Fisheries Program Update

March 1, 2021

Why we are here today

- Dryden Acclimation Facility Success Story

  Wenatchee River Basin Dissolved Oxygen, pH, and Phosphorus Total Maximum Daily Load (TMDL)

  Ian Adams

- Hatchery Fitness Discussion

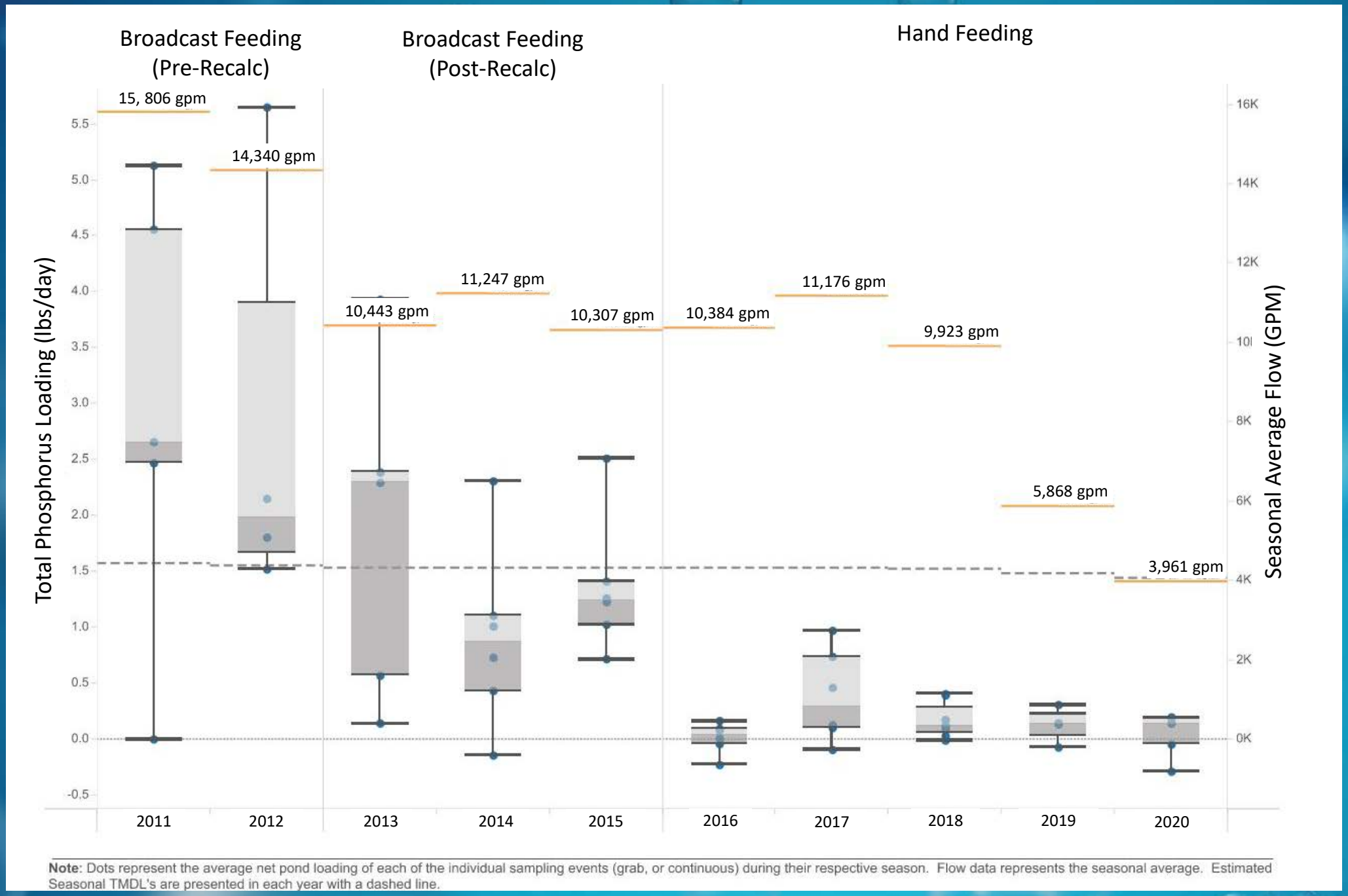
  Hatchery v. Wild and Program Trade-offs

