

# Overview of native *Ostrea lurida* restoration efforts in WA and future directions

Julieta Martinelli - [julieta.martinelli@dfw.wa.gov](mailto:julieta.martinelli@dfw.wa.gov)



Washington Department of  
**FISH & WILDLIFE**

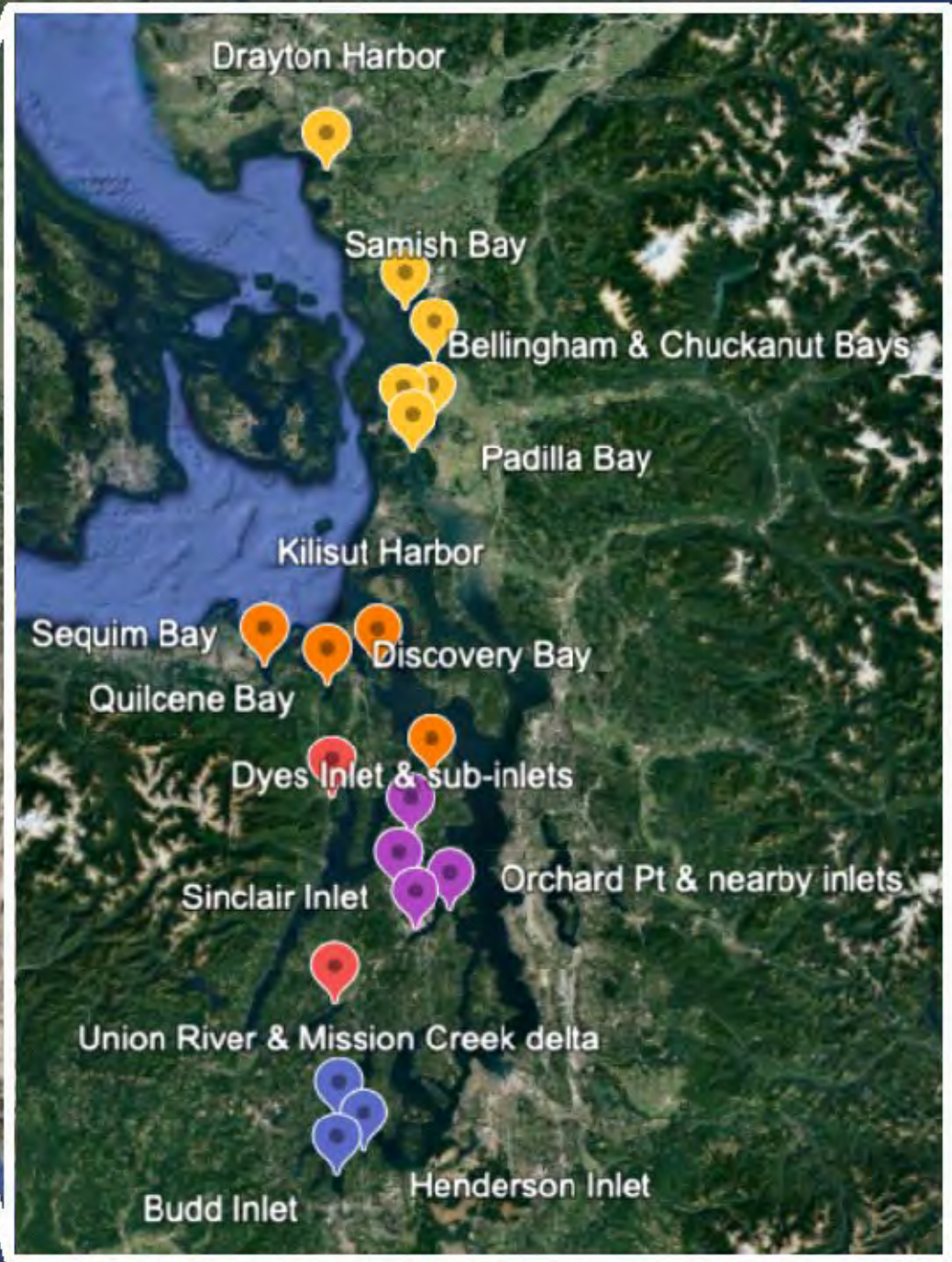
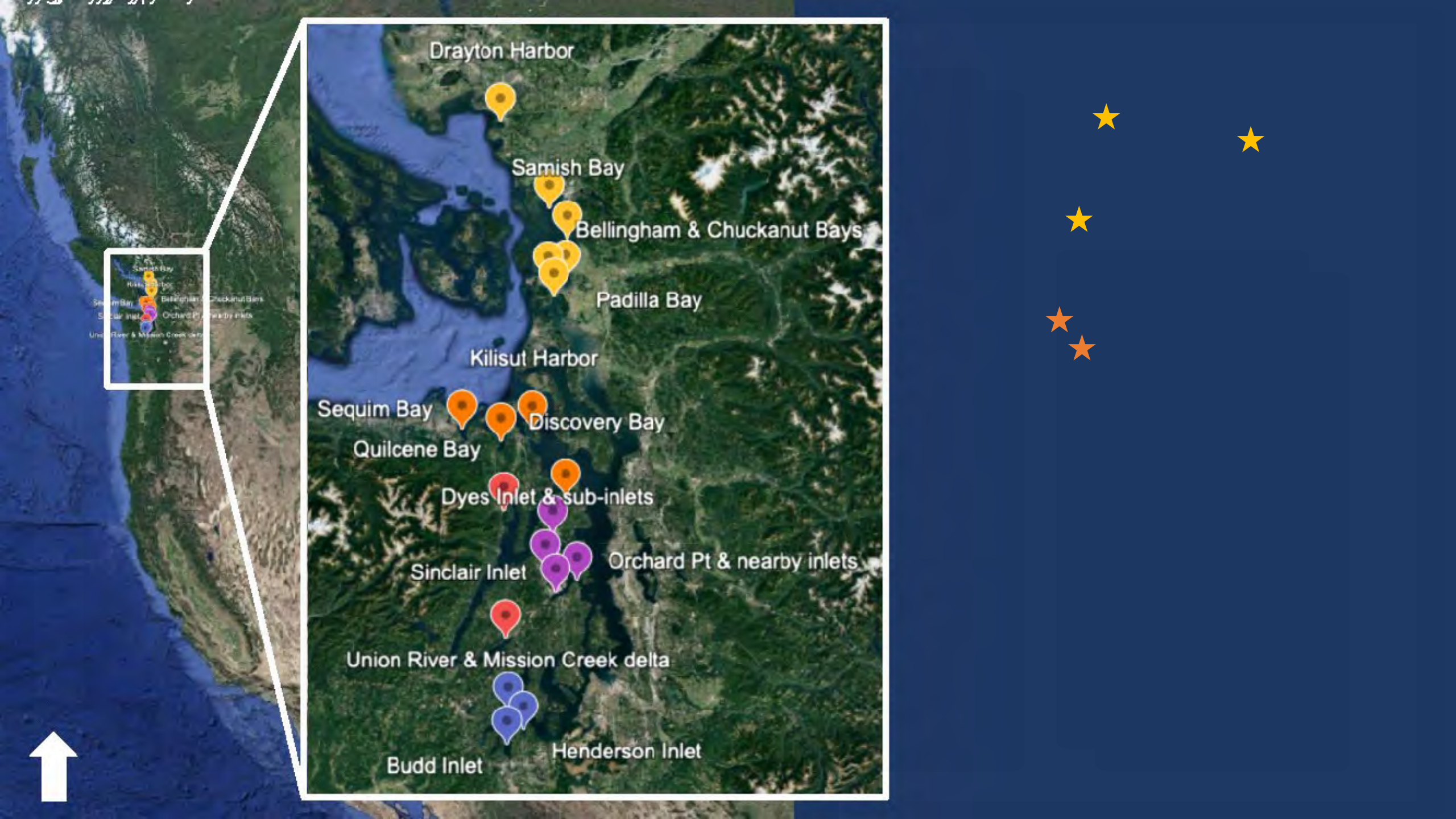


