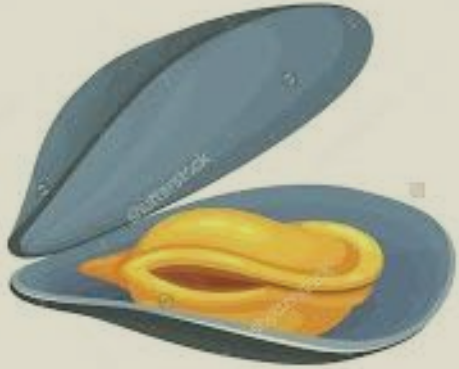




AQUACULTURE ON PRINCE EDWARD ISLAND

Aaron Ramsay
PEI Fisheries, Rural Development & Tourism
April 7th, 2026

Cultured Shellfish Species on PEI



Blue mussel
Mytilus edulis

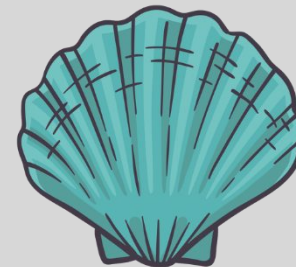
Economically Significant Species



Eastern Oyster
Crassostrea virginica



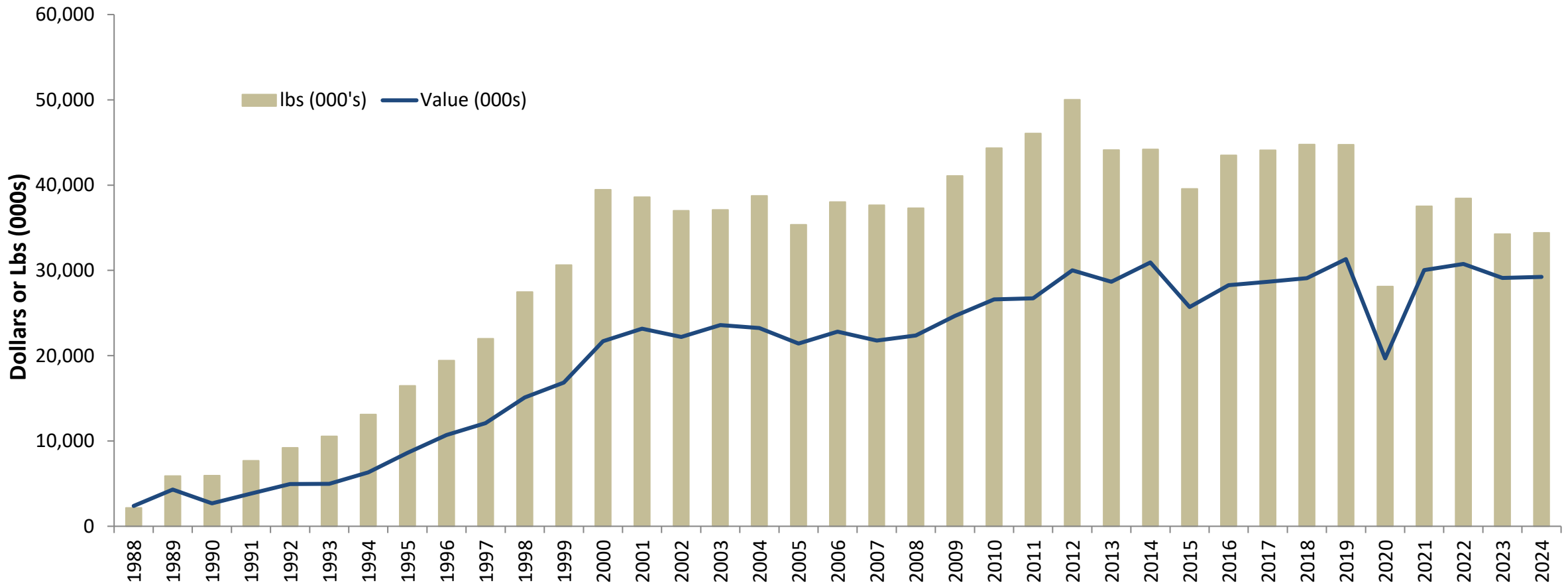
Soft Shelled Clam
Mya arenaria



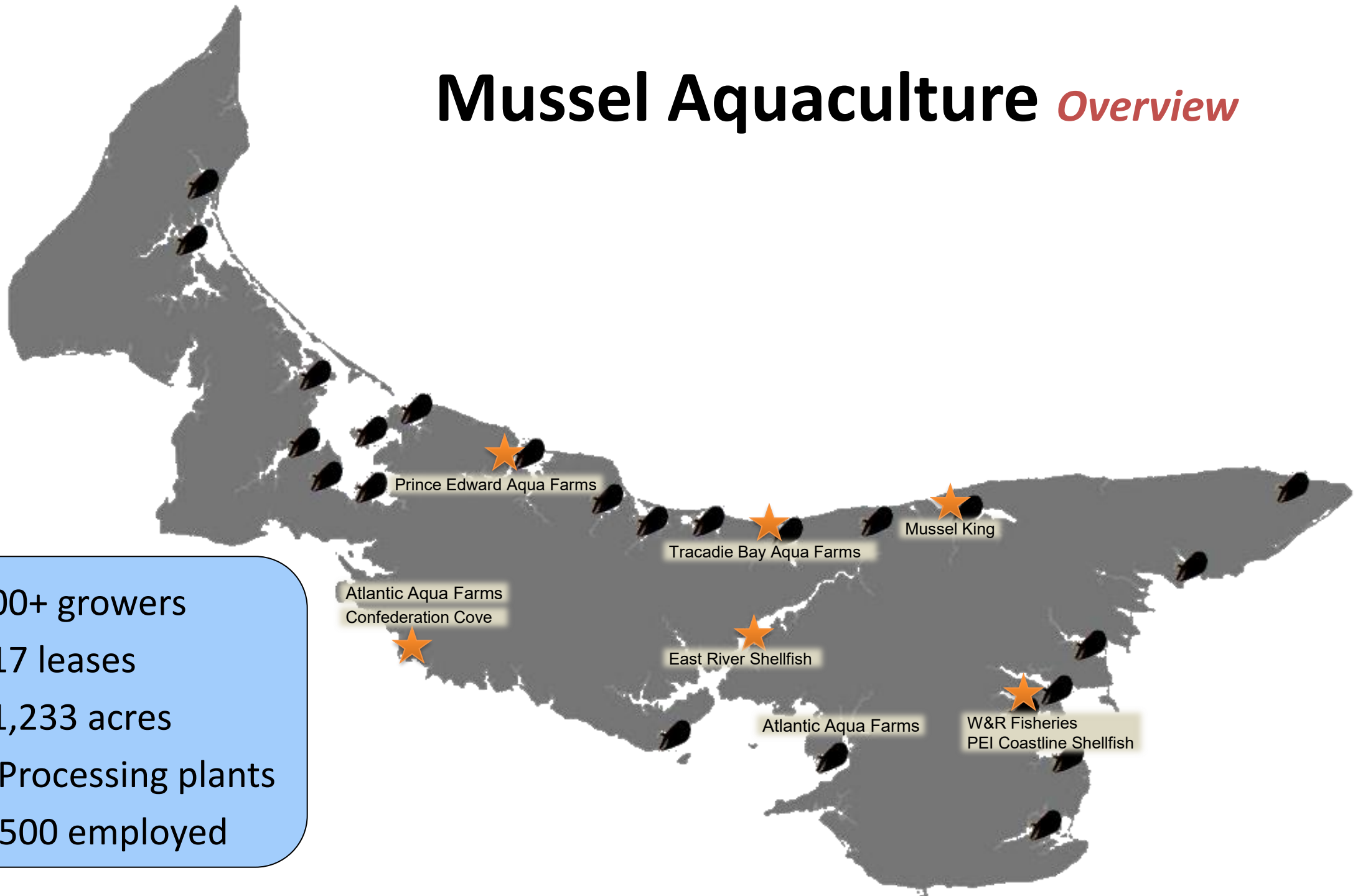
Bay Scallop
