Ecosystem Services and Benefits of Restored Oyster Reefs

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Ecosystem engineers

Oysters are reef builders

- Create habitat
- 50x greater than bay bottom

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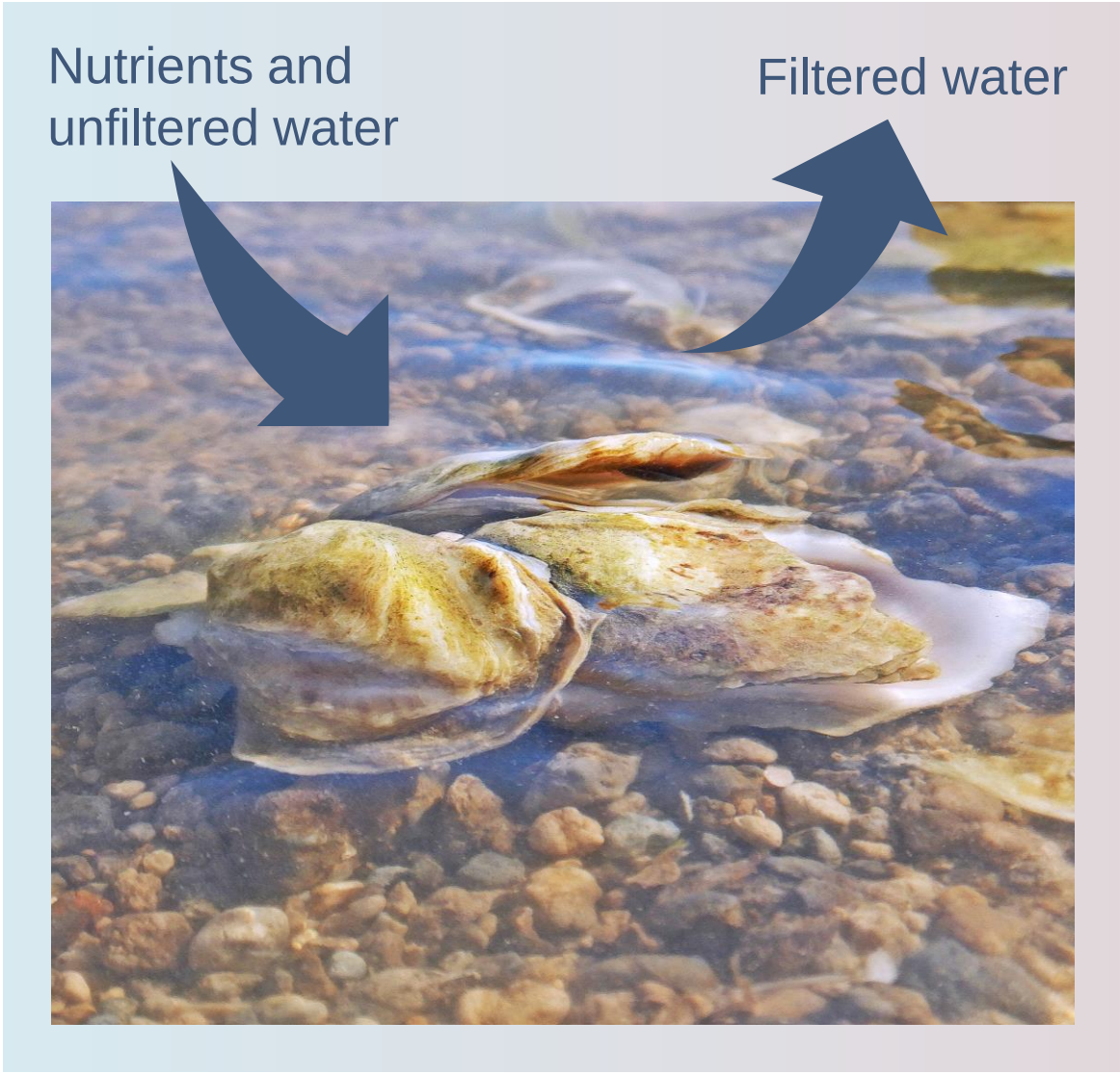
Water filtration

