



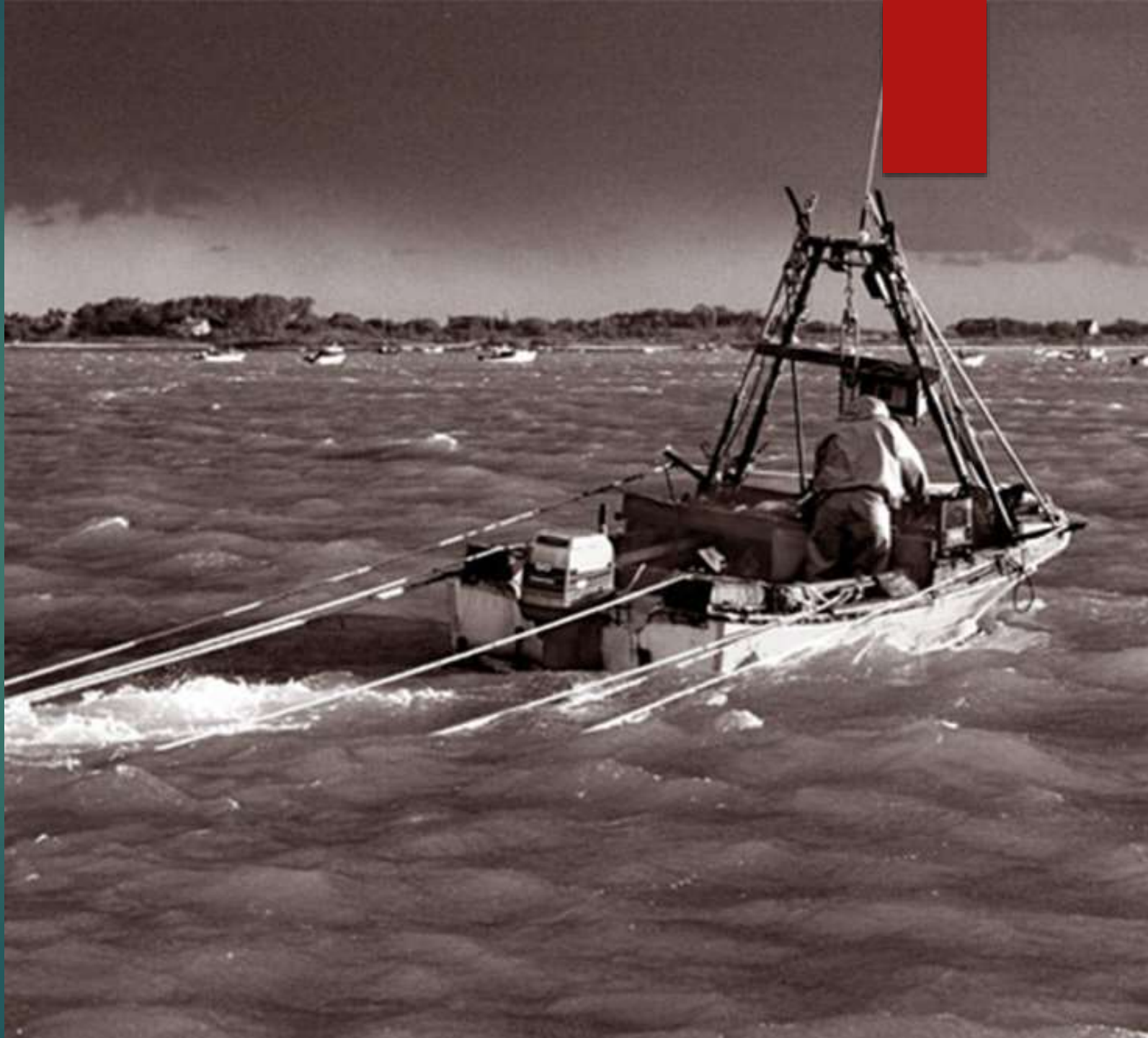
Shellfish Restoration on Nantucket

TOWN OF NANTUCKET ~NATURAL RESOURCES DEPARTMENT

TARA RILEY ~SHELLFISH BIOLOGIST

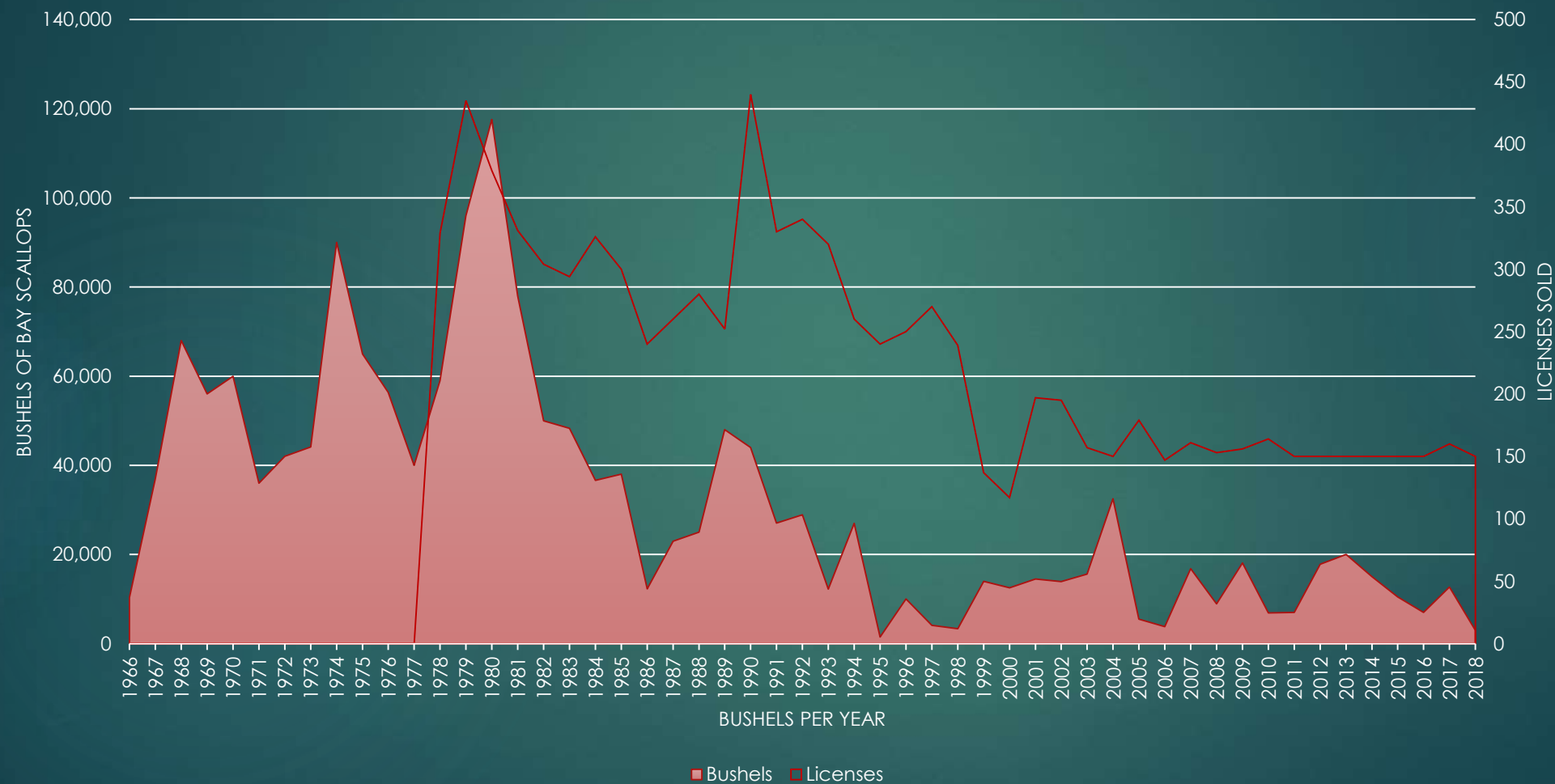
History of Shellfishing on Nantucket

- ▶ Bay Scallops
- ▶ Quahogs
- ▶ Mussels
- ▶ Oysters
- ▶ Conch



Bay Scallop Landings

Commercial Bay Scallop Landings - Nantucket





Aquaculture on Nantucket



The Brant Point Shellfish Hatchery



Controlled
Conditions



Expanding Grow-out Opportunities

Quick Propagation Overview (2010-2019)

- ▶ Bay Scallop Larval Release Program (2010-Current)
- ▶ Seed Management Program (2013-Current)
- ▶ Oyster Reef Pilot Program (2014-Current)
- ▶ Clam Stock Enhancement (2010, 2013, 2015-2018)





Bay Scallop Larval Release



Quahog Enhancement

Shell Recycling Program

- ▶ Established in 2014
- ▶ 30 restaurants and raw bars
- ▶ Collected ~ 200,000 pounds of shell
- ▶ ~100,000 pounds used for Shimmo Creek restoration





Photo credit: Dan LeMaitre

Goals

1. Restore a native species
2. Self-sustaining reef
3. Educational platform
4. Long-term monitoring
5. Gain volunteer/community interest



Data Collection

- ▶ Oyster growth studies
- ▶ Water quality
- ▶ Light penetration
- ▶ Spat collectors
- ▶ Predator study
- ▶ Benthic survey
 - ▶ Sediment type & infaunal invertebrates
- ▶ Seine surveys & fish traps
- ▶ Submerged aquatic vegetation densities
- ▶ Live oyster density, size frequency, sex ratio
- ▶ Reef height & areal dimension
