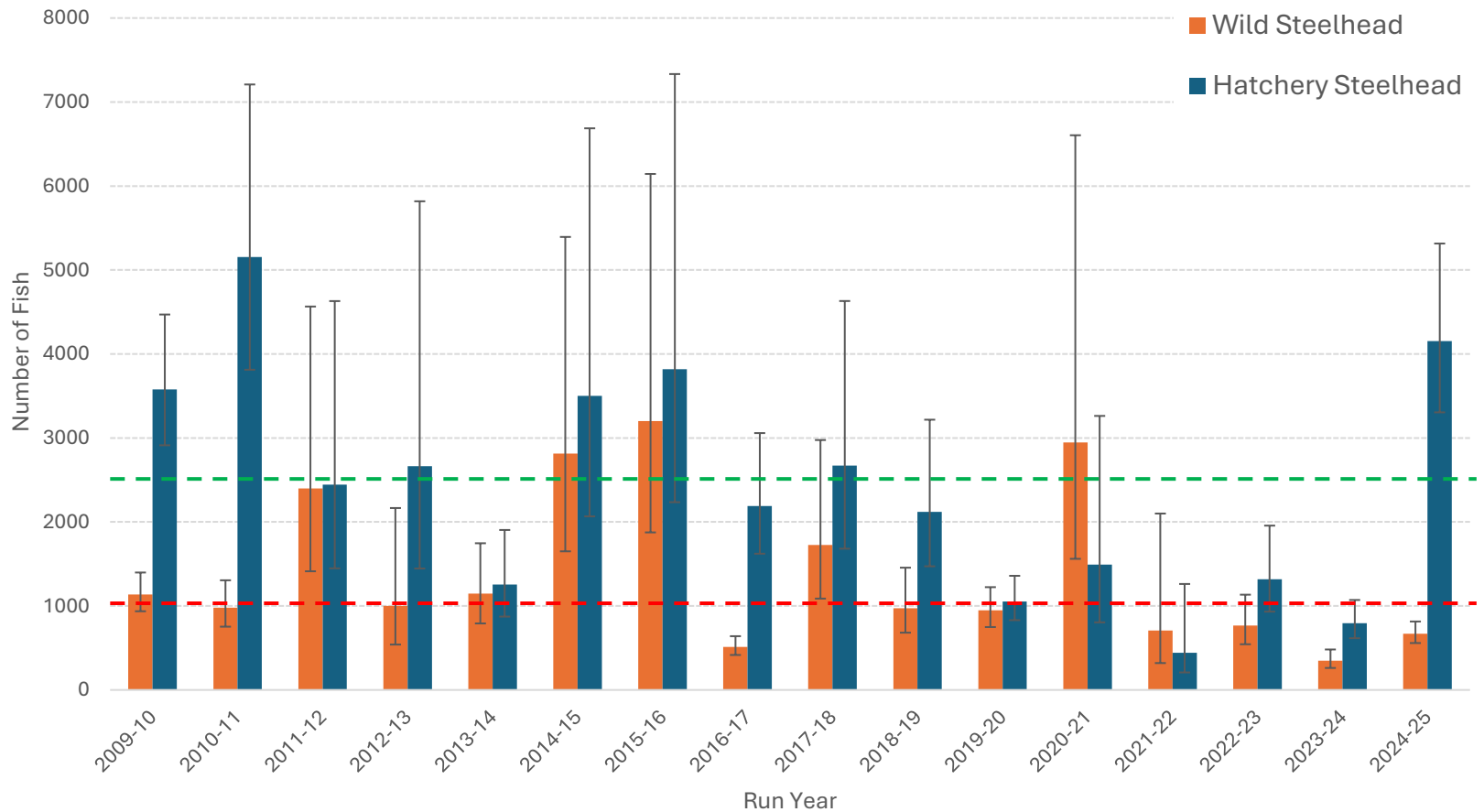
ESA listed threatened under Mid Columbia DPS

Skamania Hatchery early summer run smolt releases of 90k

Average Monthly Steelhead Counts at LAT



Escapement Estimates (Mark-Recap)