  Catherine Willard

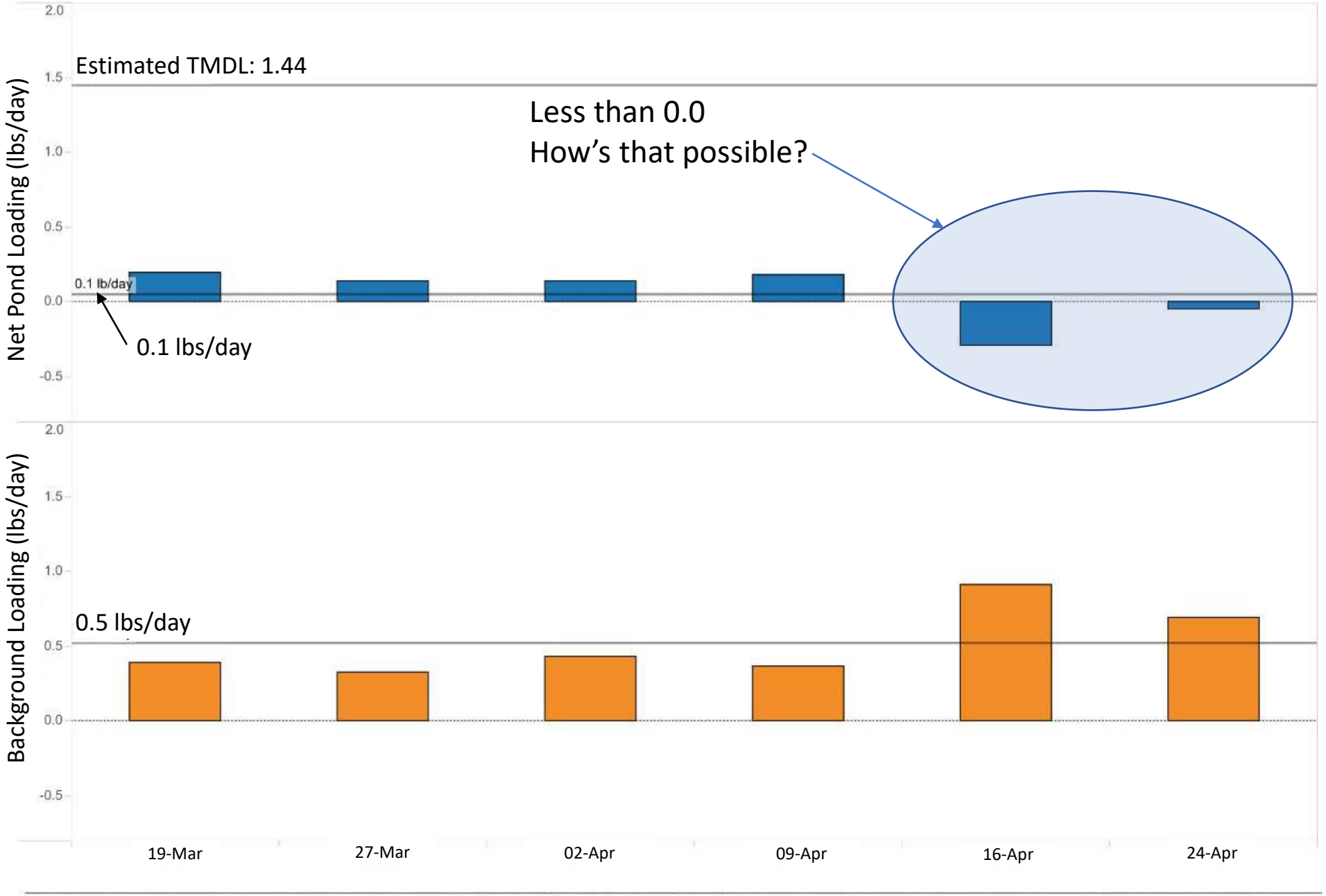
Dryden Pond's Wasteload Allocation

Dryden Flow		Total Allowable Phosphorus Concentration	Total Allowable Phosphorus Load	Total Allowable Phosphorus Load
cfs	gpm	(mg/L)	(g/day)	(lbs/day)
≥ 17.0 to < 33.0	**14,811**	**0.0092**	**743**	**1.638**
≥ 8.0 to <17.0	**7,630**	**0.0161**	**670**	**1.477**
≥ 4.0 to < 8.0	3,591	0.032	626	1.380
≥ 2.0 to < 4.0	1,795	0.0623	610	1.345
≥ 1.0 to < 2.0	898	0.1228	601	1.325

The solution to pollution is **not always** dilution!!!