Oysters are suspension feeders

- Remove plankton, sediments, bacteria, nutrients
- 1 oyster = 50 gallons



Shoreline protection

Oyster reefs buffer wave energy

- Stabilize adjacent habitats
- Reduce erosion

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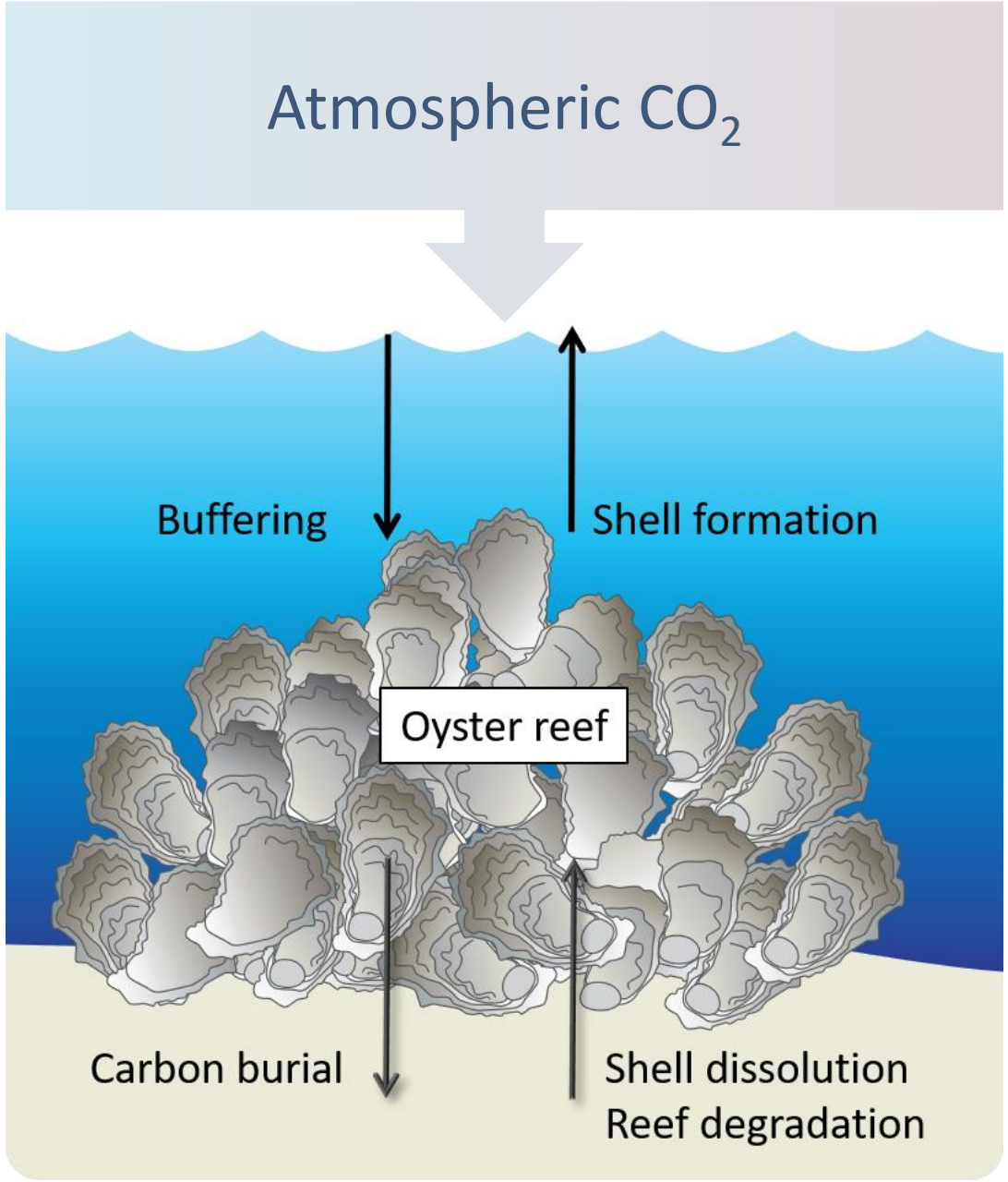
Carbon sequestration