Spring Chinook

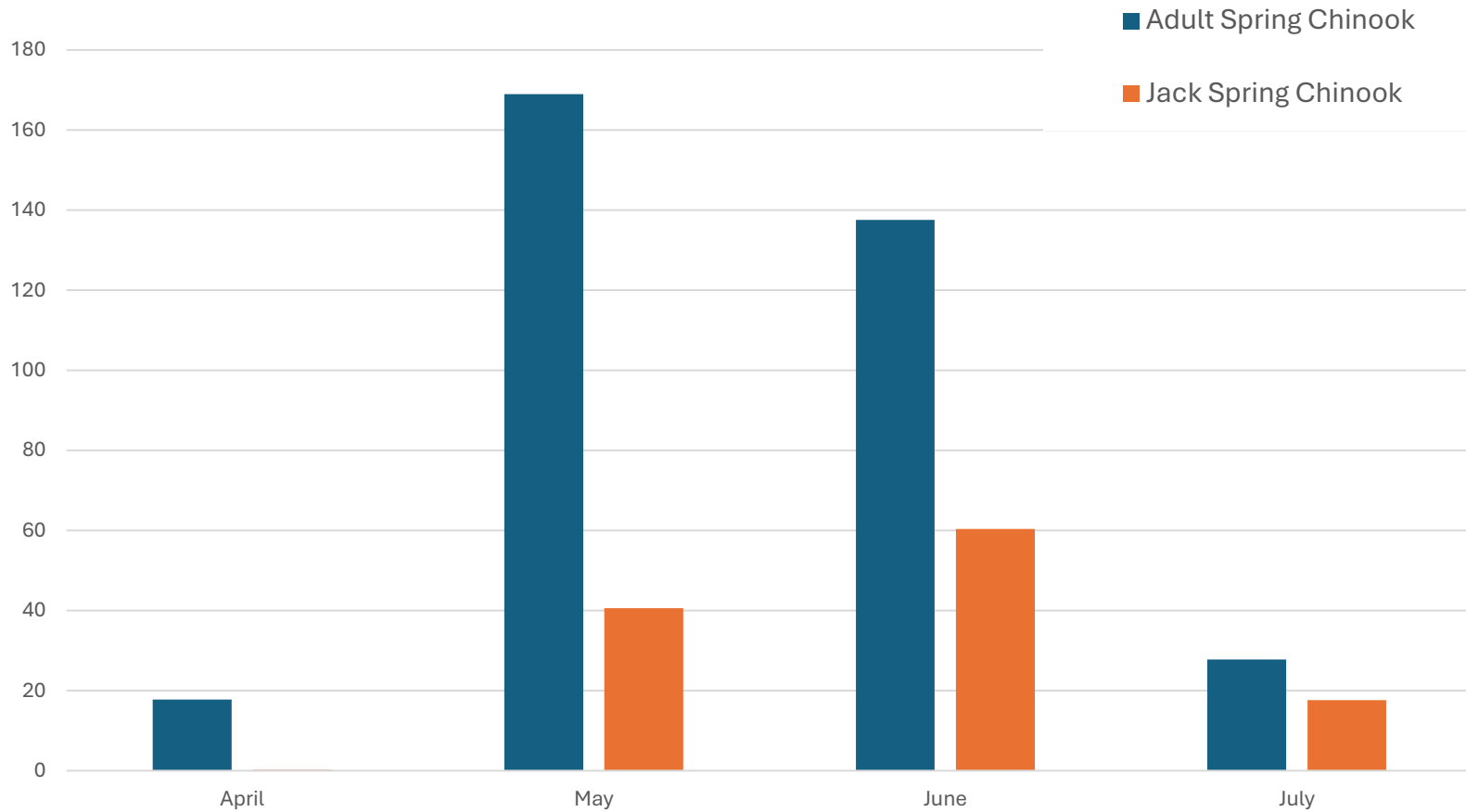
Important native run to
the Klickitat