Note: Dots represent the average net pond loading of each of the individual sampling events (grab, or continuous) during their respective season. Flow data represents the seasonal average. Estimated Seasonal TMDL's are presented in each year with a dashed line.



Note: Bars represent individual Background Loading (Orange) and Net Pond Loading (Blue) rates, calculated on a per-sample basis. Daily Net Pond Loading and Background Loading are based on the the composite results for that day.

Project Expenses

- Contracted Water Quality monitoring (2016 – 2020)
  - $286,626
- Capital Improvements (2019)
  - $54,276
- Total
  - **$340,902**

- All project expenses were cost shared with Grant PUD at a rate of 36-percent Grant PUD : 64-percent Chelan PUD.

- Ongoing annual Water Quality Monitoring Expenses ≈ $750.00

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Hatchery Fitness Discussion

- Hatchery v. Wild and Program Trade-offs

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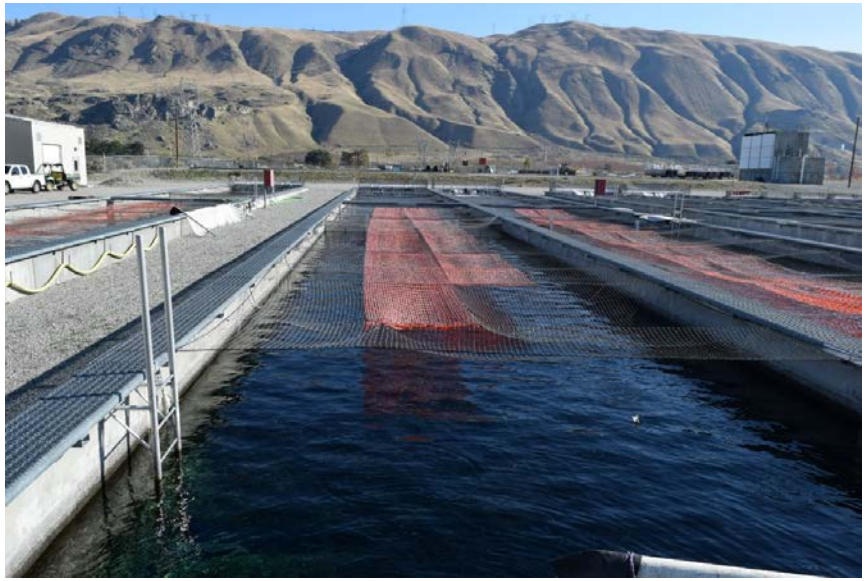
Why are there differences between hatchery and wild fish?



Similarities

- Water
- Photoperiod

Differences

- Food
- Substrate
- Density
- Temperature
- Flow regime
- Competitors
- Predators