**1997:** State Candidate Species

**1998:** Stock Rebuilding Plan  
(PSRF, Tribes, MRCs, Growers)

**2012:** WDFW Population Rebuilding  
Plan





# Where we started and where we're at:

4% of historical extent in PS

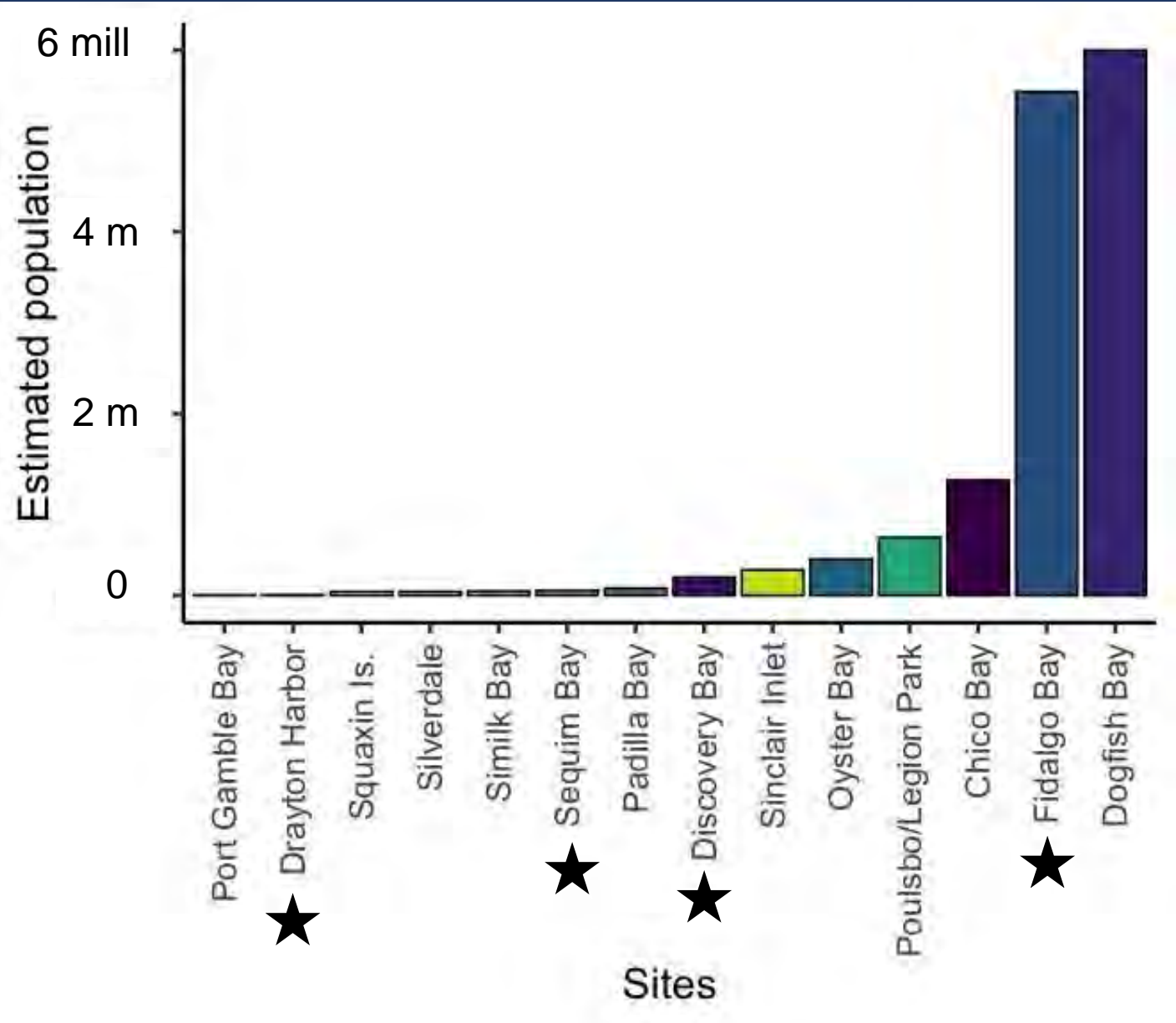
**STRATEGY:** focused restoration at 19 sites within Puget Sound by 2022.

**GOAL:** Re-establishment of self-sustaining, large-scale, dense native oyster assemblages able to function as source populations.