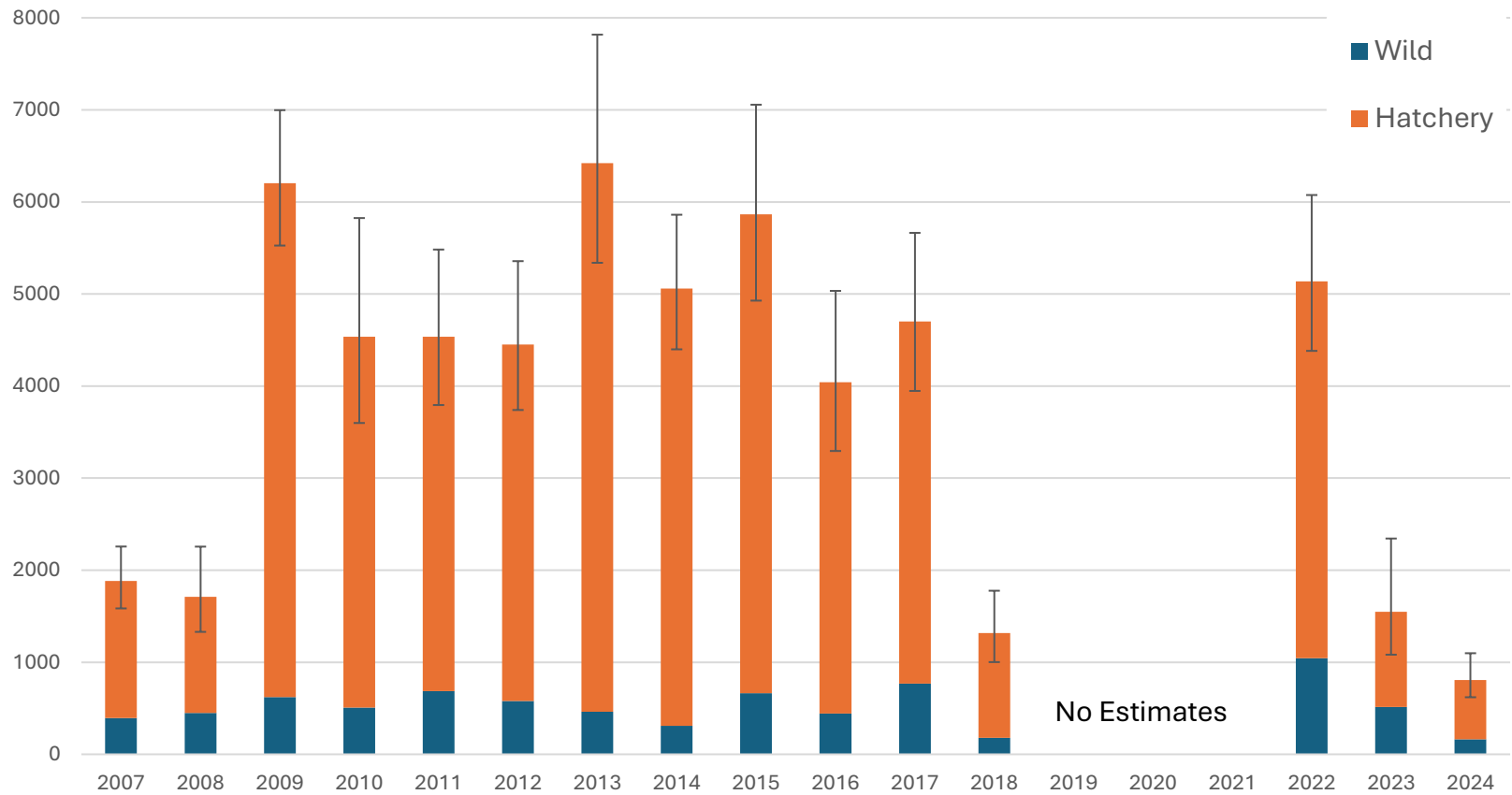
Interior Columbia
stream type life history
(Not ESA listed)