Argopecten irradians

Mussel Aquaculture *Overview*

- Began here in 1980 with harvests of 100,000 lbs and has grown to over 34 million lbs (\$29M) in 2024
 - 80% of Canadian mussel production

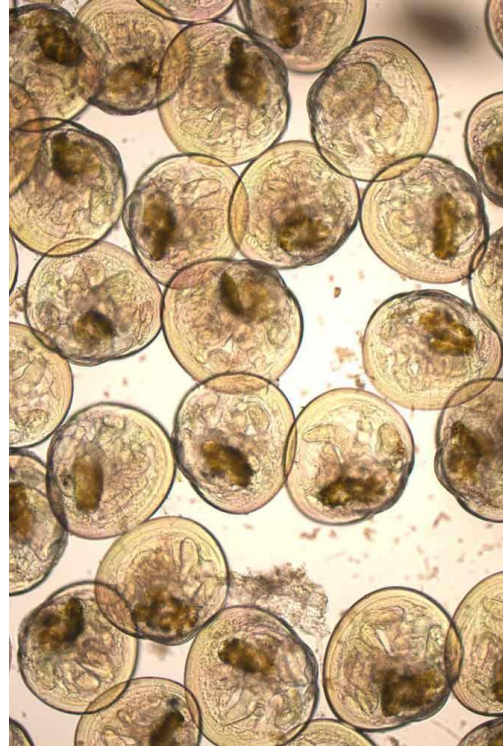


Mussel Aquaculture *Overview*



- 100+ growers
- 317 leases
- 11,233 acres
- 6 Processing plants
- 1,500 employed

Mussel Aquaculture *Seed Collection*



- Collectors placed out, or raised and cleaned, in mid May
- Some growers only produce seed