- ▶ Percent cover of substrate



Future Work

- ▶ Petition DMF to keep reef as a sanctuary
- ▶ Continue shell collection
- ▶ Continue monitoring reef
- ▶ Use what gleaned from this pilot project and research other restoration sites
 - ▶ Working on a restoration project in Sesachacha Pond



The spawning/recruitment relationship

- ▶ Right tide
- ▶ Right Habitat
- ▶ Good Phytoplankton/ HABs
- ▶ Recruitment areas are not always good grow-out areas –Seed Management
- ▶ Predation
- ▶ Overwintering Stress
- ▶ Strandings





Restoring Habitat

The Good News so far and the Challenges we still face...

Developed and Implemented

- ▶ Fertilizer Regulations and Enforcement
- ▶ Repairing the Jetties/Increased use of free pump-out program
- ▶ Enhanced WQ Monitoring through dedicated staff position and Specialized Equipment
- ▶ Education Initiatives
- ▶ Municipal Hatchery Component

Ongoing Challenges

- ▶ Septic Considerations/Sewering
- ▶ Stormwater Improvements
- ▶ Gray Water/ Herbicides/ Mosquito Control/ Snow& Ice treatments
- ▶ Increased ferry traffic and building densities

Shellfish and Coastal Resilience...how will we bounce back?

- ▶ Adding a full time dedicated position for coastal resiliency planning and coordination
- ▶ Identify at risk areas involving shellfish and living shorelines in need of stabilization around the island.
- ▶ COLLABORATION!!!
- ▶ Alternative species exploration for hatchery production.
- ▶ Filtration and Buffering



Gotta
Bounce
(back resiliently)
Thank You!!