Klickitat Hatchery
smolt release goal of
600k

Average Monthly spring Chinook counts at LAT



Spring Chinook Adult Escapement



Fall Chinook

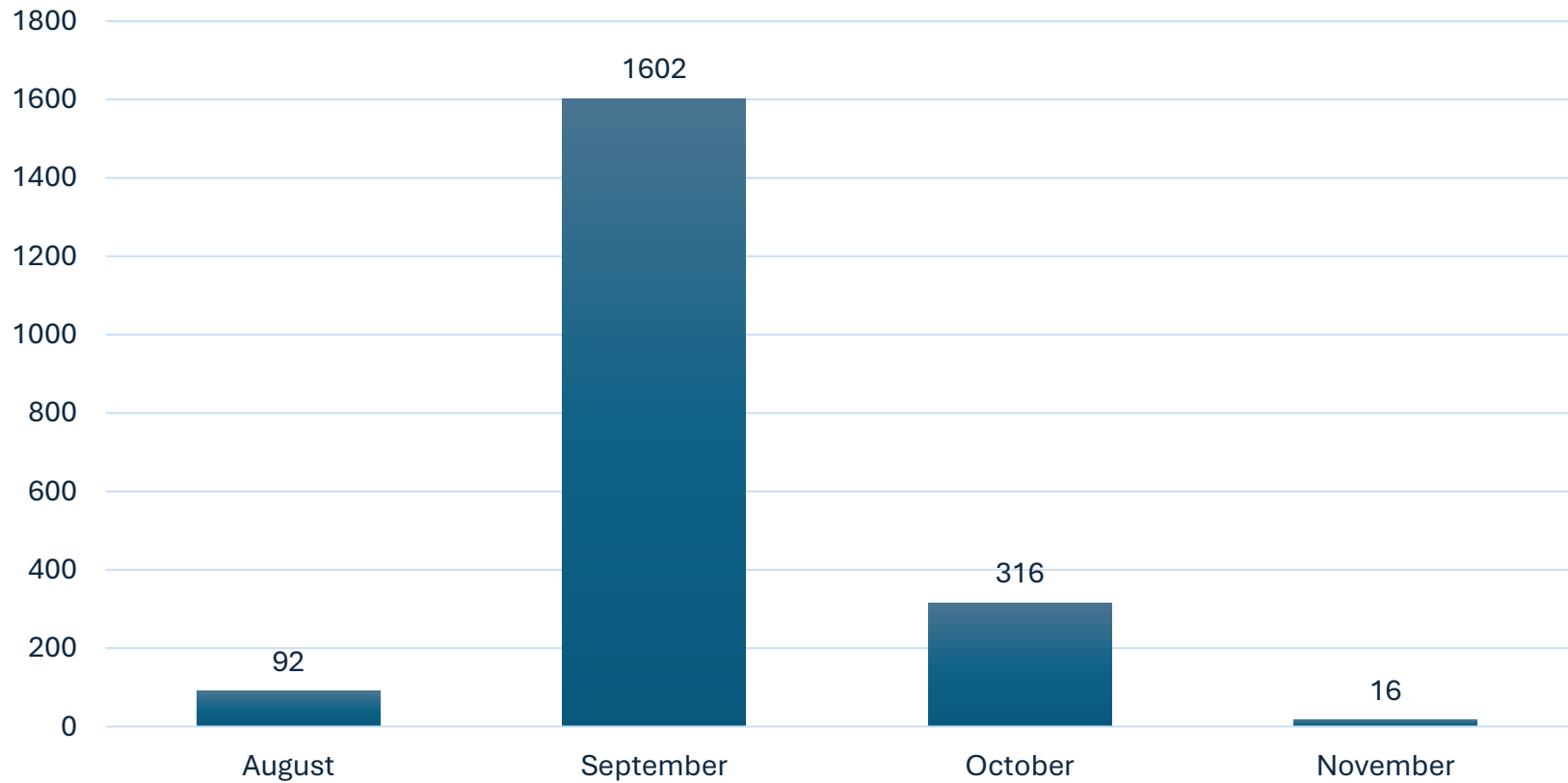


