

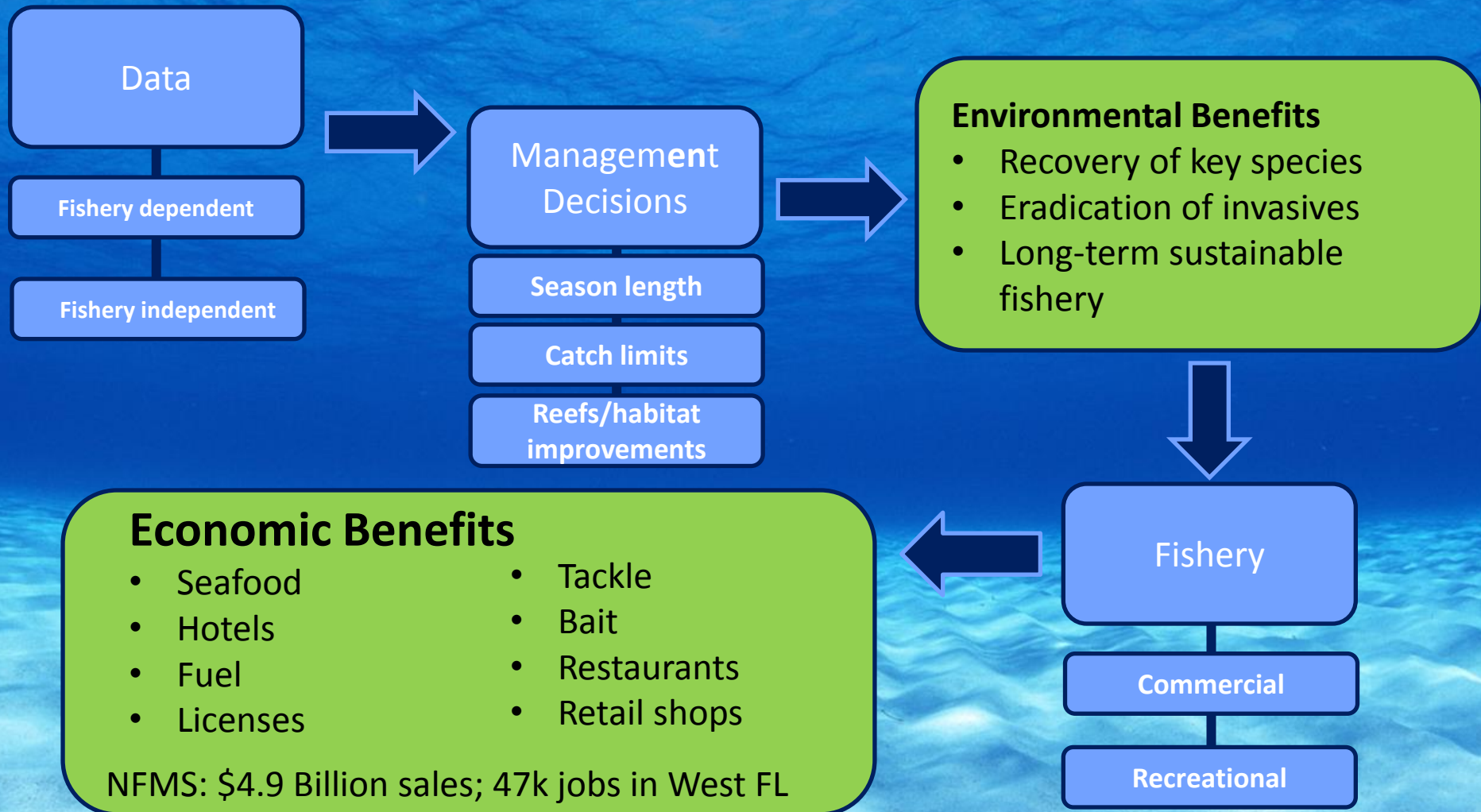
Supplemental Assessment for Recovery of Gulf of Mexico Fisheries

