Intertidal restoration in Oyster Bay and carry-over effects in cultured oysters

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Integrating oyster farmers into habitat restoration in the Florida Panhandle

SOAR Program: Supporting Oyster Aquaculture and Restoration

Industry Partners:
Serenoa Shellfish Company
Oyster Boss
Southern Oyster Company
Cypress Point Oyster Company
Halcyon Seafarm

Using aquaculture byproduct as intertidal oyster habitat restoration material.

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Oyster Bay:

Integrating oyster farmers into habitat restoration in the Florida Panhandle

Oyster Bay:

Main Objectives

Evaluate efficacy of using byproduct for restoration.

Engage farmers directly in local restoration.

Test a biodegradable cultch mesh for use in restoration.

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Oyster Bay:

Project Timeline

Farmers beginning to deploy material summer 2024.

Deployment and monitoring until 2026.

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Project Goals

Complete a farmer-led pilot restoration program that could be expanded into local systems across FL.

Deploy 2,500 gallons of restoration material onto site by 2026.

Stress and carry-over effects in cultured oysters

Carry-over effect: when earlier life experiences affect later life performance and responses

What happens if your child grows up around scary movies?

Your 10-year-old is probably terrified of the dark but eventually gets over it.

Stress and carry-over effects in cultured oysters

Carry-over effect: when earlier life experiences affect later life performance and responses

Then your teenager and his friends watch a scary movie, which your kid has seen it before and his friends have not.

Your teenager is fine, but you send home his traumatized friends home to their parents.

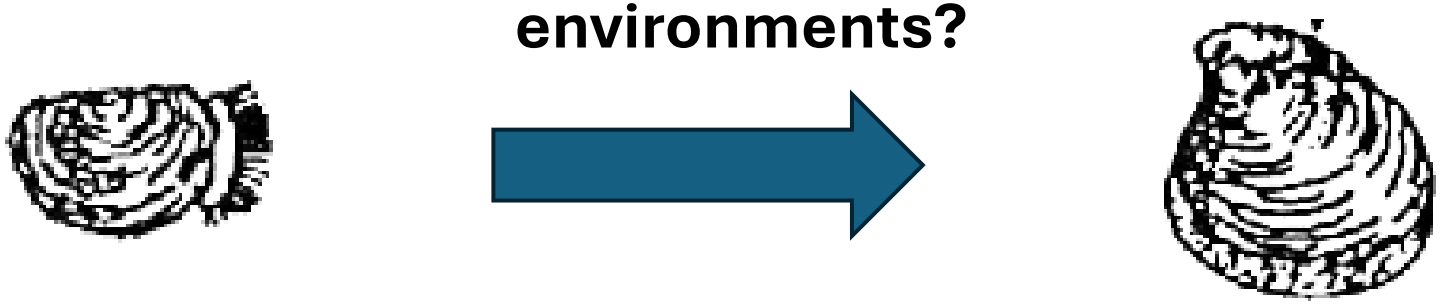
Stress and carry-over effects in cultured oysters

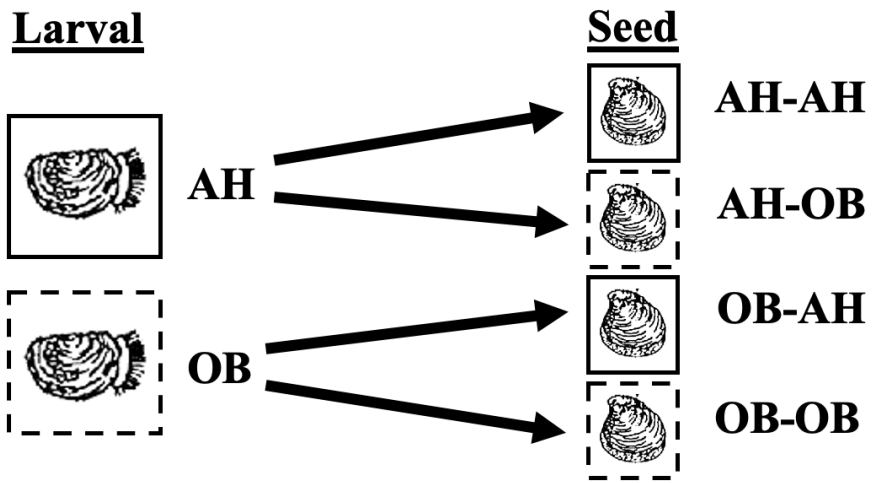
Carry-over effect: when earlier life experiences affect later life performance and responses

Your child has undergone a carry-over effect: experiencing the stress (scary movie) early in their life has changed the way they respond to it later.