Oysters take up CO_2

- Stored in shells & sediments
- Mitigate increases in atmospheric CO_2



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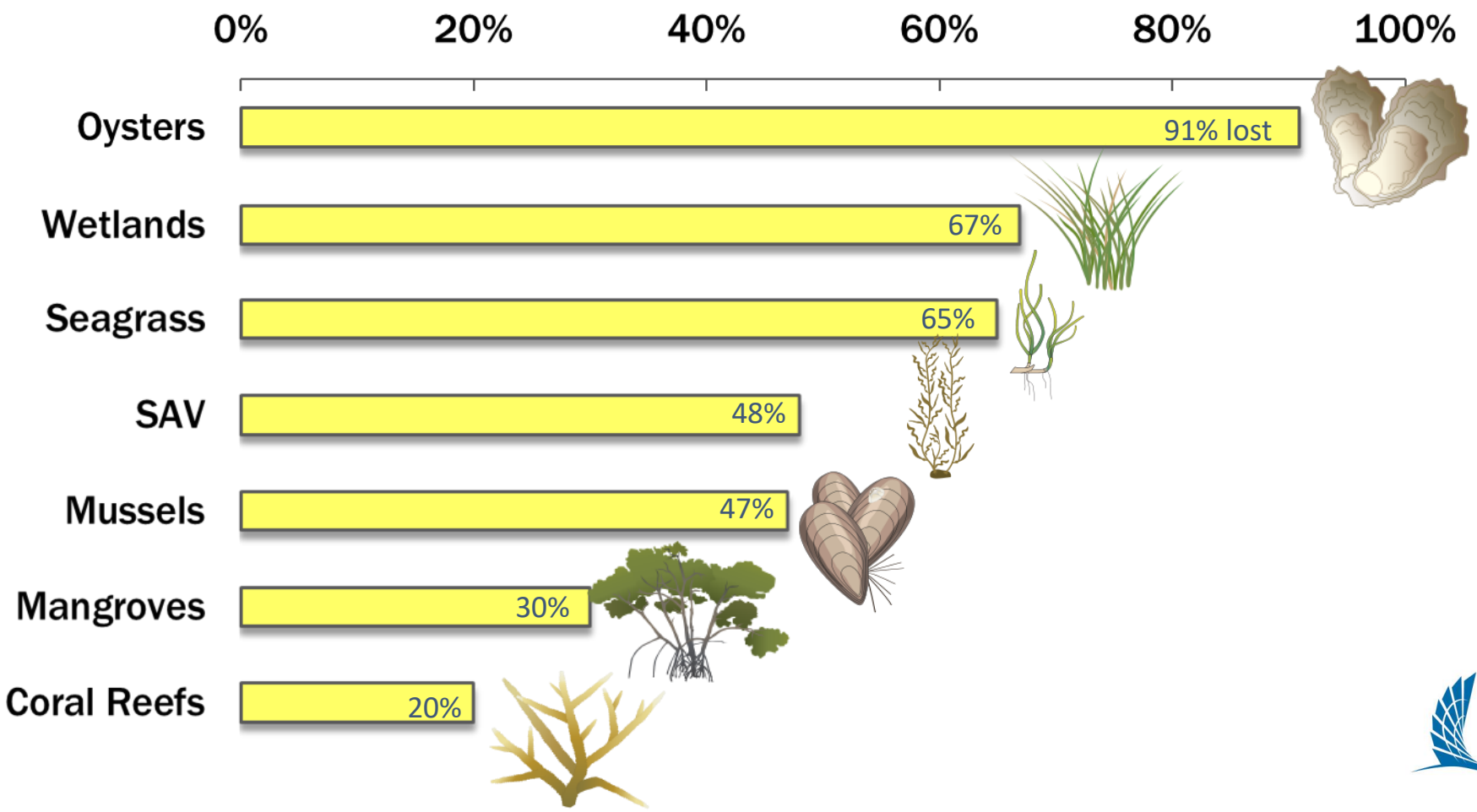
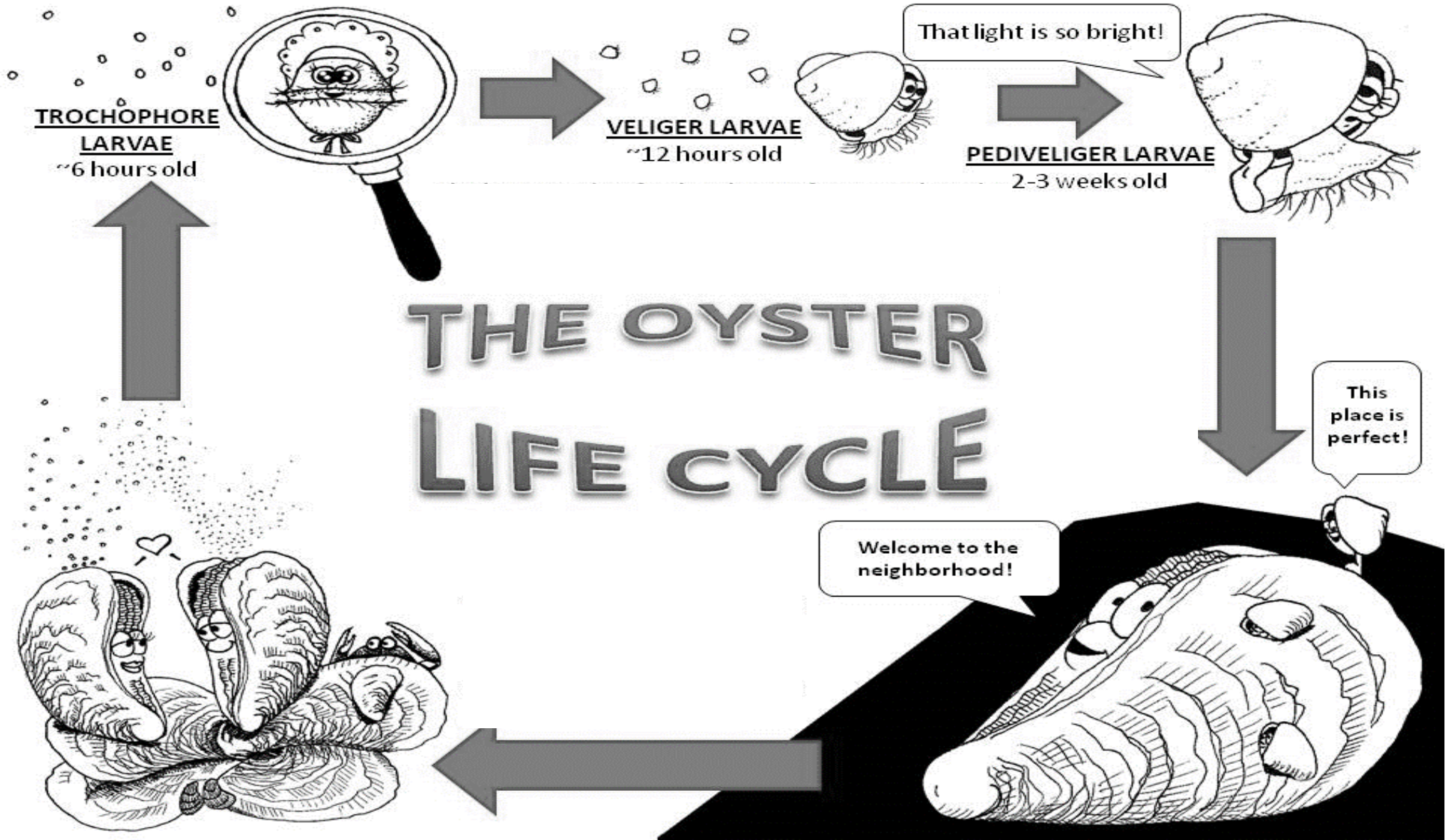
Oyster reefs = imperiled marine ecosystem