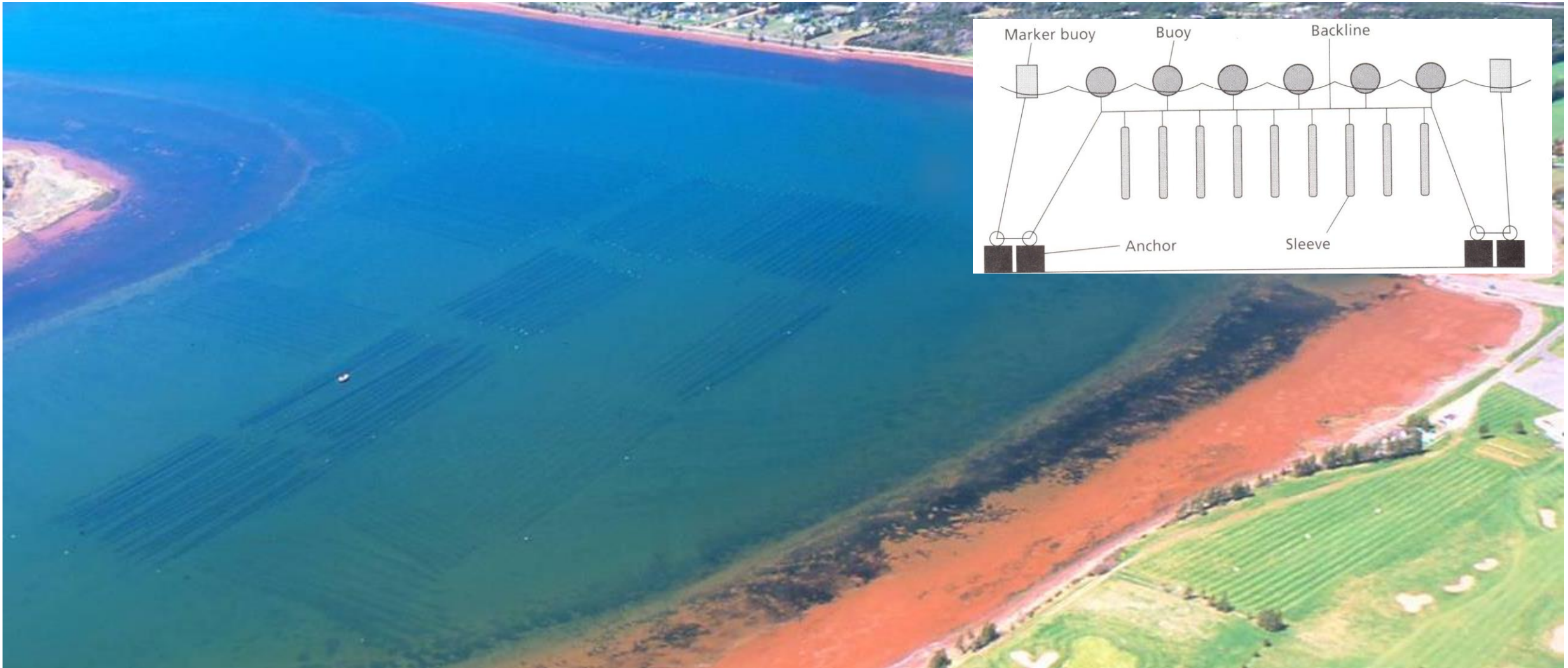
Mussel Aquaculture *Seed Collection*



Mussel Aquaculture *Socking*



Mussel Aquaculture *Farm Layout*



Mussel Aquaculture *Crop Maintenance*



Used to be minimal...until tunicates!

- Adding buoyancy as mussels grew
- Starfish removal, as required
- Double socking, as required

Mussel Aquaculture *Harvesting*



- Approximately 60 mm product
- 12-18 months to reach market size
- Year-round harvesting
 - Harvest through the ice in winter

