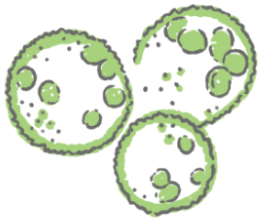
EASTERN OYSTER

CRASSOSTREA VIRGINICA

APPEARANCE

Eastern oysters can reach up to 8in in length. Their shells are rough, irregular, and usually gray or tan on the outside with a smooth white interior.



DIET

Oysters are filter feeders. They pull water across their gills and filter out algae, plankton, and nutrients for food. They filter up to 50 gallons of water per day.

HABITAT

Oysters live in bays and estuaries in brackish waters, where freshwater and saltwater mix. They attach themselves to hard surfaces like old oyster shells, forming reefs.

PREDATORS

Common predators of oysters include crabs, snails, fish, birds, and humans.

Texas Surf CONSERVANCY

Oyster Mariculture

mari·cul·ture:
THE CULTIVATION OF MARINE ORGANISMS IN THEIR NATURAL ENVIRONMENT

In Texas, oyster mariculture became legal in 2019 through House Bill 1300, making Texas the last coastal state in the United States to adopt oyster farming.

Oyster Hatchery *- Adult oysters are selected for their health and genetics. Hatchery staff carefully control water conditions to encourage the oysters to spawn. The developing larvae are cared for approximately one month as they grow into baby oysters called spat.*

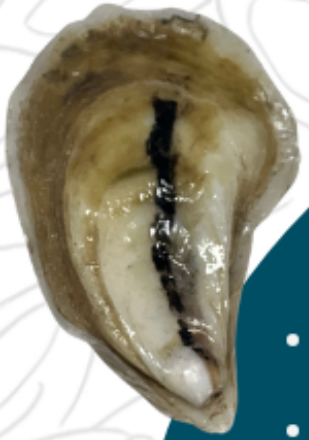
Oyster Nursery *- The spat move into a nursery system where they grow larger in protected tanks. These protected nursery environments allow spat to safely grow for approximately two months before entering open bay waters.*

Oyster Farm *- After reaching roughly one inch in length, the oysters are moved to nearshore floating cages on the oyster farm. For the next 8–9 months, they are cultivated by farm staff in their natural bay environment.*

Oyster Processing *- Once oysters reach market size, roughly 2.5-3 inches, farmers harvest them by hand. The oysters are cleaned, sorted, tagged for safety tracking, refrigerated, and prepared for distribution.*

For more information on Texas oyster farming visit
www.texassurfconservancy.org

OYSTERS OF TEXAS



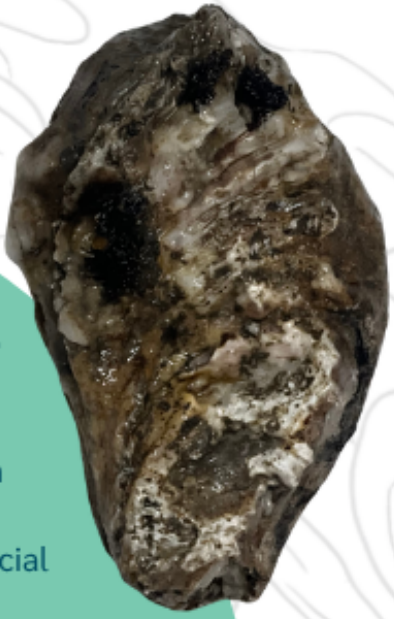
Farm-Raised Oyster

- Raised through oyster mariculture
- Grown in floating or bottom cages
- Hand-cultivated and harvested by permitted farmers
- Help reduce harvesting pressure on wild reefs
- Grown for premium half-shell markets
- Can be grown and harvested all year round
- Act as artificial reefs
- Uniform in size and shell shape

Texas Oyster

- Live in Texas bays and estuaries
- Clean excess nutrients and improve water quality
- One oyster can filter up to 50 gallons of water a day
- Support coastal economies
- Provide habitat for marine life
- A keystone species
- Reduce shoreline erosion
- Can support marine life and biodiversity
- Reflect the flavor of the waters in which they grow