(Jackson 2008)

Slide credit: Brittany Blomberg

Removal of *oysters* = Removal of *habitat*



Oyster reef restoration

For replacing lost ecosystem benefits

- Oyster shells or other materials are placed on the bay bottom
- Provides stable surface for larval oysters to attach and grow

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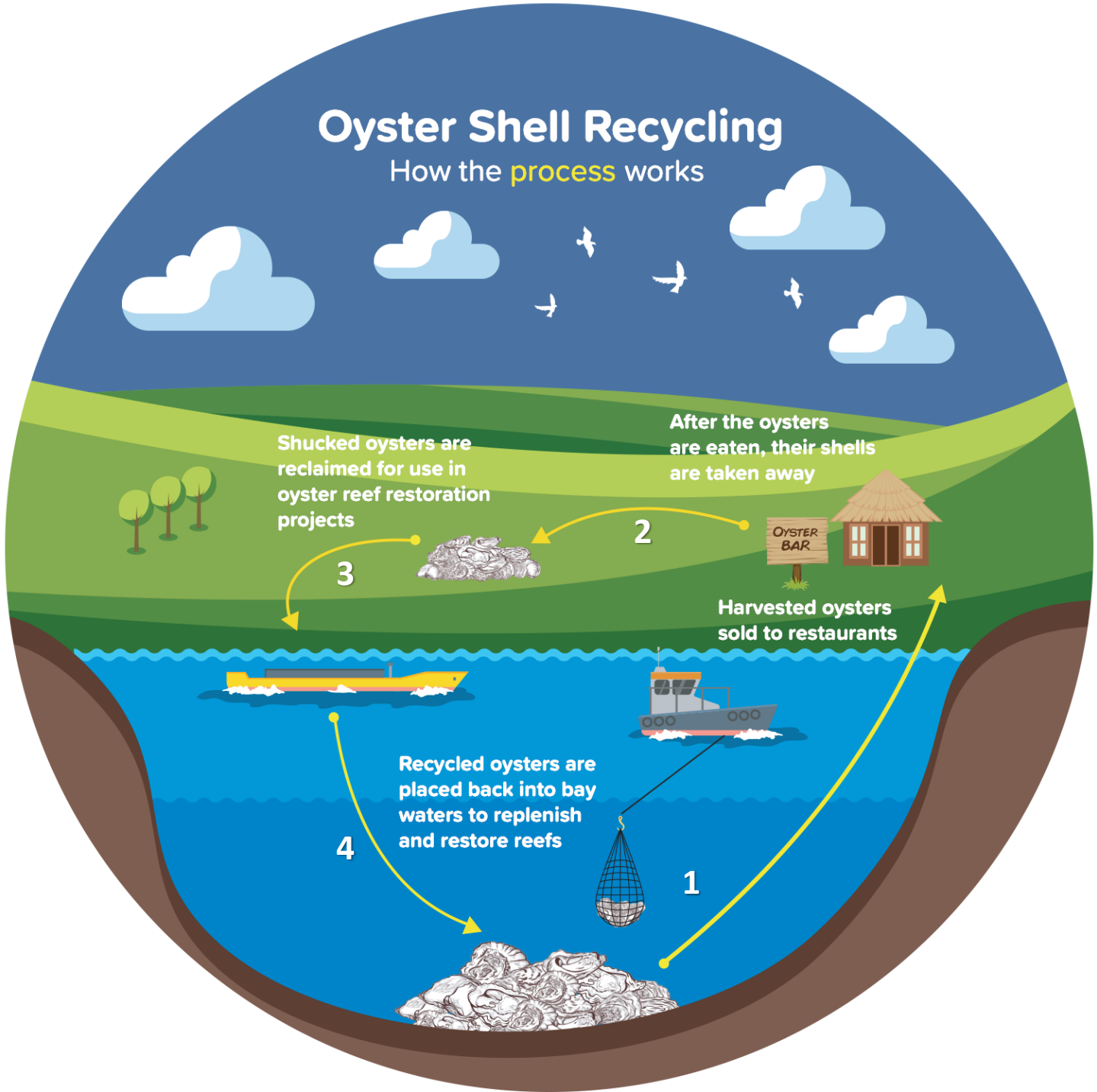

