



NOAA
FISHERIES

Using field experiments to assess alternative mechanisms for allocating fish to the recreational sector

Zander Gordan, NMFS SEFSC

April 27, 2021

Motivation

- Increasing recreational demand / decreasing season lengths
- Heterogeneity within rec sector
 - Gains to be had from management that incorporates angler-specific information
- Not previously feasible due to high assignment and monitoring costs



Related Work

- Experiment with increased flexibility in the headboat rather than private sector, Abbott and Willard, 2017
- Importance of fishing opportunity and angler heterogeneity, Young et al 2020, and Lloyd-Smith et al 2020
- Rationale for prioritizing within-sector reforms, Holzer and McConnell 2014, Abbott 2015

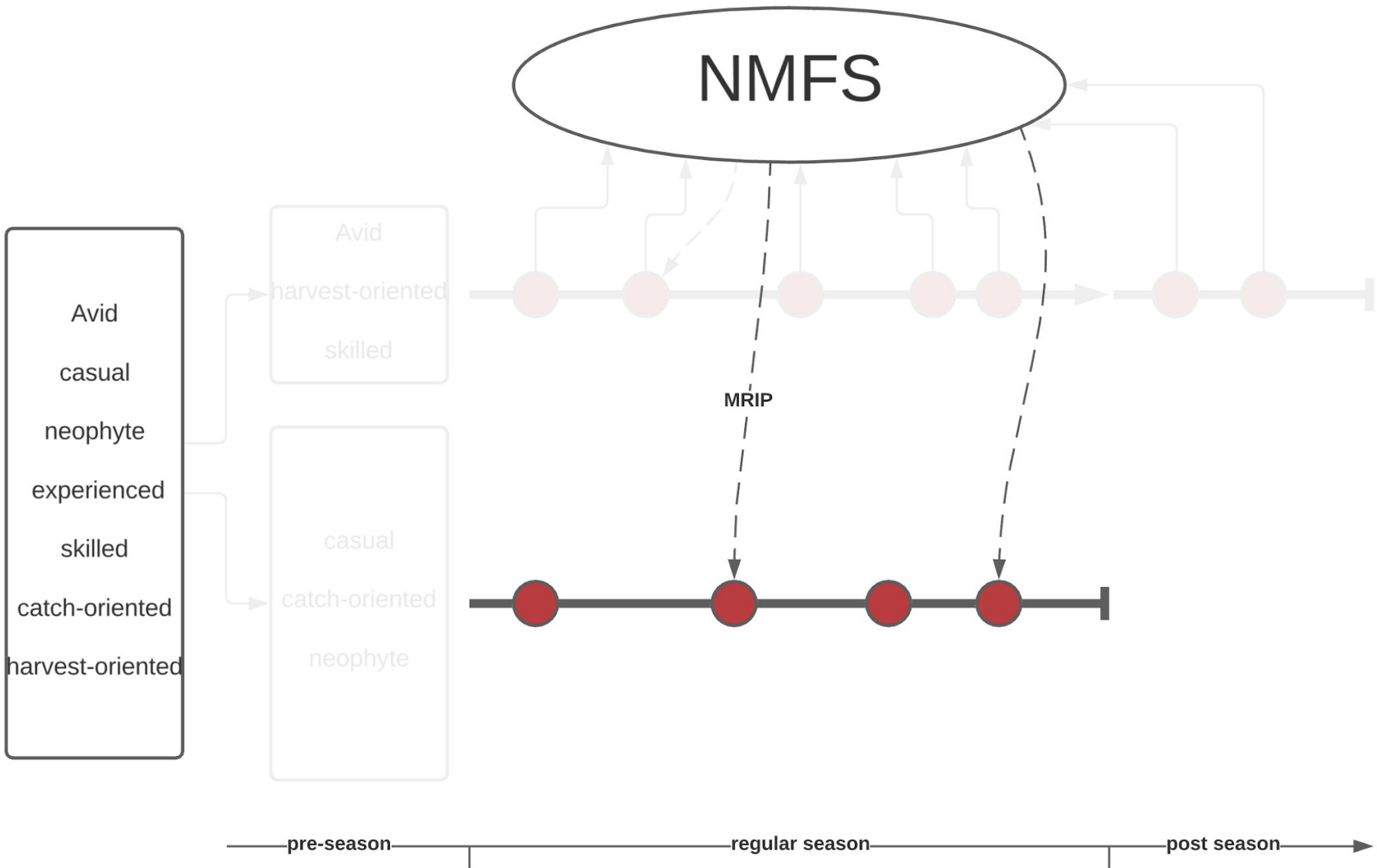
Proposed Pilot Program

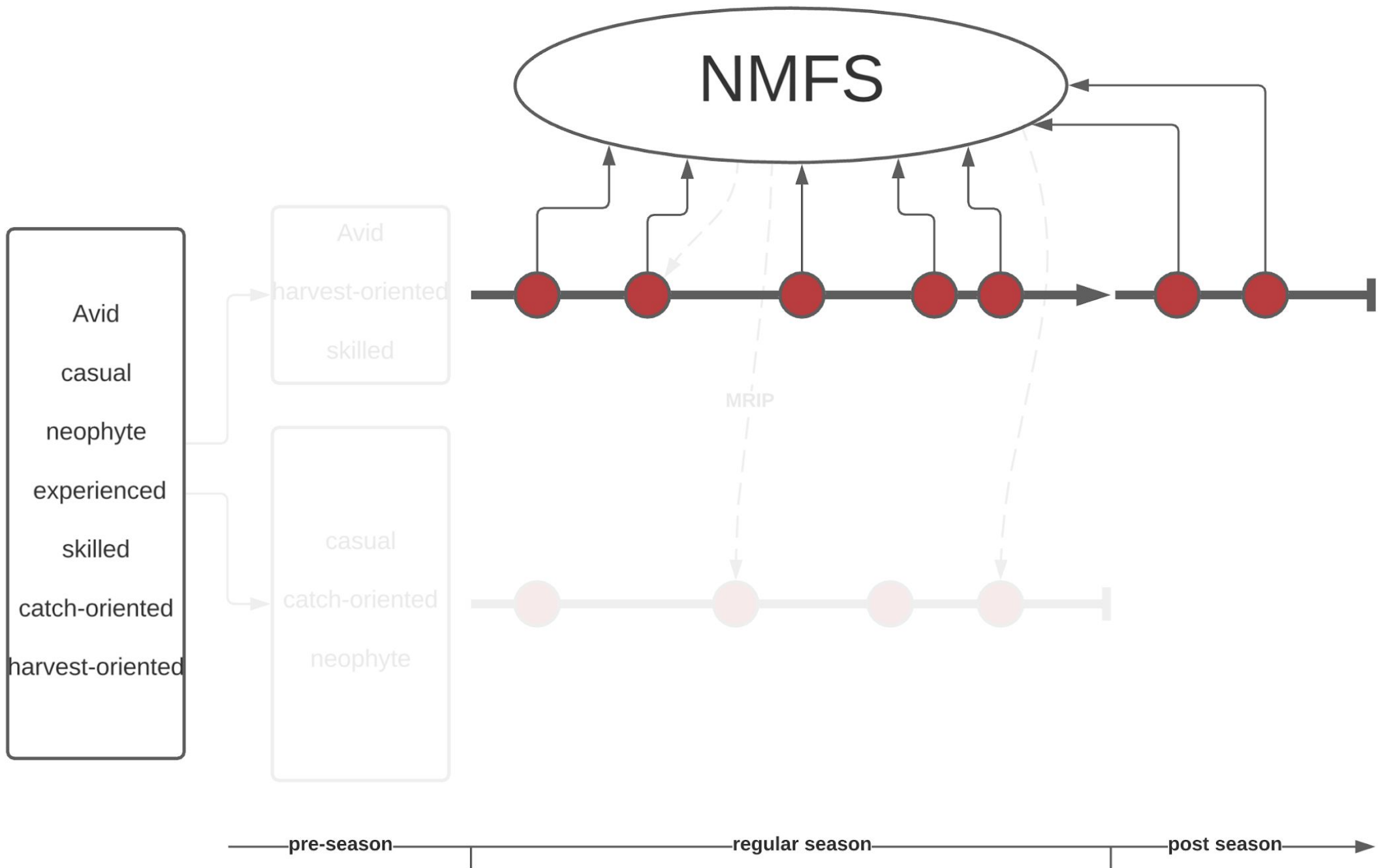
- Allow anglers to fish outside the regular season in exchange for data provision
 - Allocate post-season day passes, with the usual bag limit
 - Day pass usage conditional on app-based trip data collection