Gulf Oyster



- Wild harvested from natural oyster reefs
- Traditional commercial fishery
- Harvested using outdated dredging methods
- Grow naturally on bay bottoms
- Wild reefs have declined 80-90% globally
- Harvest seasons depend on state regulations
- Natural reefs provide nursery habitat
- More irregular shell shape and size

Healthy Texas bay ecosystems depend on both restored wild oyster reefs and sustainable oyster farming practices.

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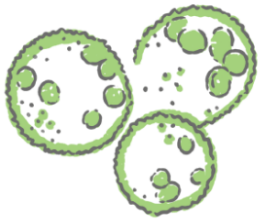

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Gulf Coast Food Web

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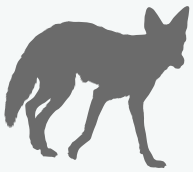
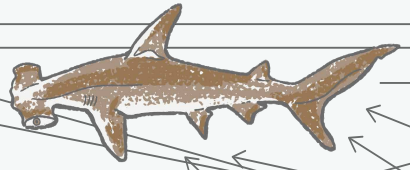
Tertiary Consumers

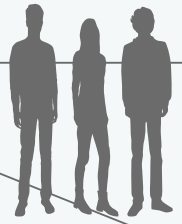
Coyote



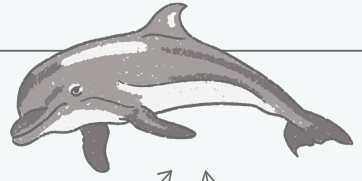
Scalloped Hammerhead



Humans



Bottlenose Dolphin

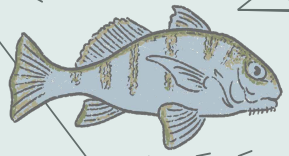


Raccoon

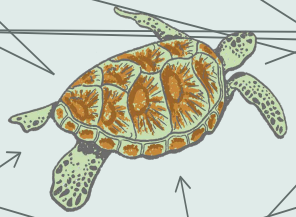
Secondary Consumers

Red Drum

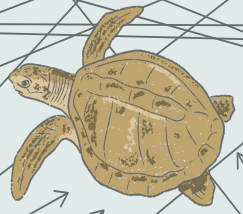
Black Drum



Green Sea Turtle



Kemp's Ridley Sea Turtle



Great Blue Heron

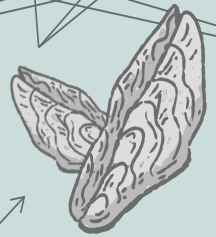
Brown Pelican

Primary Consumers

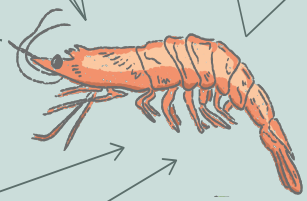
Sea Nettle Jellyfish

Blue Crab

Eastern Oyster

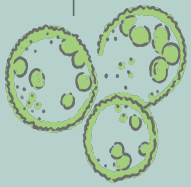


Grass Shrimp



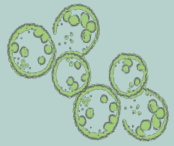
Primary Producers

Zooplankton / Phytoplankton



Seagrass

Decomposer / Bacteria



Life Cycle of an Oyster

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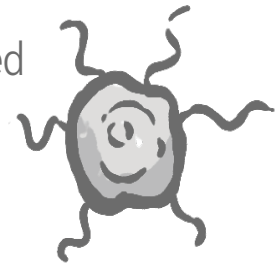
Free-swimming larvae

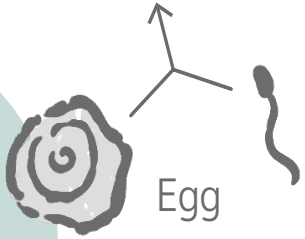
Maturing larvae begin to grow a foot that assists them moving along the seafloor searching for an attachment location.