Not native to the Klickitat
Introduced for fisheries in
the 1950's

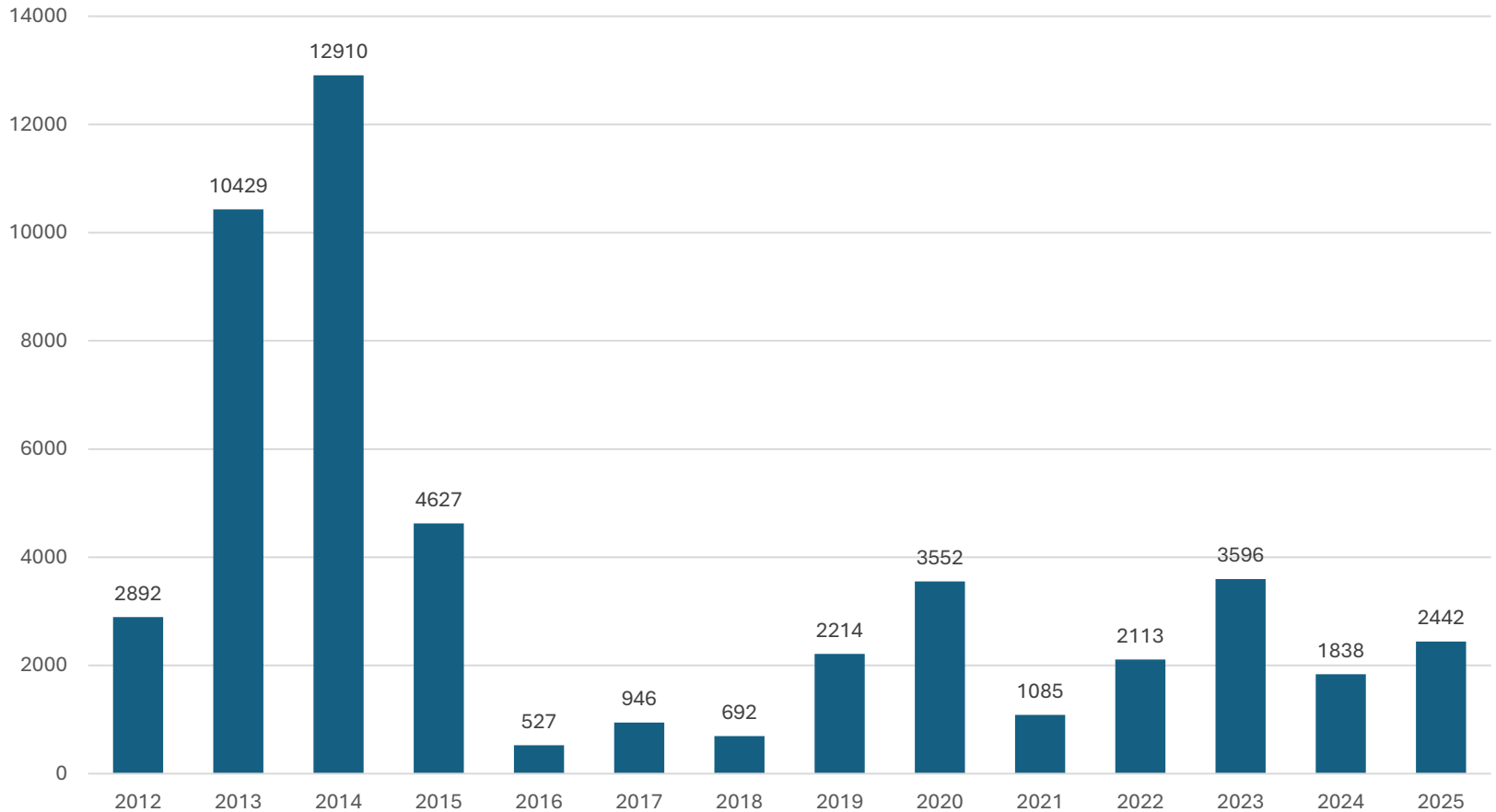
Upriver Bright Stock (URB)
Interior Columbia ocean
type life history