A Programmatic Fishery-Independent
Approach

Goals

- Supplement and compliment FWC and NMFS fishery-dependent stock assessment data
- Provide additional data to decision-makers to better inform fishery management decisions
- Contribute to long-term recovery and sustainability of economically important reef species
- Revitalize and enhance north FL economy through enriched fishery (seafood, tourism)

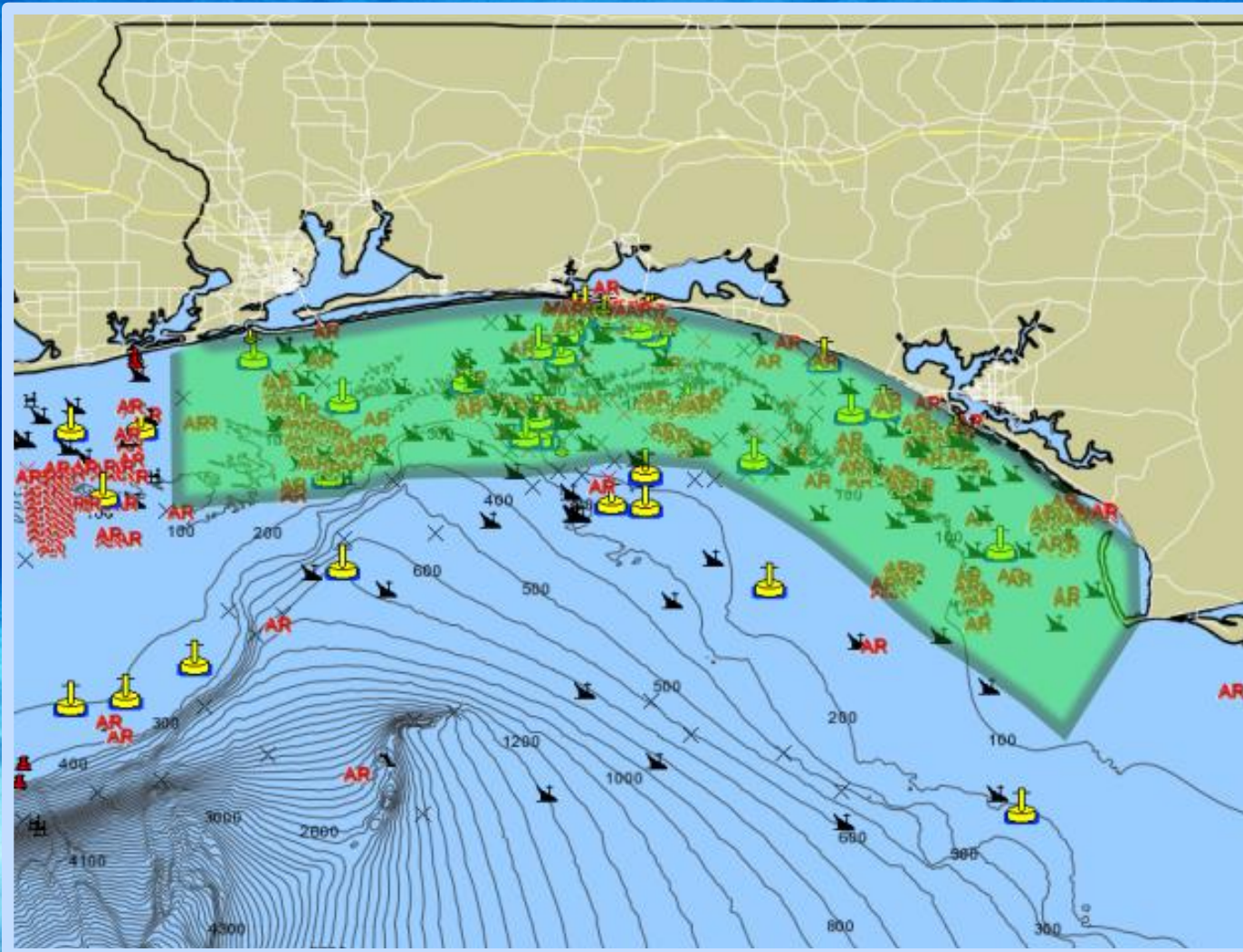
Justification



Tasks