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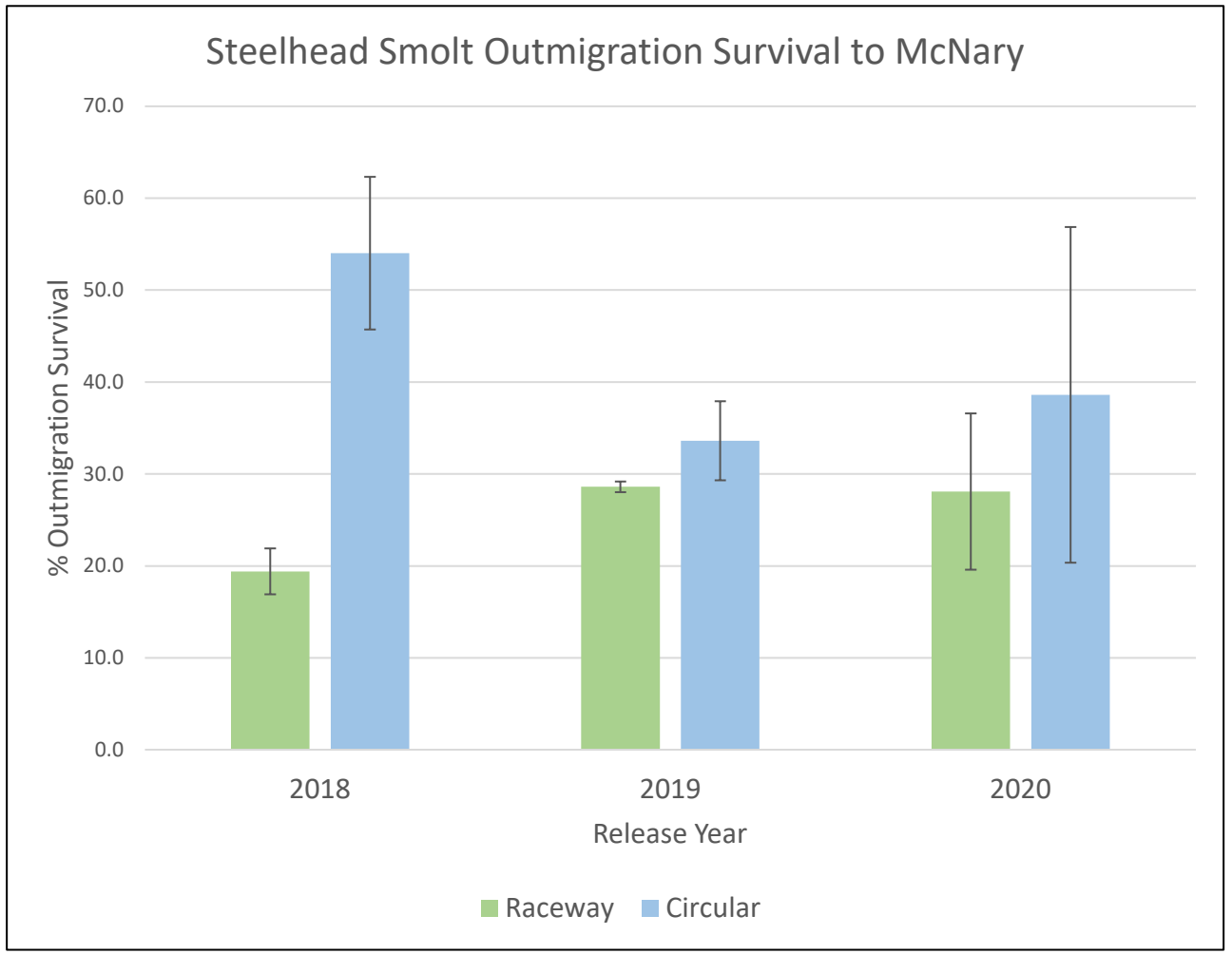
Tools for Minimizing Hatchery Rearing Environment Effects