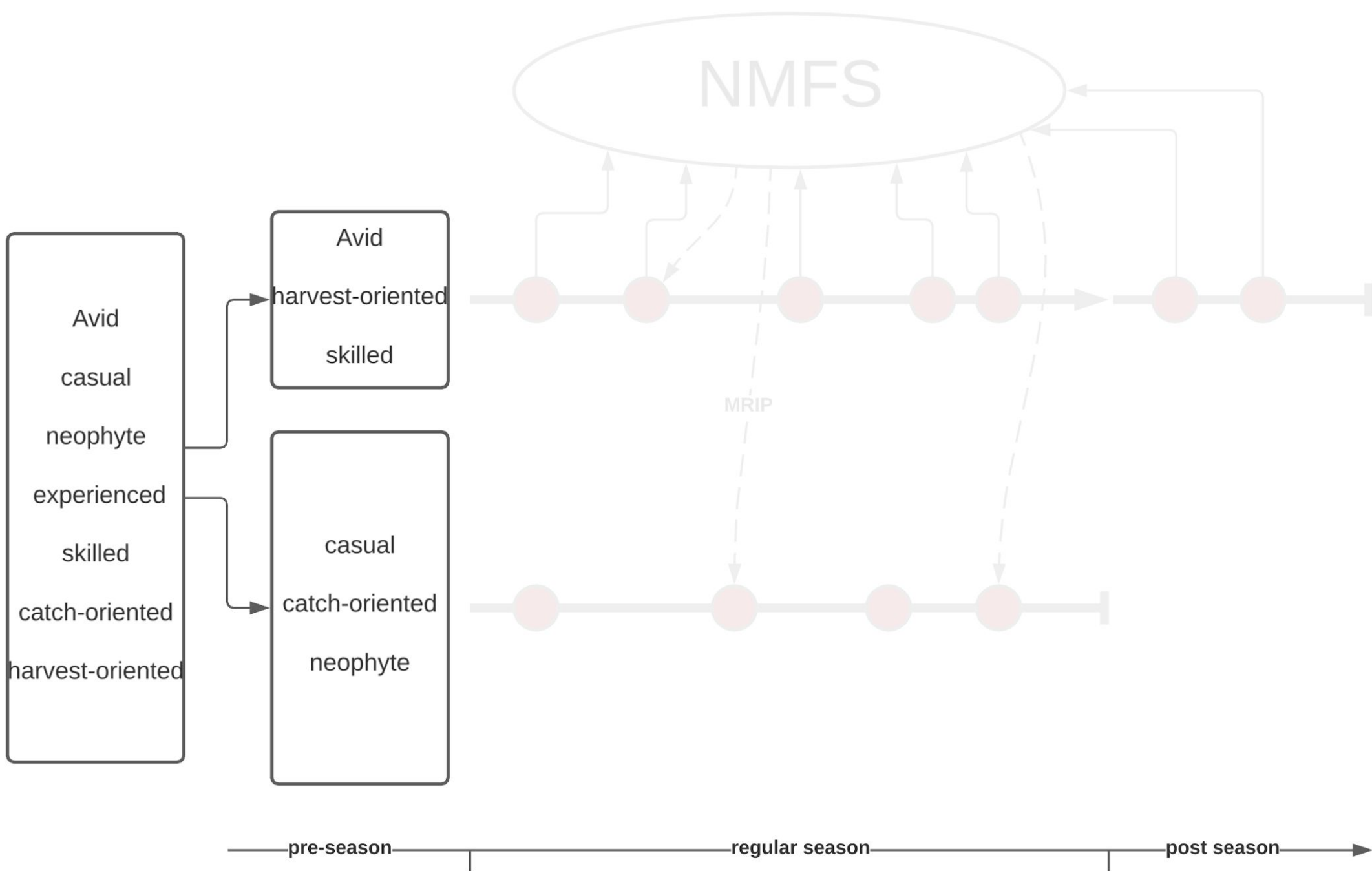
Program constraints:

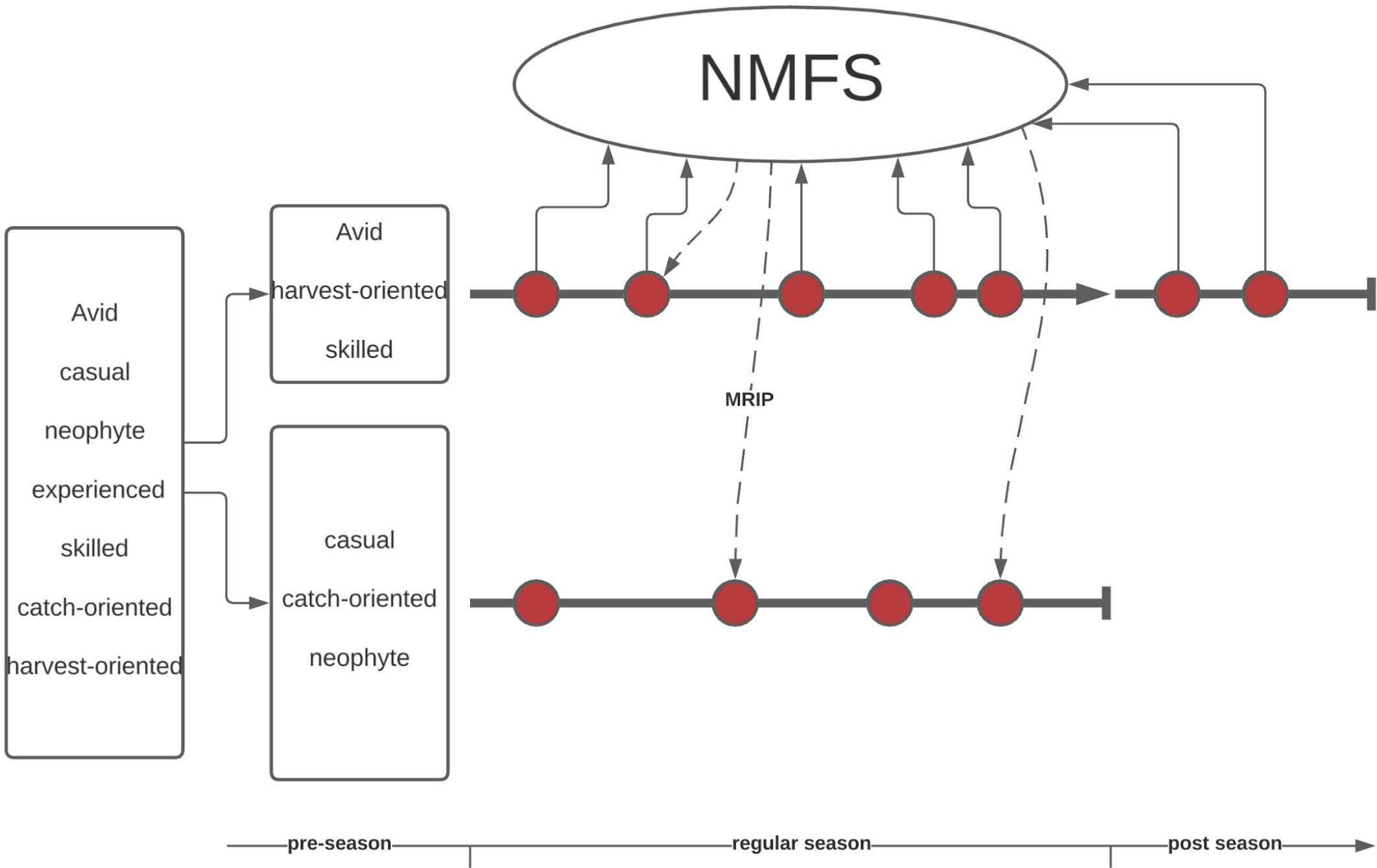
- Don't reduce opportunity (shorten season) for non-participants
 - ie, achieve Pareto-improvements
- Avoid a race for catch history