**17/19 sites + other enhancements**

**PSRF: + 100 acres restored (2020)  
+ 20 million oysters produced**





DISEASE/  
PREDATION



RECRUITME  
NT



COMMUNITY



GENETIC  
RISK



SUBSTRATE



DISEASE/  
PREDATION



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SUBSTRATE

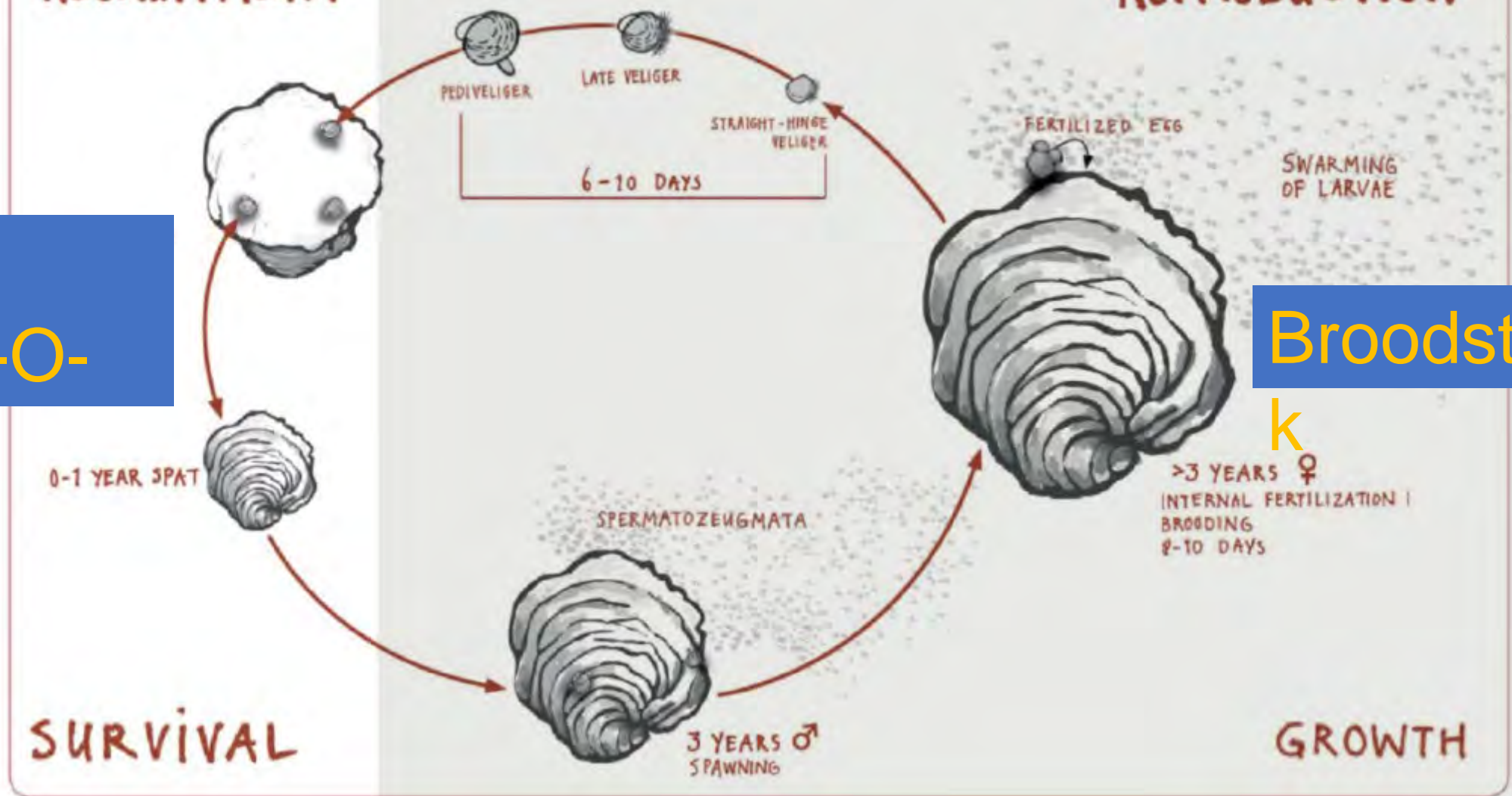




# OSTREA LIFE CYCLE

RECRUITMENT

REPRODUCTION



Spat on shell (S-O-S)

Broodstock

k

# Restoration sites can be:

- Recruitment limited  
**Oysters**
- Substrate limited  
**Shell and/or alt substrates**
- Recruitment & substrate limited  
**Shell + Oysters**



Photo credit: PSRF

RECRUITME  
NT



S-O-S, and/or singles needed for the majority of projects

Kenneth K. Chew  
Center for Shellfish  
Research and  
Restoration



# Genetic risk considerations when producing oysters



- Genetics panel for WA + genotyping of 500+ oysters
- Understand genetic diversity better
- Have a tool that we can use into the future
- Update WDFW protocols

DISEASE/  
PREDATION



RECRUITMENT



COMMUNITY



Conservation  
hatchery  
Broodstock

GENETIC  
RISK



SUBSTRATE



Panel, SNP chip

DISEASE/  
PREDATION



RECRUITMENT



COMMUNITY

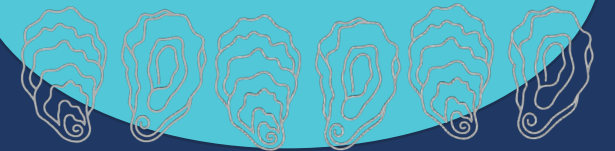


GENETIC  
RISK



Conservation  
hatchery  
Broodstock

SUBSTRATE



Panel, SNP chip

Alternative  
substrates

DISEASE/  
PREDATION



Disease testing  
Oyster drills

GENETIC  
RISK



Panel, SNP chip

COMMUNITY



RECRUITME  
NT



Conservation  
hatchery  
Broodstock

SUBSTRATE



Alternative  
substrates

DISEASE/  
PREDATION



Disease testing  
Oyster drills

GENETIC  
RISK



Panel, SNP chip

COMMUNI  
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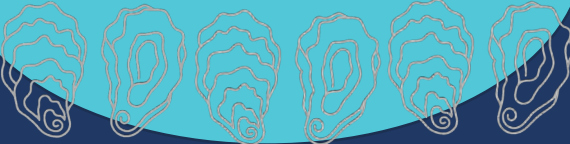
Co-restoration  
Aquaculture  
Citizen science

RECRUITME  
NT



Conservation  
hatchery  
Broodstock

SUBSTRATE



Alternative  
substrates





**Let's go restore more oysters!**