- Rearing vessels



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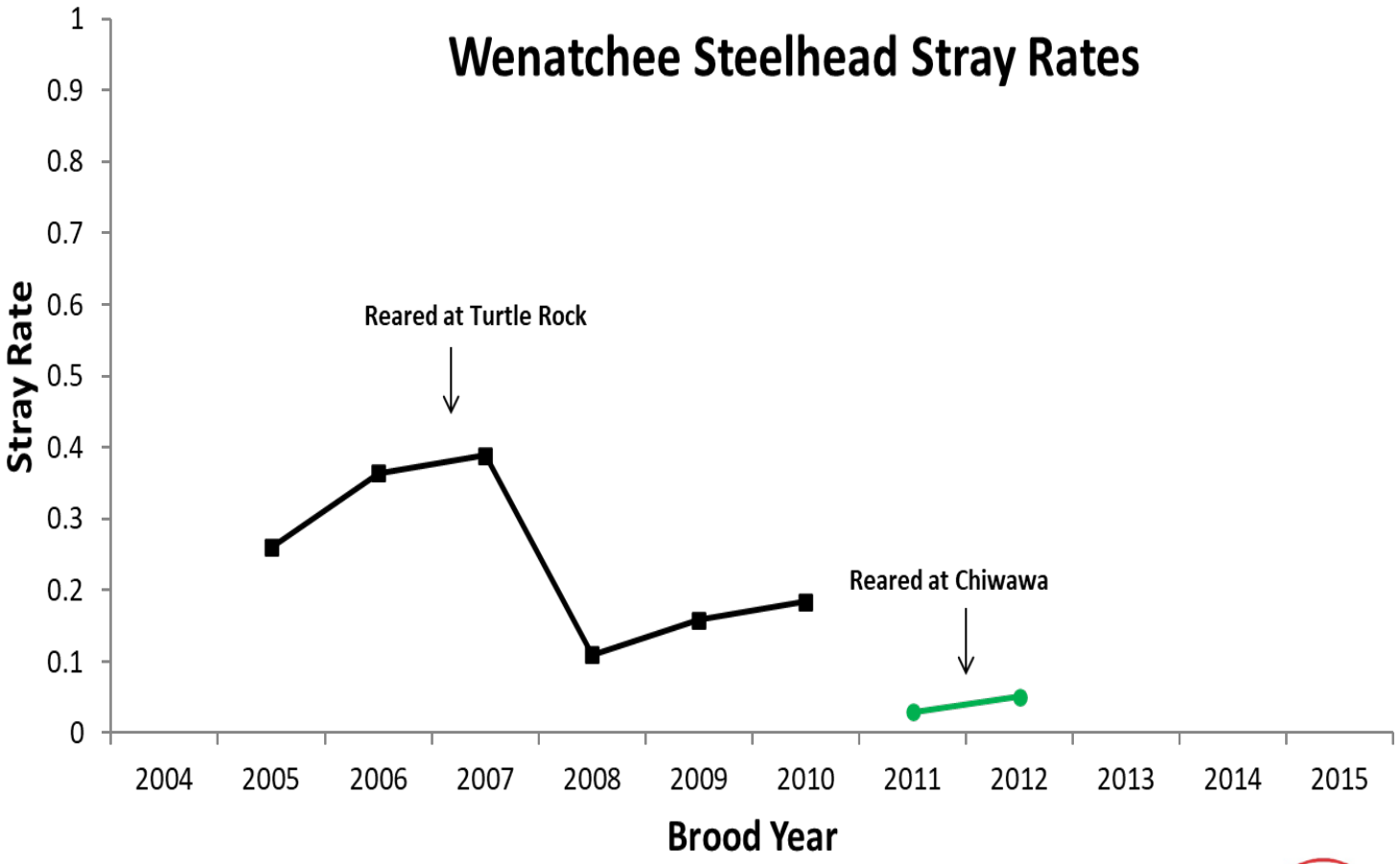
Tools for Minimizing Hatchery Rearing Environment Effects