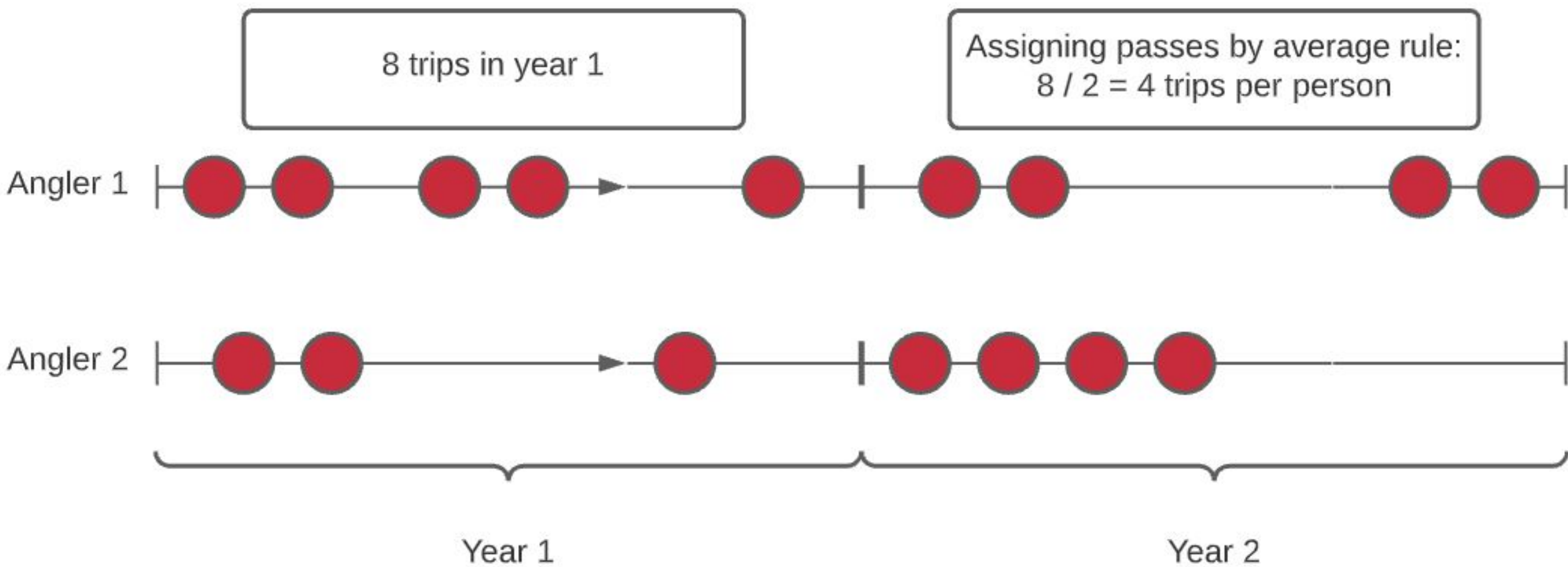






Expanding program across years

- Treat pilot year data as catch histories
- Then award day passes in year 2 based on those catch histories
- Then award day passes in year 3 based on catch histories in years 1 and 2
- ...



Final Thoughts

- The pilot will answer a number of interrelated questions:
 - How much interest is there? (ie. applications received)
 - Does the value of increased opportunity outweigh the reporting costs?
- Program should be designed to scale
 - Avoid a race for catch history
 - Ensure high follow-on participation rates



Literature

Abbott, Joshua K., and Daniel Willard. 2017. “Rights-Based Management for Recreational for-Hire Fisheries: Evidence from a Policy Trial.” *Fisheries Research* 196 (December): 106–16.

<https://doi.org/10.1016/j.fishres.2017.08.014>.

Young, Erik G, Michael C Melnychuk, Leif E Anderson, and Ray Hilborn. 2020. “The Importance of Fishing Opportunity to Angler Utility Analysis in Marine Recreational Fisheries.” *ICES Journal of Marine Science* 77 (6): 2344–53. <https://doi.org/10.1093/icesjms/fsz234>.

Lloyd-Smith, Patrick, Joshua K. Abbott, Wiktor Adamowicz, and Daniel Willard. 2020. “Intertemporal Substitution in Travel Cost Models with Seasonal Time Constraints.” *Land Economics* 96 (3): 399–417.

<https://doi.org/10.3368/le.96.3.399>.

Holzer, Jorge, and Kenneth McConnell. 2014. “Harvest Allocation without Property Rights.” *Journal of the Association of Environmental and Resource Economists* 1 (1/2): 209–32. <https://doi.org/10.1086/676451>.

Abbott, Joshua K. 2015. “Fighting Over a Red Herring: The Role of Economics in Recreational-Commercial Allocation Disputes.” *Marine Resource Economics* 30 (1): 1–20. <https://doi.org/10.1086/679464>.