Mussel Aquaculture *Ice Harvesting*





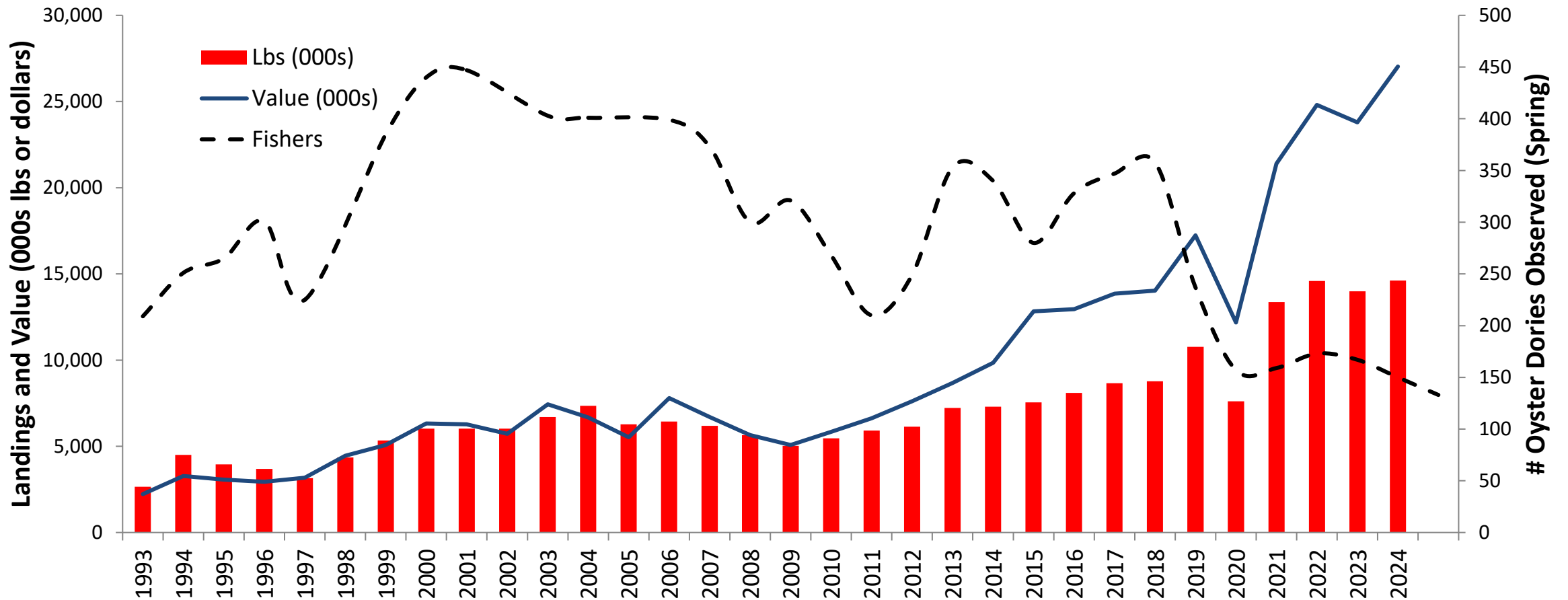


Mussel Aquaculture *Processing*



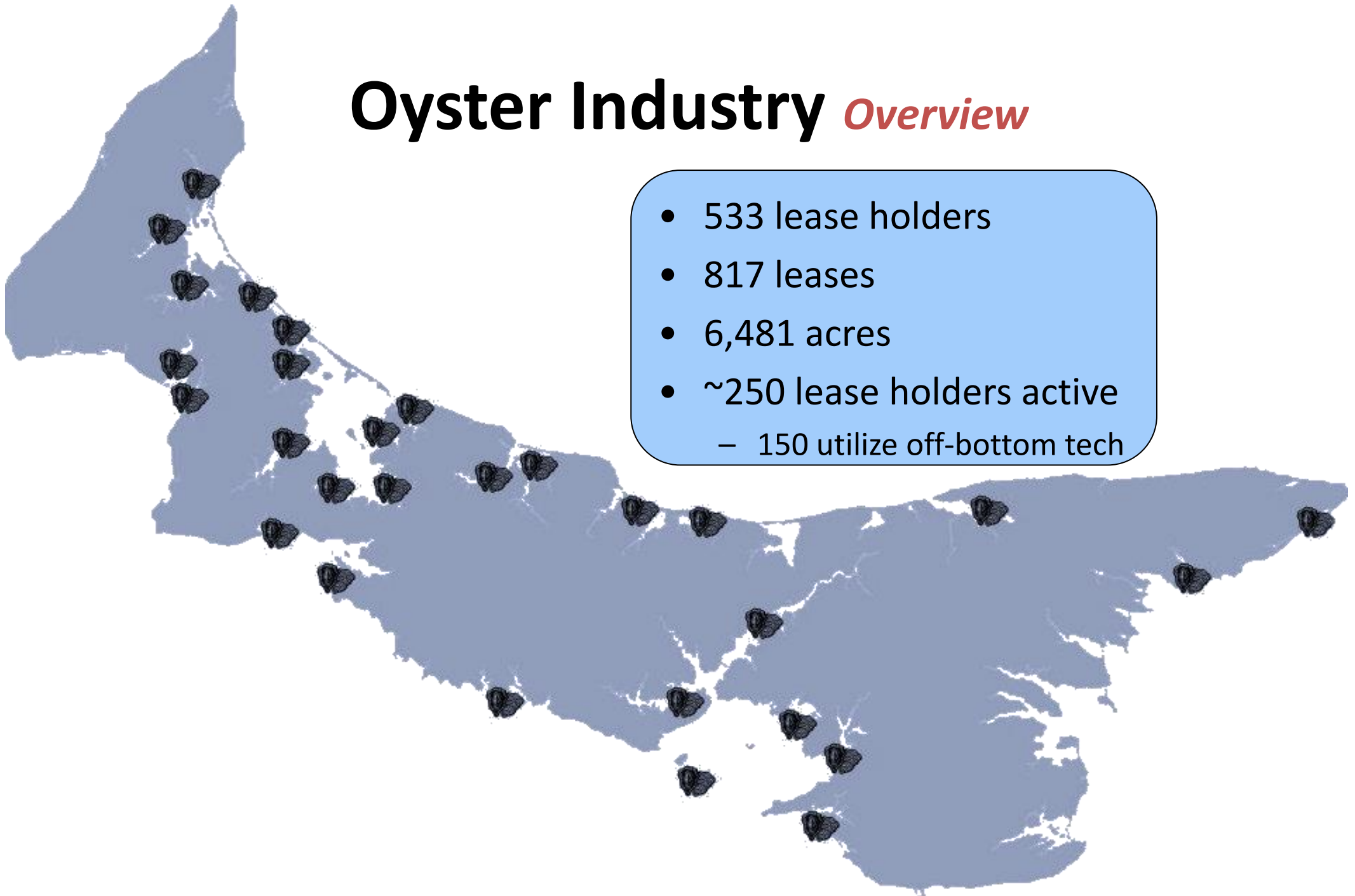
Oyster Aquaculture *Overview*

- Oyster landings - 60% leases, 40% public
- In 2024 landings of 14.6 million lbs with a value of \$27M



Oyster Industry *Overview*

- 533 lease holders
- 817 leases
- 6,481 acres
- ~250 lease holders active
 - 150 utilize off-bottom tech