- Determining size and age class of red snapper using hydroacoustics and video confirmation
- Estimating reef species biomass with hydroacoustic and camera measurements
- Monitoring large scale movement of economically important reef species with acoustic tagging, telemetry, and analysis
- Assessing large-scale lionfish population including spatial and temporal distribution in the northern Gulf of Mexico

Proposed Study Area

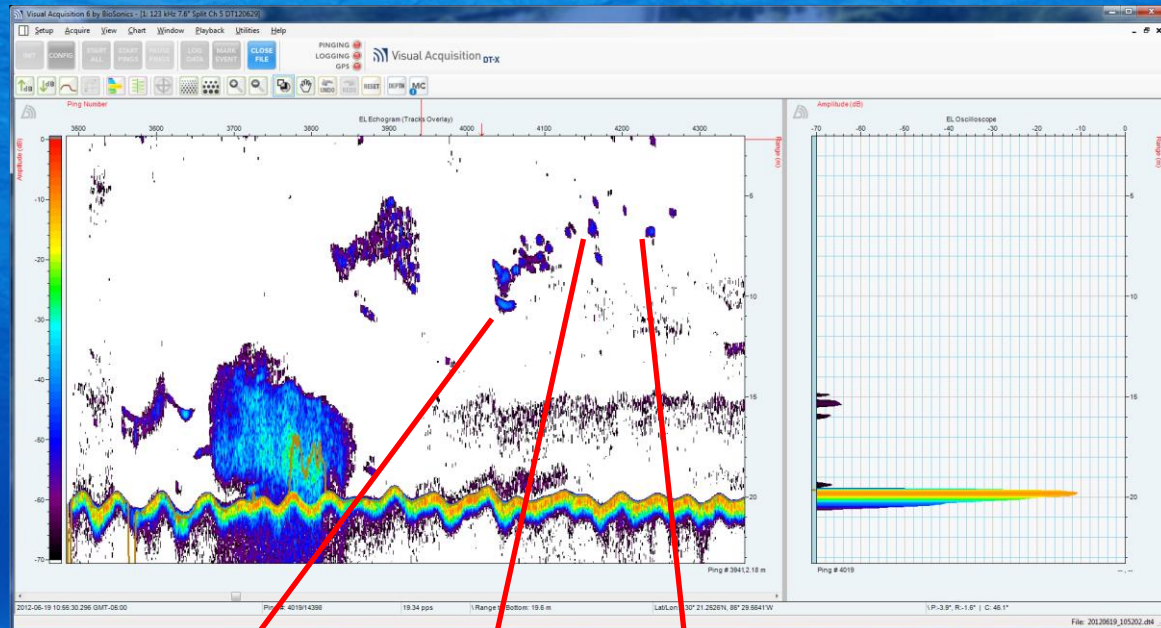
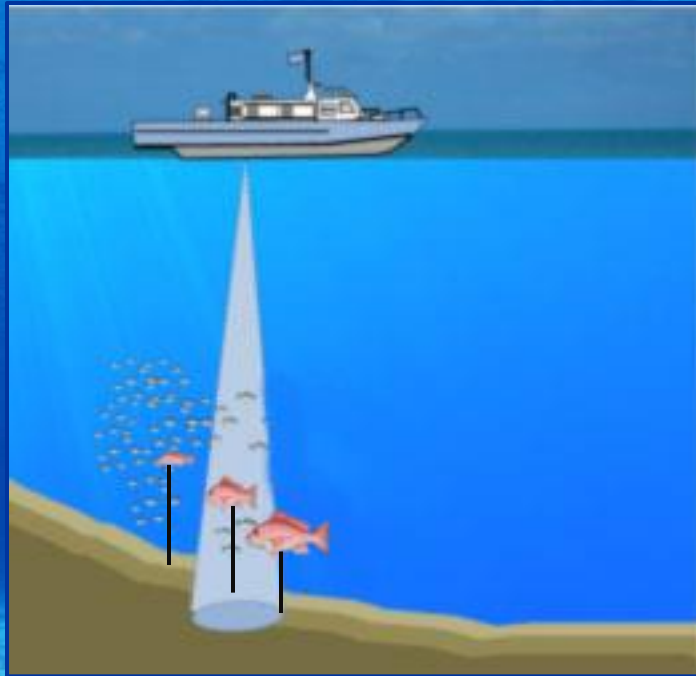