- Overwinter Acclimation

Chiwawa Acclimation Facility



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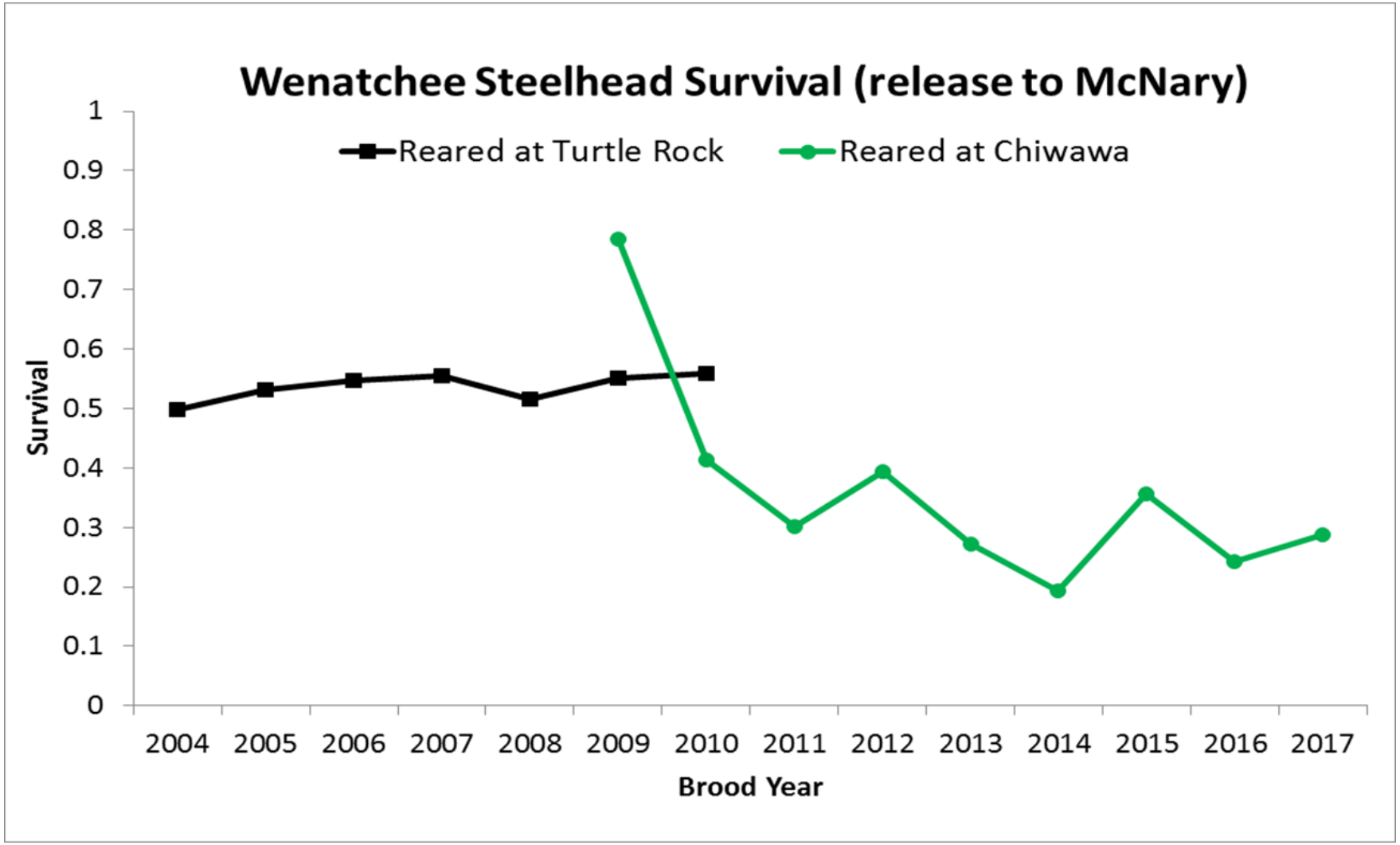
Program Trade-offs