Stress and carry-over effects in cultured oysters

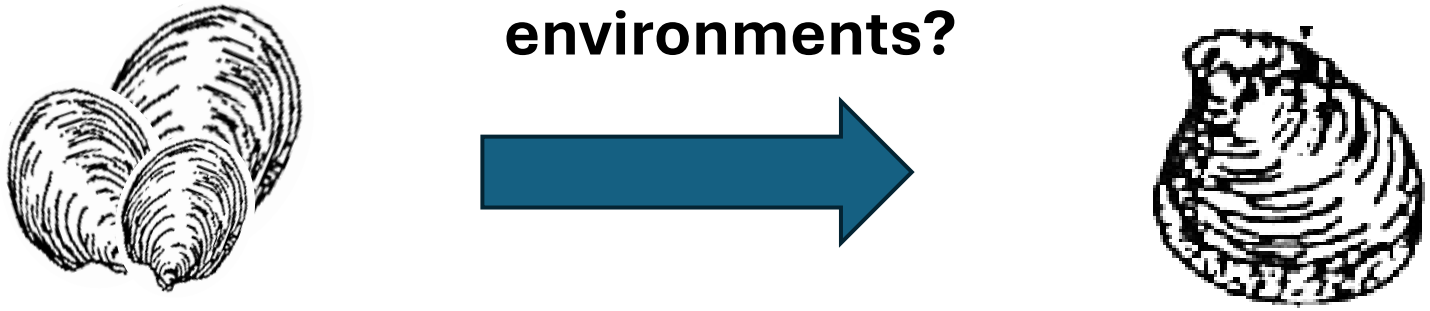
How do larval culture conditions affect seed later? Do hatchery conditions predisposition seed to perform better in certain environments?

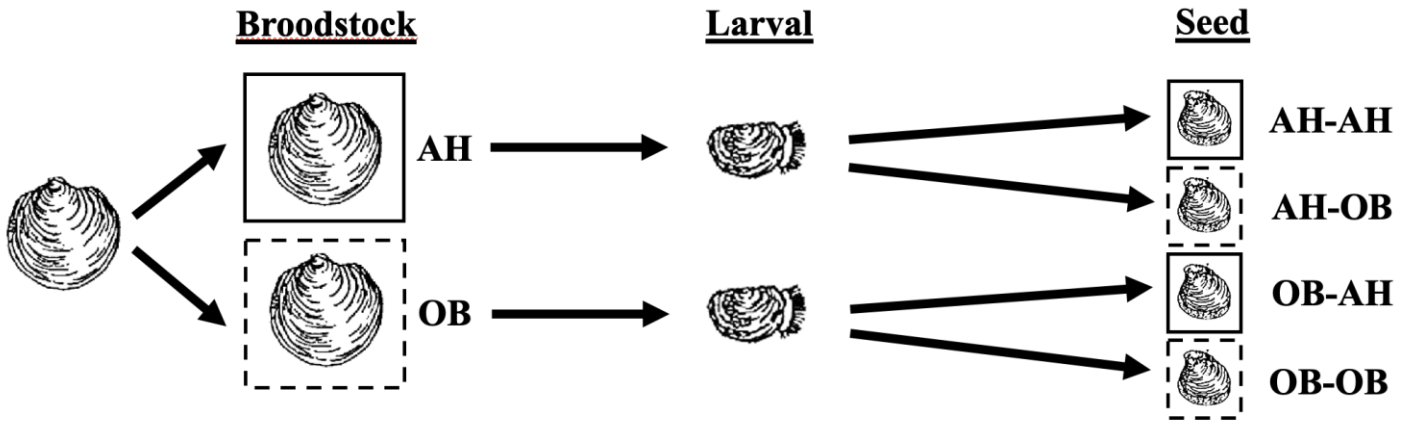




Stress and carry-over effects in cultured oysters

How do broodstock conditions affect seed later? Does parental environment predisposition seed to perform better in certain environments?





Stress and carry-over effects in cultured oysters

Project Objectives:

Determine how **parental environment** and **larval culture conditions** affect survival, growth, and condition of the oysters on the farm.

Compare carry-over effects **between triploid and diploid** crops of oysters.

Stress and carry-over effects in cultured oysters

Project Timeline:

Beginning spawns in August 2024.

Plant onto leases by October.

Monitoring crops until May 2025.

Stress and carry-over effects in cultured oysters

Project Goals:

Determine when carry-over effects are a significant factor in oyster crop growth, survival, and condition.

Create guides for farmers on selecting broodstock and sourcing seed that will best fit the environmental conditions of their specific farms.

Contribute to the **optimization of shellfish aquaculture** that takes into account specific farm environments.

Questions?

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