Klickitat Hatchery release
goal of 4 Million sub
yearling smolts

Average Monthly fall Chinook counts at LAT



Expanded Fall Chinook Counts at Lyle Falls



Coho



Not native to the Klickitat

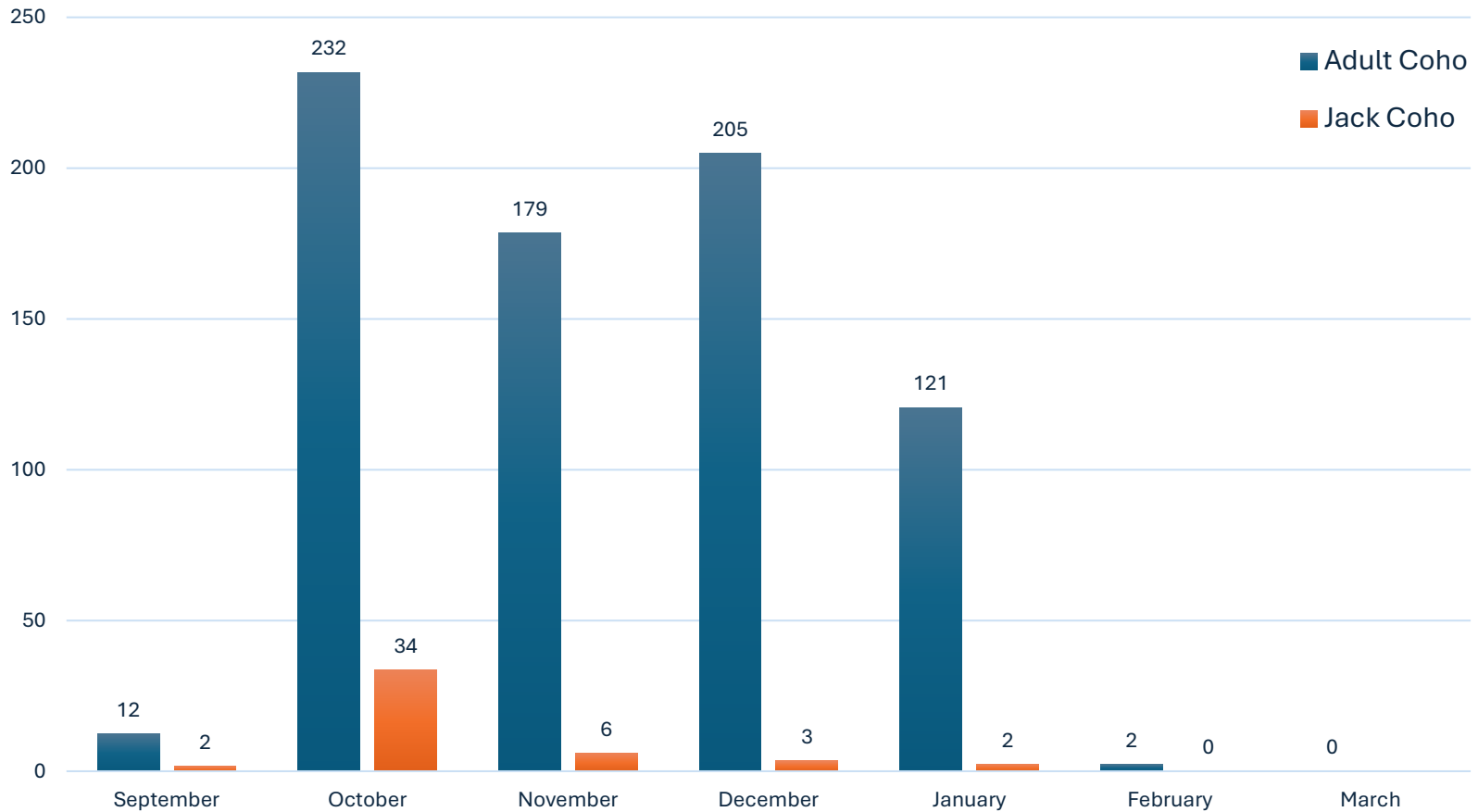
Introduced for fisheries in the
1950's

Type N late run Washougal
Hatchery Stock

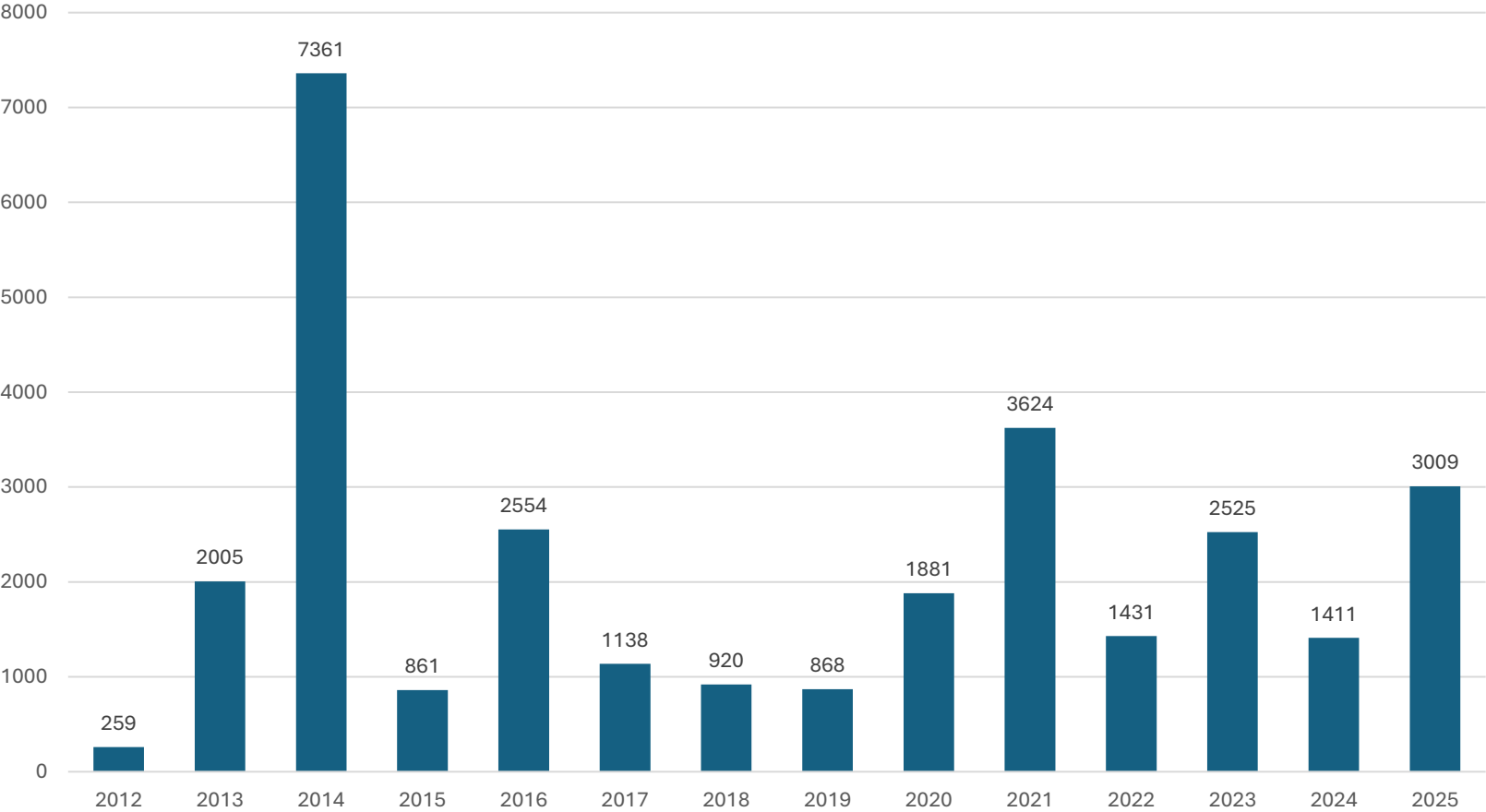
Klickitat Hatchery release goal
of 1 Million smolts

Washougal Hatchery (WDFW)
direct release of 2.5 million

Average Monthly Coho counts at LAT



Expanded Coho Counts at Lyle Falls



In Conclusion...

- Wild steelhead are a diverse population with year-round run timing. Returns have mirrored negative trends in steelhead throughout the region following “Warm Blob” of 2014/15 and has been below recovery targets in recent years. Hatchery steelhead returns have also been below average in recent years, with a notable exception of 2024.
- Spring Chinook returns have been generally poor since 2018 for both hatchery and wild groups. Recovery of wild population and improvement of hatchery production a high priority for the YKFP.
- Fall Chinook returns are much lower following the ocean regime shift in 2014/15. They are still abundant enough to drive robust fisheries and are often the most numerous salmonid stock in the Klickitat
- Coho have generally fared better than other stocks in the last 5-6 years and provide highly utilized fisheries in the Klickitat.

Acknowledgements

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Questions?