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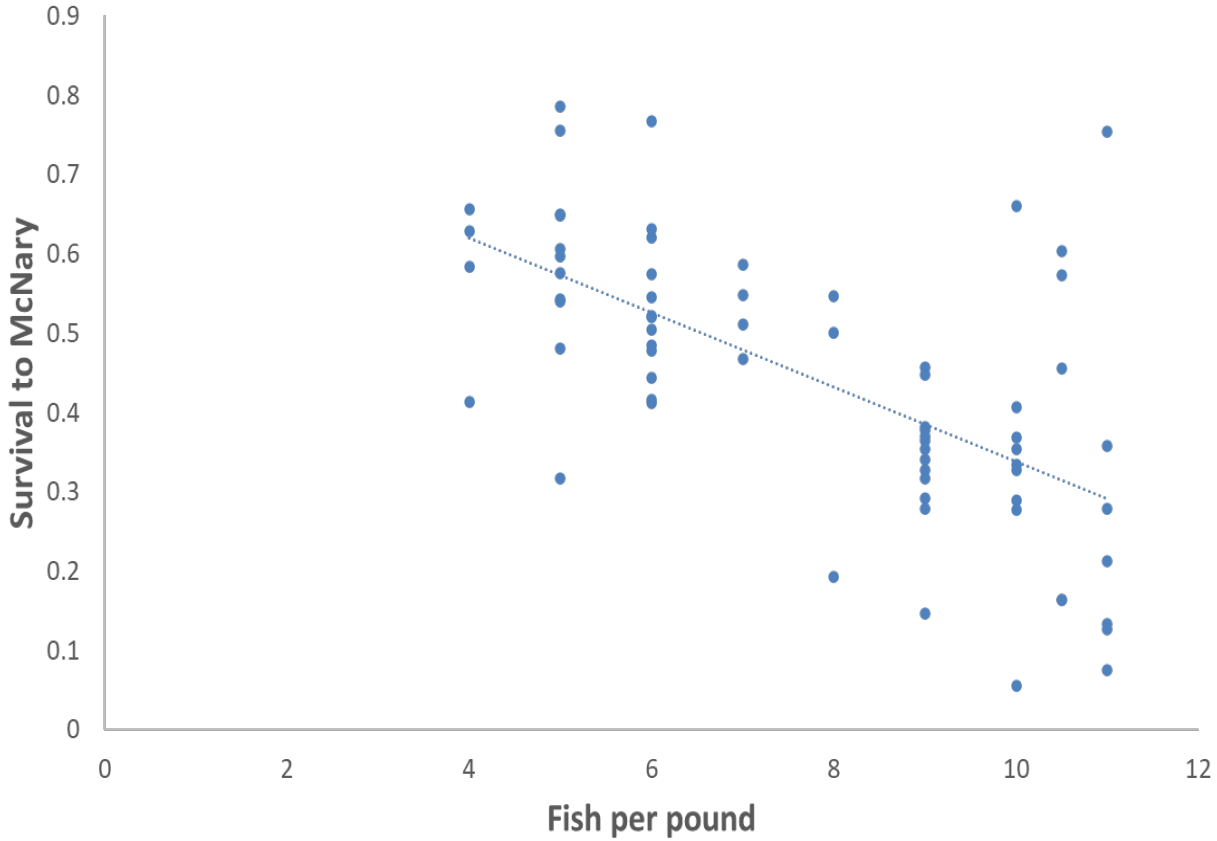
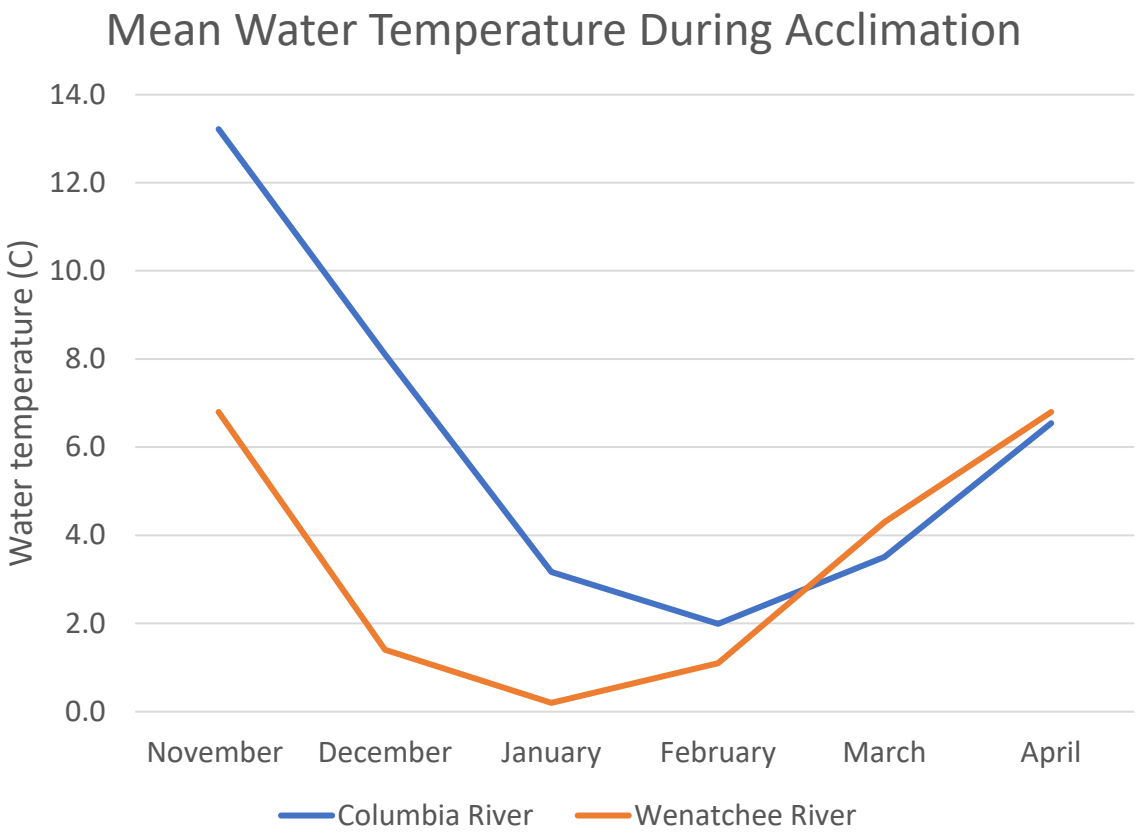
Program Trade-offs