Oyster Aquaculture *Seed Collection*



Oyster Aquaculture

Seed Thrashing/Grading



Oyster Aquaculture *Grow-out*



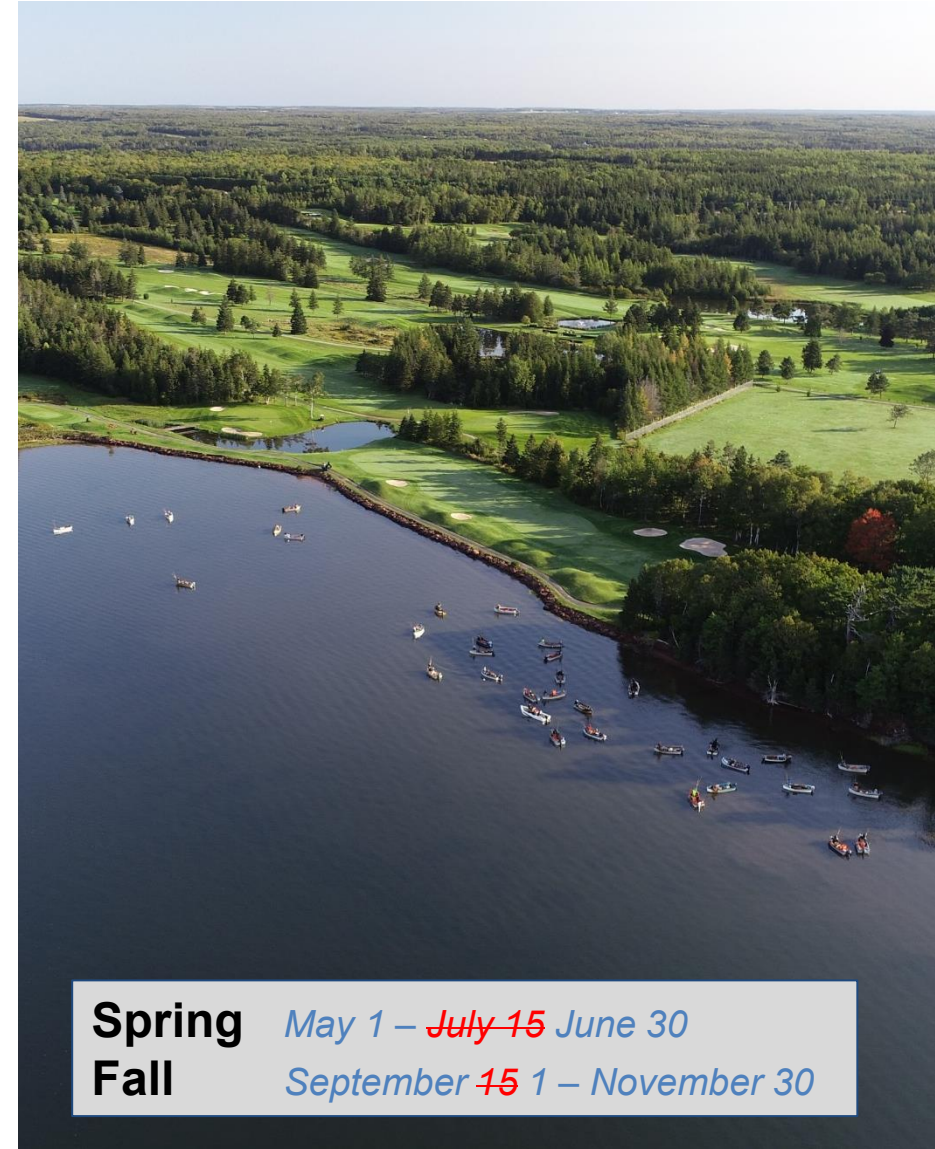
Increasing production using new off bottom technology

Oyster Culture *Harvest*

- Harvest size dependent on target market:
 - Standard
 - Cocktail
 - Choice
 - New niche markets developing
- 3-4 years to reach market size



Oyster Fishery *Overview*



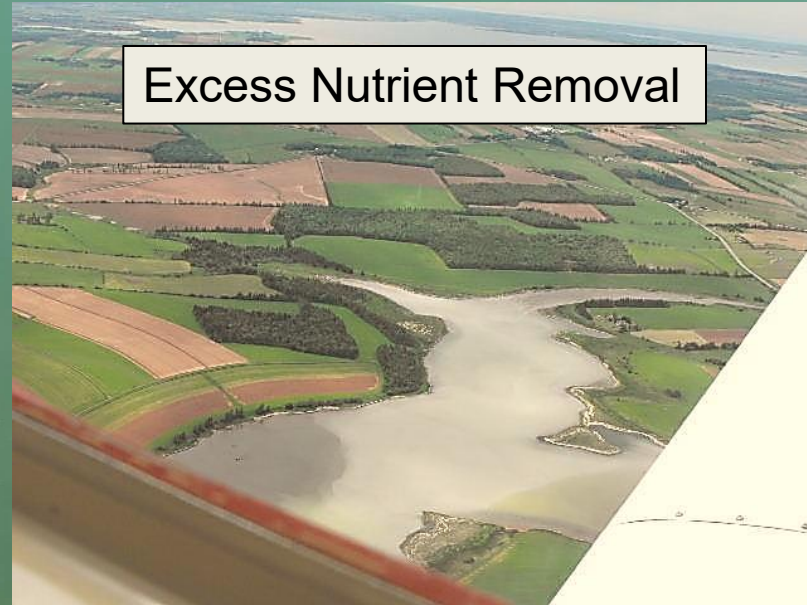
Spring May 1 – ~~July 15~~ June 30
Fall September ~~15~~ 1 – November 30