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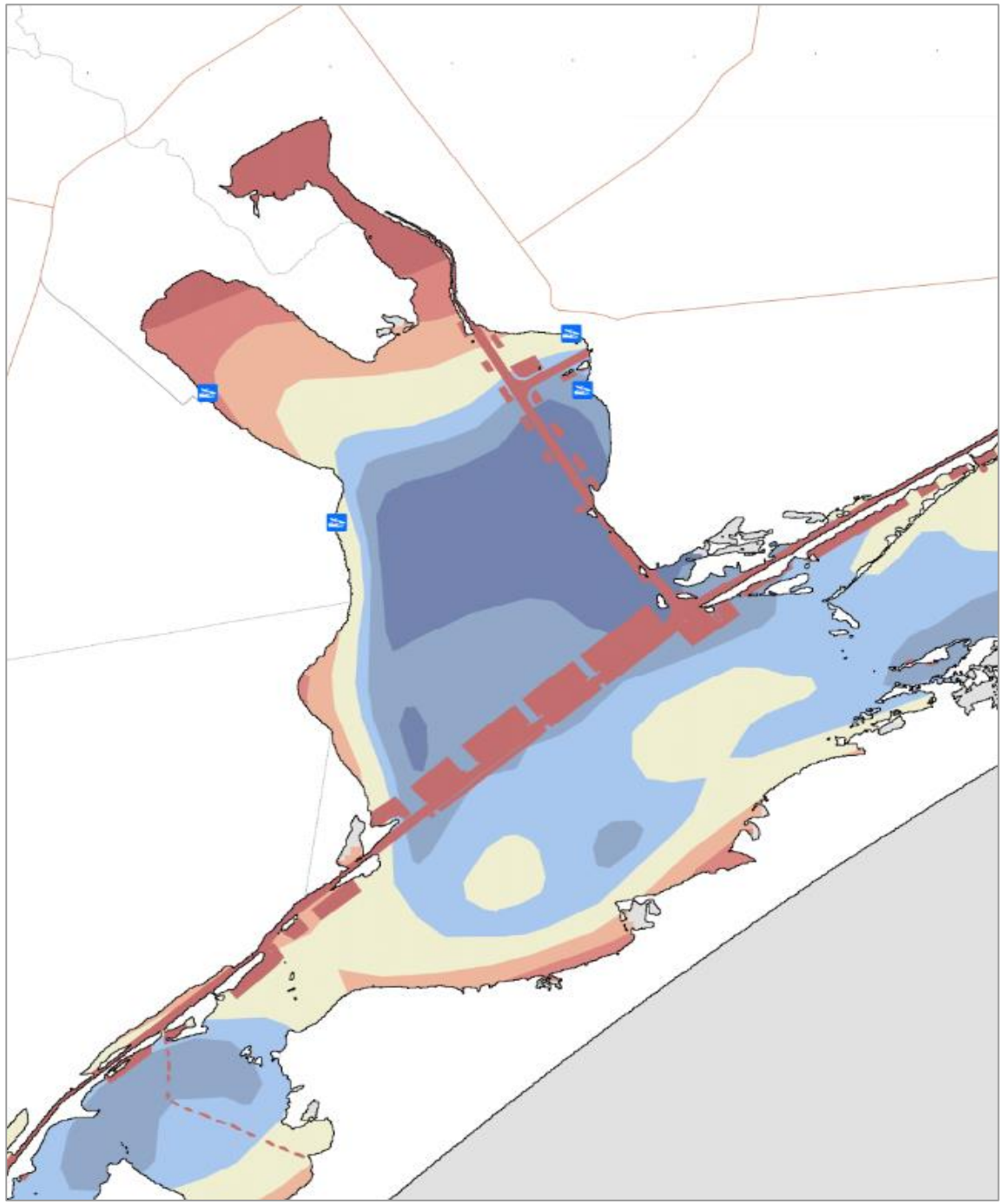
Restoration Suitability Index

Improve return on investment

- 30+ years of water quality and oyster data
- Identify the best places for reef restoration & sustainability
- Can be modified for aquaculture



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Over 20 acres restored

Aransas Bay

- 8 acres
- Adjacent to Goose Island State Park

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Over 20 acres restored

Copano Bay

- 6 acres
- Adjacent to Lap Reef

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Over 20 acres restored

St. Charles Bay

- 5 acres
- Adjacent to Goose Island State Park

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New for 2020!