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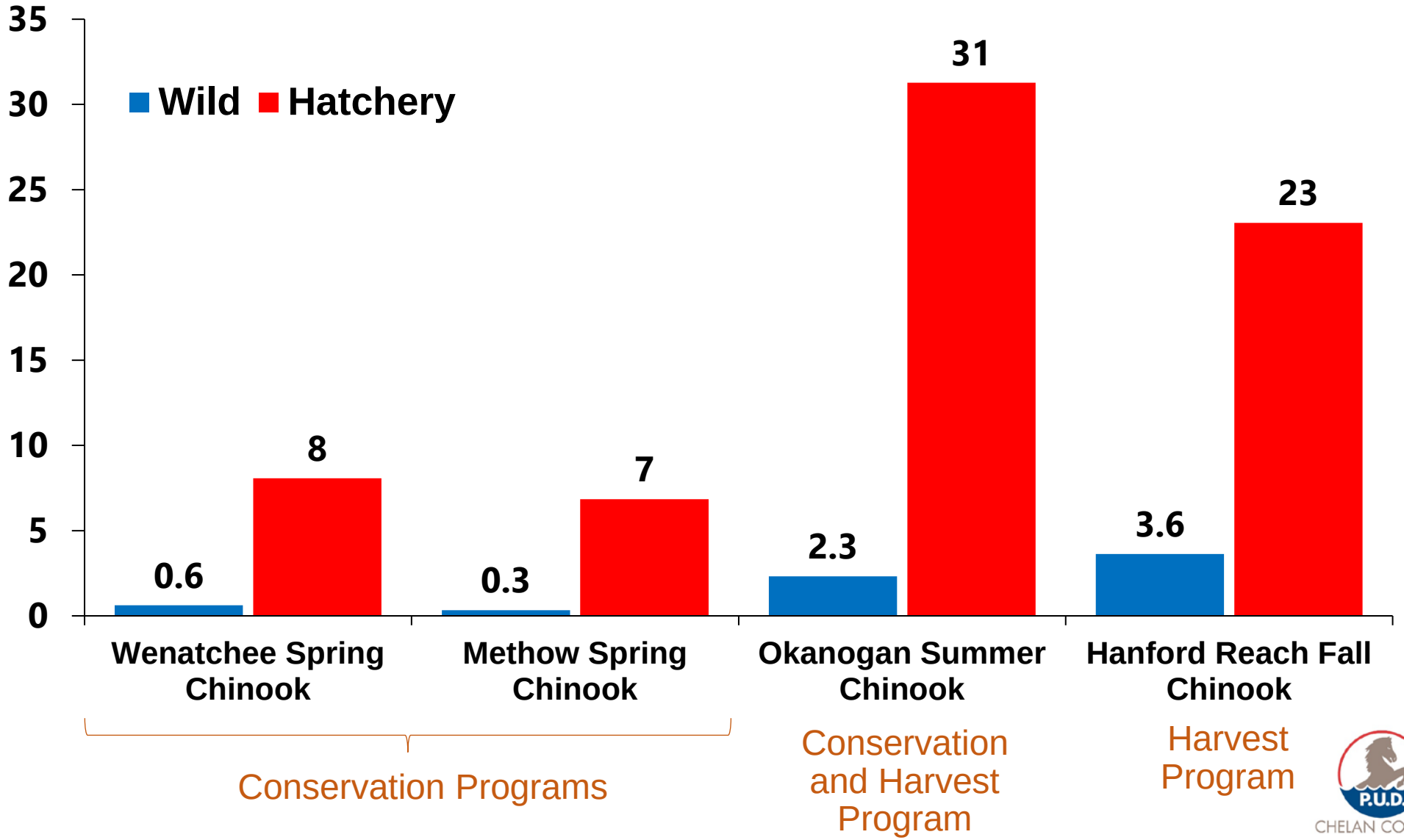
Hatchery Mitigation: Returning Adults

Return Rate (adult-to-adult survival)



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Questions or Comments?