Shellfish Culture Ecosystem Services

Excess Nutrient Removal



Excess Nutrient Removal



Habitat Enhancement



Government & Industry Roles

Government Roles

Aquaculture Leasing Policy

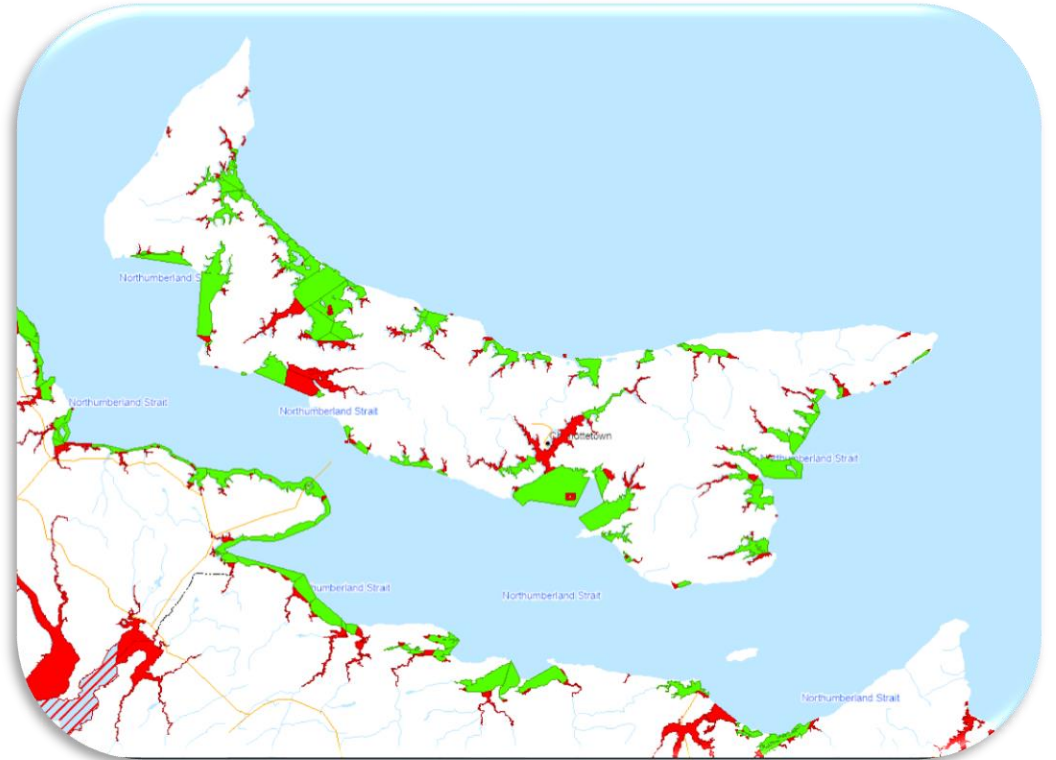
- “DFO and the Government of PEI seek to promote sustainable co-existence between aquaculture industry stakeholders and other users of the marine environment. This policy, and its associated programs and committees, attest to the government’s confidence in a sustainable aquaculture industry in PEI.”
- Co-managed by:
 - Fisheries and Oceans Canada
 - PEI Fisheries, Tourism, Sport & Culture
- Industry consultation and guidance on the Policy related to shellfish aquaculture leases is received through the PEI Shellfish Aquaculture Management Advisory Committee
- Complies with:
 - Fisheries Act
 - Navigable Waters Protection Act
 - Canadian Environmental Assessment Act
 - Species At Risk Act



Government Roles

Canadian Shellfish Sanitation Program

- Partnership between:
 - Canadian Food Inspection Agency
 - Environment Canada
 - Fisheries and Oceans Canada
- Ensures that our waters are tested regularly to ensure the coastal waters are suitable for shellfish harvest



Recreational Shellfish (Clam) Regulations

- **OPEN AREAS ONLY (see DFO website)**

https://inter-w01.dfo-mpo.gc.ca/Geocortex/Essentials/Viewer/Index.html?viewer=CSSP_Public_En_Site

- Total catch of 300, not to exceed more than 100 bar clams and 100 bay quahaugs
- Minimum sizes
 - Bar clam – 102 mm
 - Bay quahaug – 50 mm
 - Soft-shelled clam – 50 mm
- Seasons
 - Bay quahaugs
 - July 18 to December 31
 - Sunrise to Sunset, closed on Sunday
 - Soft shell clams, bar clams and razor clams
 - May 1 – October 31

Challenges for the Shellfish Industry





Response *Stop the Spread*

- Monitoring
- Education
- **Introduction and Transfer Permitting Process (DFO) for the movement of shellfish**
 - Informed by research
 - Stakeholder engagement
 - Adaptive to changing environment
 - Conditions of license...



THE SPREAD OF AQUATIC INVASIVE SPECIES LA DISPERSION DES ESPÈCES AQUATIQUES ENVAHISSANTES

The species marked with an "X" are known to exist in this waterway.
Les espèces marquées d'un "X" ont été retrouvées dans ce cours d'eau.

 <p>Golden Star Tunicate / La botrylle étoilée (Botryllo schlosseri)</p>	 <p>Violet Tunicate / La botryllide violet (Botryllo violaceus)</p>	 <p>Pinnate Bower Tunicate / Le didemnum (Didemnum vesiculosum)</p>
 <p>Vine Tunicate / L'acide jaune (Ceramium tenax)</p>	 <p>Clotted Tunicate / L'acide plaqué (Dysidea aerea)</p>	 <p>Sponges Sea Squirt / L'acide sale (Squilla sp.)</p>
 <p>Chinese Mitten Crab / Le crabe chinois (Eriocheir sinensis)</p>	 <p>Asian Shore Crab / Le crabe sarguin (Hemigrapsus sanguineus)</p>	 <p>Green Crab / Le crabe vert (Cancerus maenas)</p>

Photos and content courtesy of DFO, C. Baudouin, PE DFC, and M. Demay | Photos et contenu généré par DFO, C. Baudouin, PE DFC, et M. Demay

Please report suspected aquatic invasive species (AIS) /
Veuillez signaler toute espèce aquatique envahissante (EAE) soupçonnée : **1-866-759-6600**
invaders.gtf@dfo-mpo.gc.ca

For more AIS information / Pour plus de renseignements sur les EAE :
www.dfo-mpo.gc.ca/aquatic-invasive-species
www.dfo-mpo.gc.ca/especes-aquatiques-envahissantes

Toll Free AIS Hotline:
Ligne téléphonique EAE sans frais
1-866-759-6600
invaders.gtf@dfo-mpo.gc.ca


R.E.I. AQUACULTURE ALLIANCE
902-368-2757
aisreport@aquaculturepei.com
www.aquaculturepei.com/invasive.php

ONCE YOU LEAVE THE WATER... | UNE FOIS SORTI DE L'EAU...