Additional 5 acres in St. Charles Bay

- Adjacent to Goose Island State Park
- TPWD-NOAA Harvey Relief Funds

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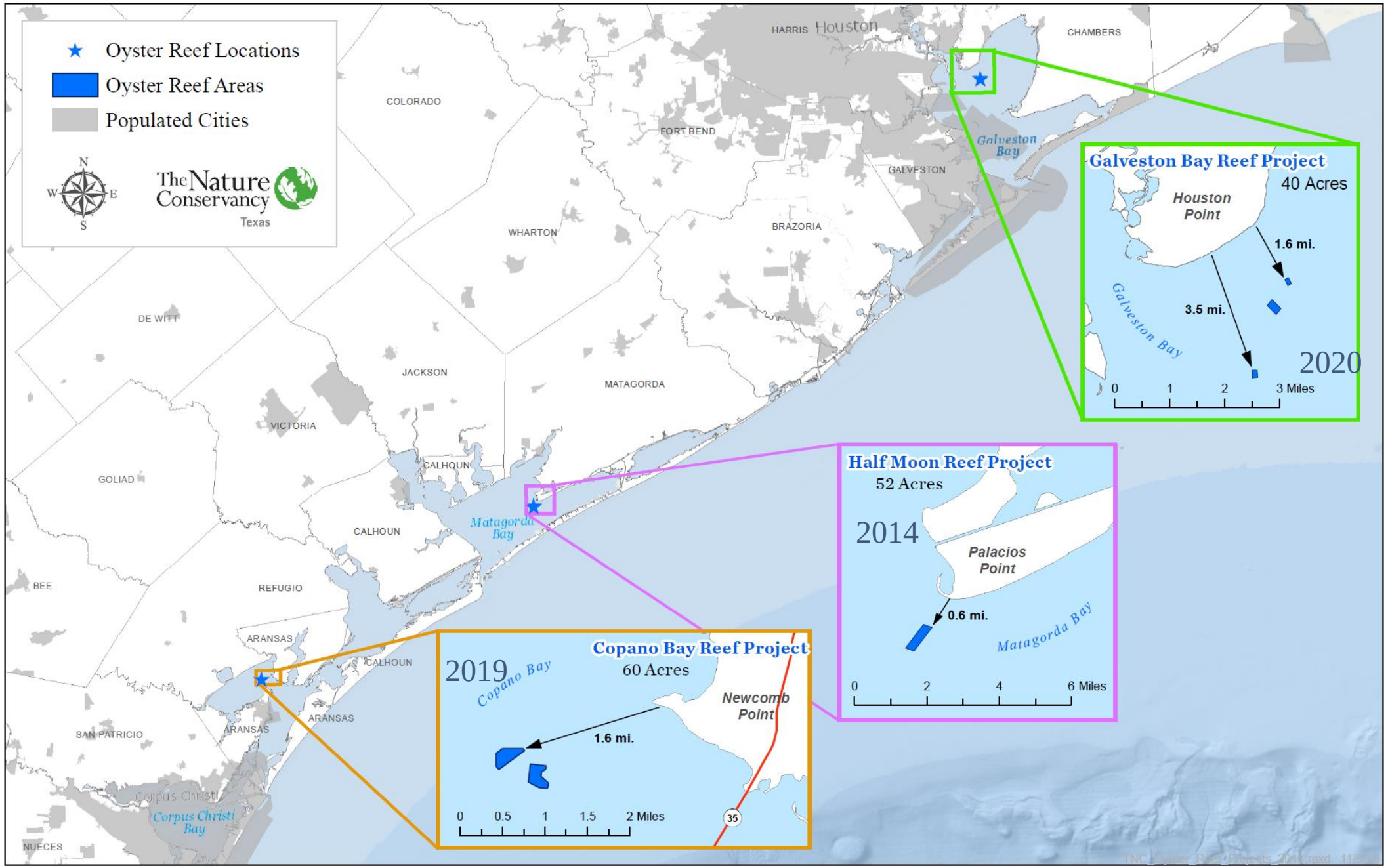
TPWD Oyster Restoration

Bay System	Year	Acres	Cubic Yds	Totals
Galveston Bay	2009	25	7,142	$539,436
	2011	177	73,085	$4,329,893
	2013	30	14,070	$976,458
	2014	180	72,894	$4,702,596
	2016	6	5,043	$383,040
	2017	29	9,670	$821,280
	2018	5	1,985	
	2019	15	6,125	
Matagorda Bay	2018	11	4,605	
	2019	6	2,292	
Sabine Lake	2014	23	9,211	$525,000
	TOTAL	507	206,122	$12,277,703

Slide courtesy of Emma Clarkson, Texas Parks and Wildlife Department



Slide courtesy of Julie Sullivan, The Nature Conservancy

Dr. Joe Fox

Chair for Marine Resource Development

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heries facts

Join us in restoring reefs!

Saturday, March 28
Saturday, April 25
8:30-11:30 am
Goose Island State Park

www.HarteResearchInstitute.org/events

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