Fertilized egg



2-3 weeks

Oysters in Texas waters can spawn 2-3 times a year. Depending on environmental factors such as temperature, nutrients and salinity which can signal spawning cycle and influence the production of gametes, releasing millions of eggs and sperm into the water.



Egg

Sperm

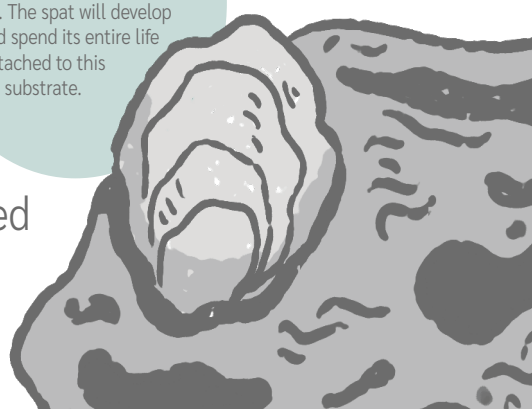
When the oyster larvae settle on hard substrate such as other oyster shells or rocks it is now known as spat. The spat will develop and spend its entire life attached to this substrate.

Adult

1-3 years

After 1-3 years, depending on environmental factors, the spat grows to a mature oyster and begin this cycle again.

Spat attached to shell



Anatomy of an Oyster

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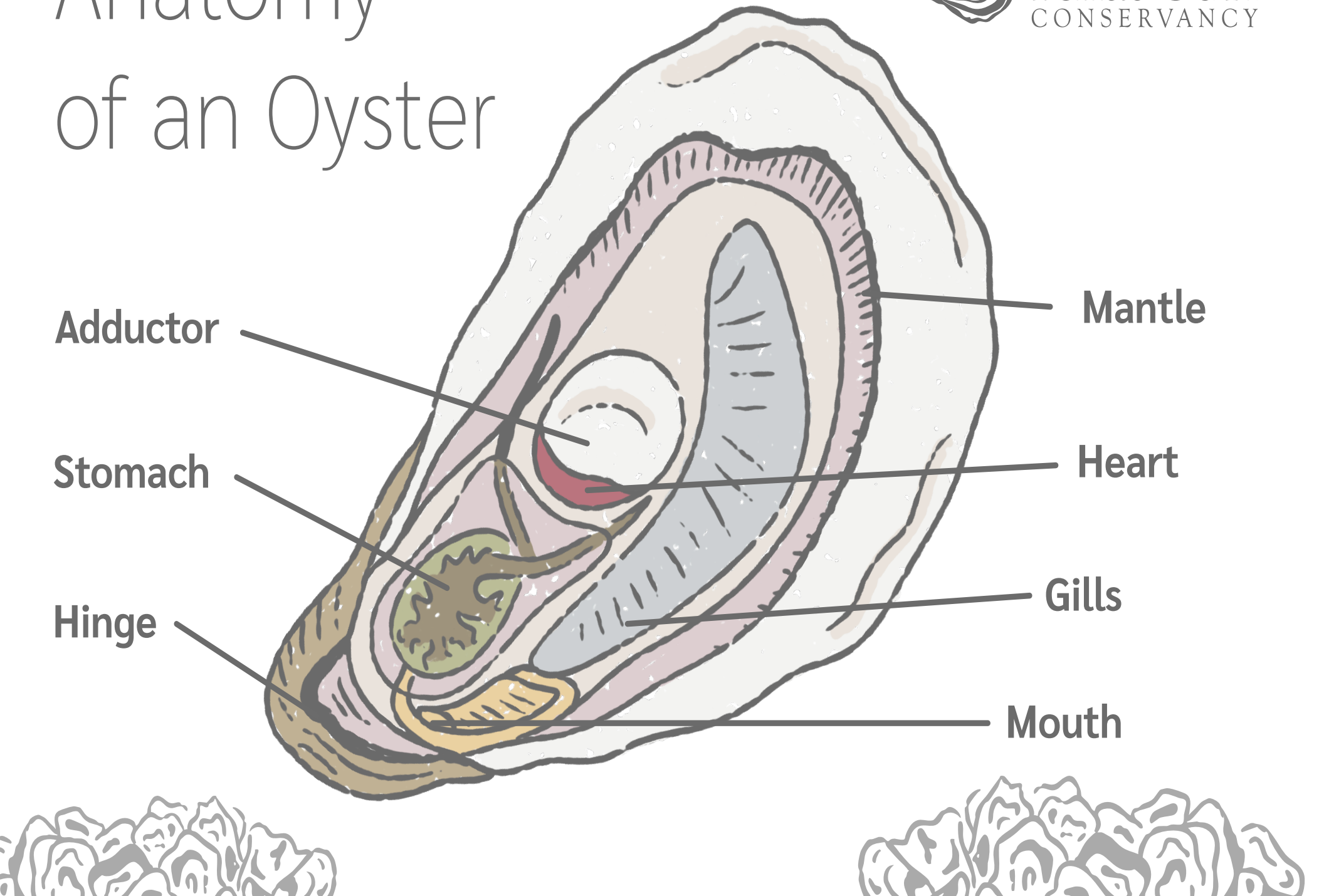