 <p>CLEAN plants, animals and mud from boat and gear NETTOYEZ votre bateau et vos engins afin d'en retirer les plantes, les animaux et la boue</p>	 <p>DRAIN all water from boat and gear onto land VIDEZ sur la terre ferme toute l'eau de votre bateau et de vos engins</p>	 <p>DRY all parts of your boat and gear completely SÉCHEZ complètement toutes les parties de votre bateau et de vos engins</p>
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For more information:
CleanDrainDry.ca

Pour plus de renseignements:
NettoyezVidezSechez.ca

Eutrophication *Overview*

- Nutrient enrichment in bays and estuaries
 - Key nutrients are often phosphorus and nitrogen
 - Increases algae and plant growth – some macro algae double their density in only a day
- Algae blooms will decompose and can contribute to anaerobic conditions triggering anoxic events

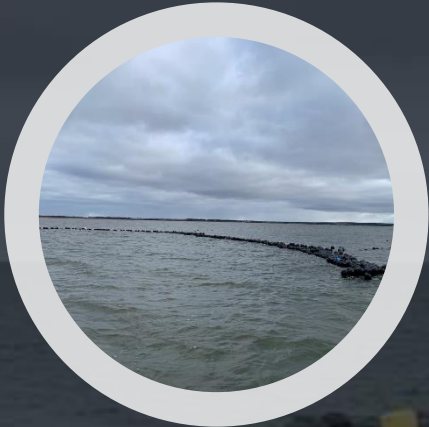


Climate Change *Overview*

- Changing weather patterns
 - Increased occurrence of severe weather events over the last decade
 - Storm surges and heavy seas
 - Damage to aquaculture gear
 - Mortalities to oysters due to freeze/thaw cycles