Texas Oyster Farming

Who? What? When? Where? Why?

Texas oyster mariculture operations are conducted by state-permitted farmers who operate under a highly regulated system to ensure environmental sustainability and public safety.

WHO can farm oysters? WHO oversees the industry?

Permitted Texas Oyster Farmers

- *Small business owners*
- *Texas Parks and Wildlife Department (TPWD) – Issues licenses, leases water column, and manages fisheries*
- *Texas General Land Office (GLO) – Leases state-owned seabed*
- *Texas Commission on Environmental Quality (TCEQ) – Oversees water quality and environmental compliance*
- *Texas Department of State Health Services (DSHS) – Ensures shellfish safety and harvest water standards*
- *United States Army Corps of Engineers (USACE) – Permits structures in navigable waters*
- *United States Coast Guard (USCG) – Oversees navigational safety, marking use around farm*

WHEN did the industry start? *WHEN* can you eat oysters?

A growing, year-round industry in Texas

- **2019: Texas legalized oyster mariculture**
- **2022: First farm-raised oysters were harvested in Texas**
- **2026: The industry continues to grow with over 15 permitted oyster farms**
- **Thanks to modern refrigeration, Texas farm raised oysters can be enjoyed year round not just months with an 'R'**

WHAT is oyster mariculture or oyster farming?

A sustainable way to grow oysters for human consumption

- *Mariculture is farming of marine organisms*
- *Oysters are grown in floating or bottom cages*
- *Farmers raise oysters from seed to harvest (typically 6–12 months in Texas)*
- *Oyster farming produces a consistent, high-quality product for consumers*
- *Helps reduce pressure on natural oyster reefs*

WHERE are oyster farms located?

Along the Texas Gulf Coast

- Texas coastal bays and estuaries
- Oysters are grown in floating or bottom cages, not harvested from wild reefs
- Oyster farms operate in state-approved lease areas, not randomly placed
- Sites are carefully selected based on:
  - Water quality
  - Salinity levels
  - Depth and current flow
  - Distance from seagrass beds and sensitive habitats
  - Navigation
  - Weather and wind patterns

WHY is oyster farming important?

Because oysters are essential to a healthy coast and sustainable seafood production

- One oyster can filter up to 50 gallons of water per day
- Oysters are a keystone species, supporting the balance of the entire bay ecosystem
- Oyster reefs provide habitat and biodiversity for hundreds of marine species
- Reefs help reduce erosion and wave energy
- Farmed oysters are one of the most environmentally friendly protein sources
- Supports local jobs, coastal communities, and Texas sustainable seafood industries