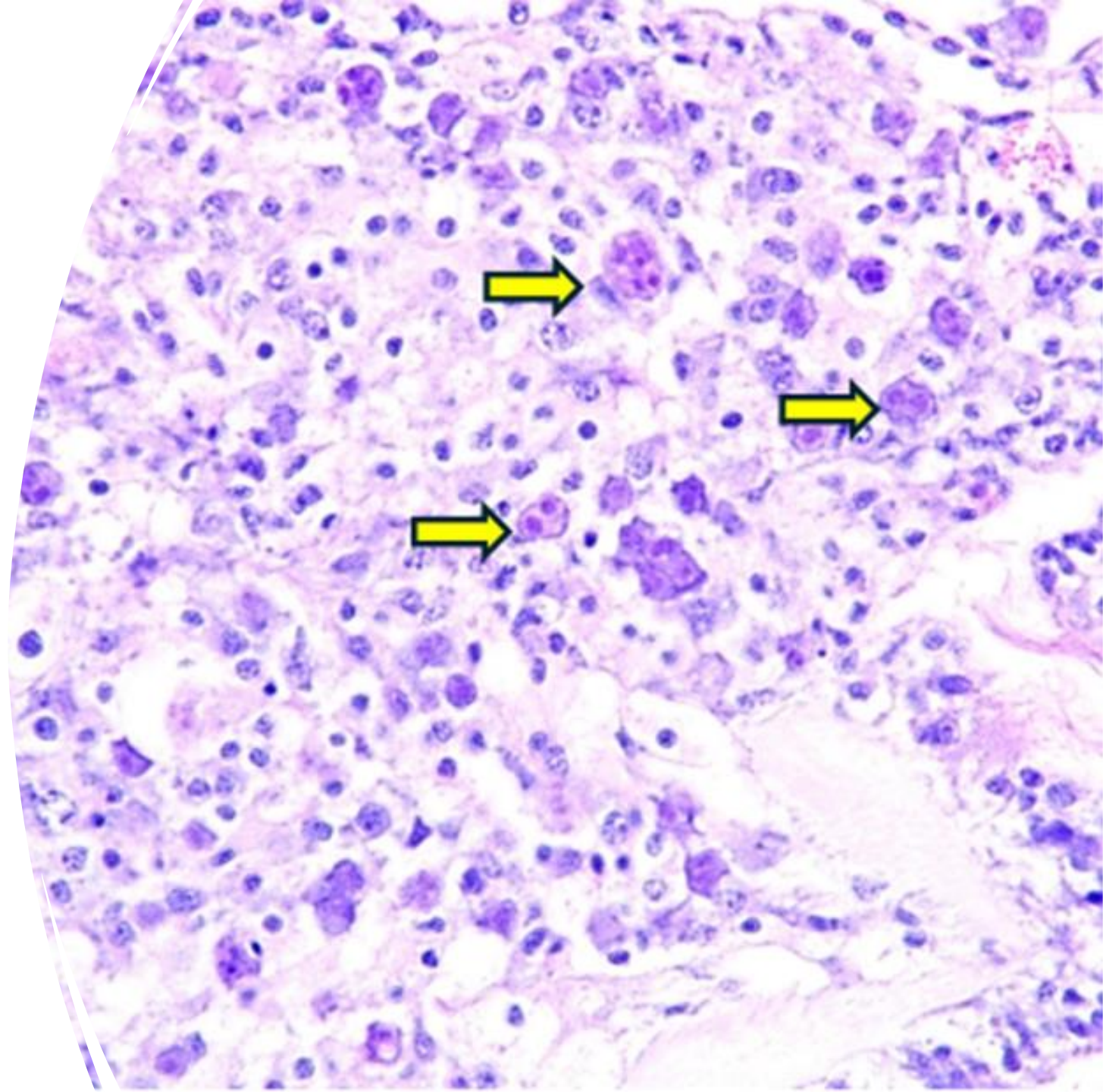


Post Tropical Storm Fiona



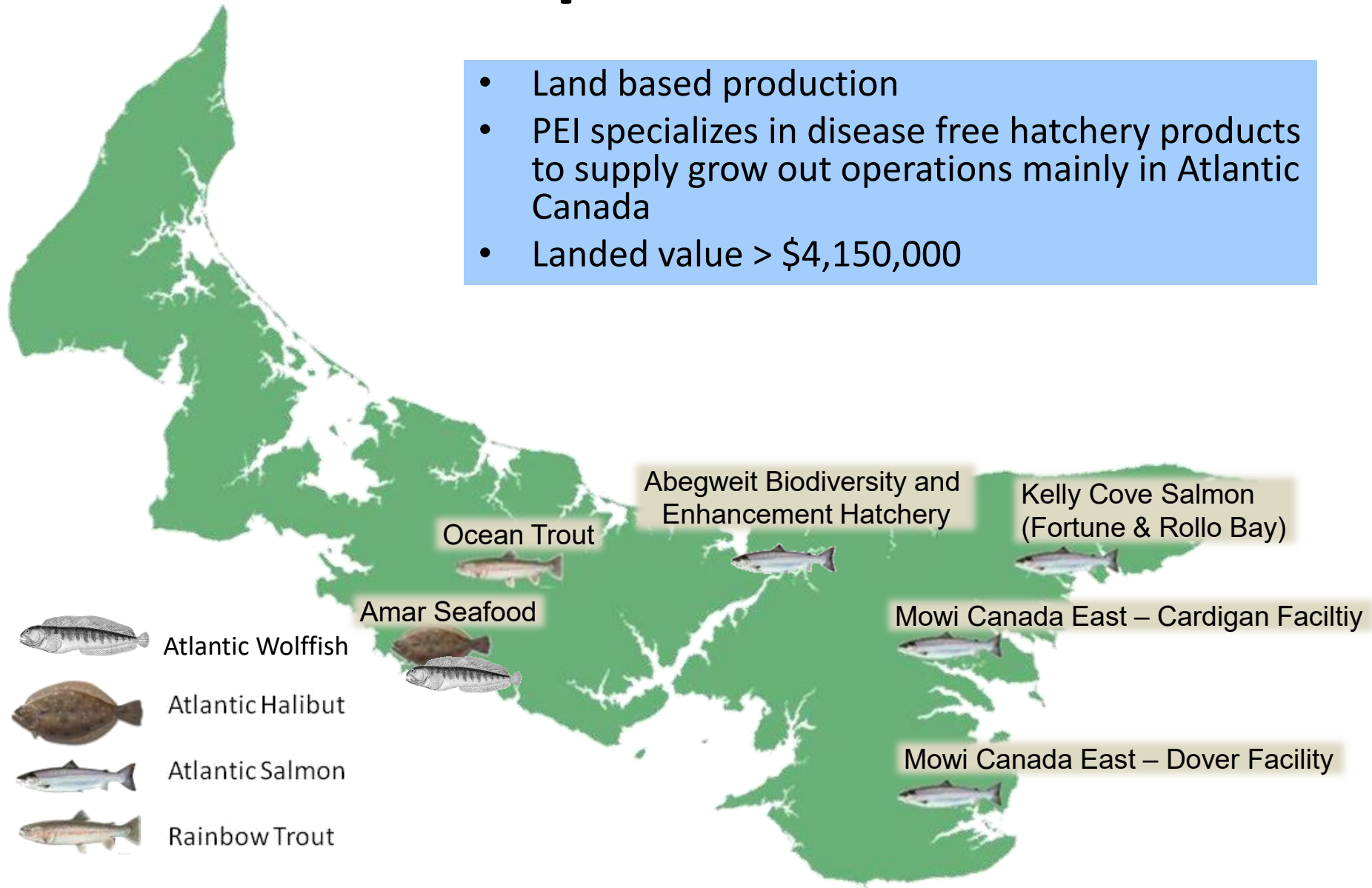
MSX – What is it?

- Parasite that causes infections in oysters
 - **There are no human health concerns with MSX**
- Transmission of MSX is not known – suggests an unknown intermediate host.
- Environment is important – MSX likes high salinity water (like ours) and warmer waters.
- Oyster become infected in the spring (June) and begin dying in the late summer/early fall (though this is still mostly unknown here in PEI).



Finfish Aquaculture *Overview*

- Land based production
- PEI specializes in disease free hatchery products to supply grow out operations mainly in Atlantic Canada
- Landed value > \$4,150,000



Finfish Aquaculture

Land-Based Facilities



Finfish Aquaculture

Land-Based Facilities



Finfish Aquaculture *Products*



SUMMARY

Total production of 52,762,730 lbs (mussels & oysters)

Total value of \$46,423,000

Employs over 2500 people, many year round

Shellfish grown in rivers and bays.

- Mussel culture is a self sustaining world class industry.
- Oyster fishery has a long history. There remains good potential to expand culture activities.

Finfish grown in land-based systems

- Very little meat fish production.
- Primarily hatchery production.
- Closely linked to larger industries in Atlantic Canada.