**THREE
RIVERS**

Resource Conservation & Development Council, Inc.

TASK 1:

Red Snapper Size and Age Class Study



>39 cm



30-39 cm

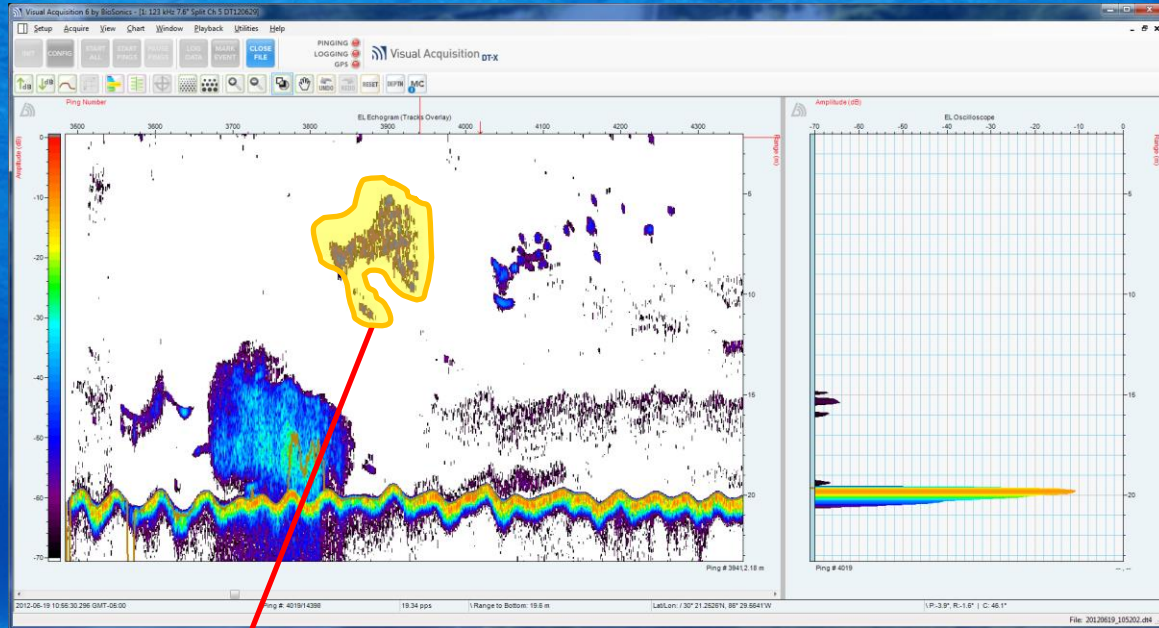


<30 cm

Begin to establish standards for determining snapper age/size class via non-intrusive, rapid, cost-effective hydroacoustic survey methods

TASK 2:

Hydroacoustic Reef Biomass Estimation

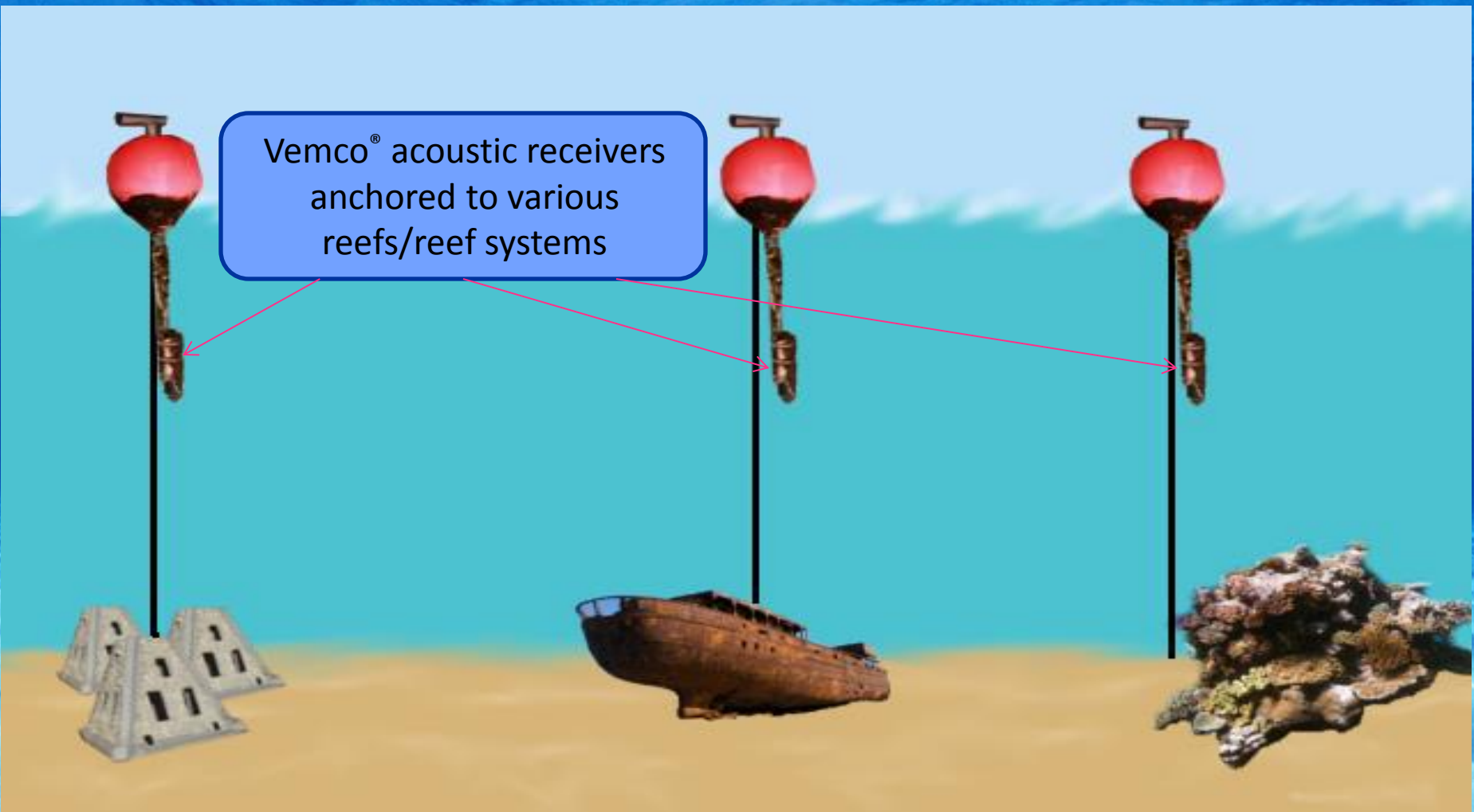


Total Biomass = 500kg  = 20% (100kg)  = 20% (100kg)  = 20% (100kg)

Supplement current stock assessments by looking at fishery-independent reef species abundance on a species-specific basis.

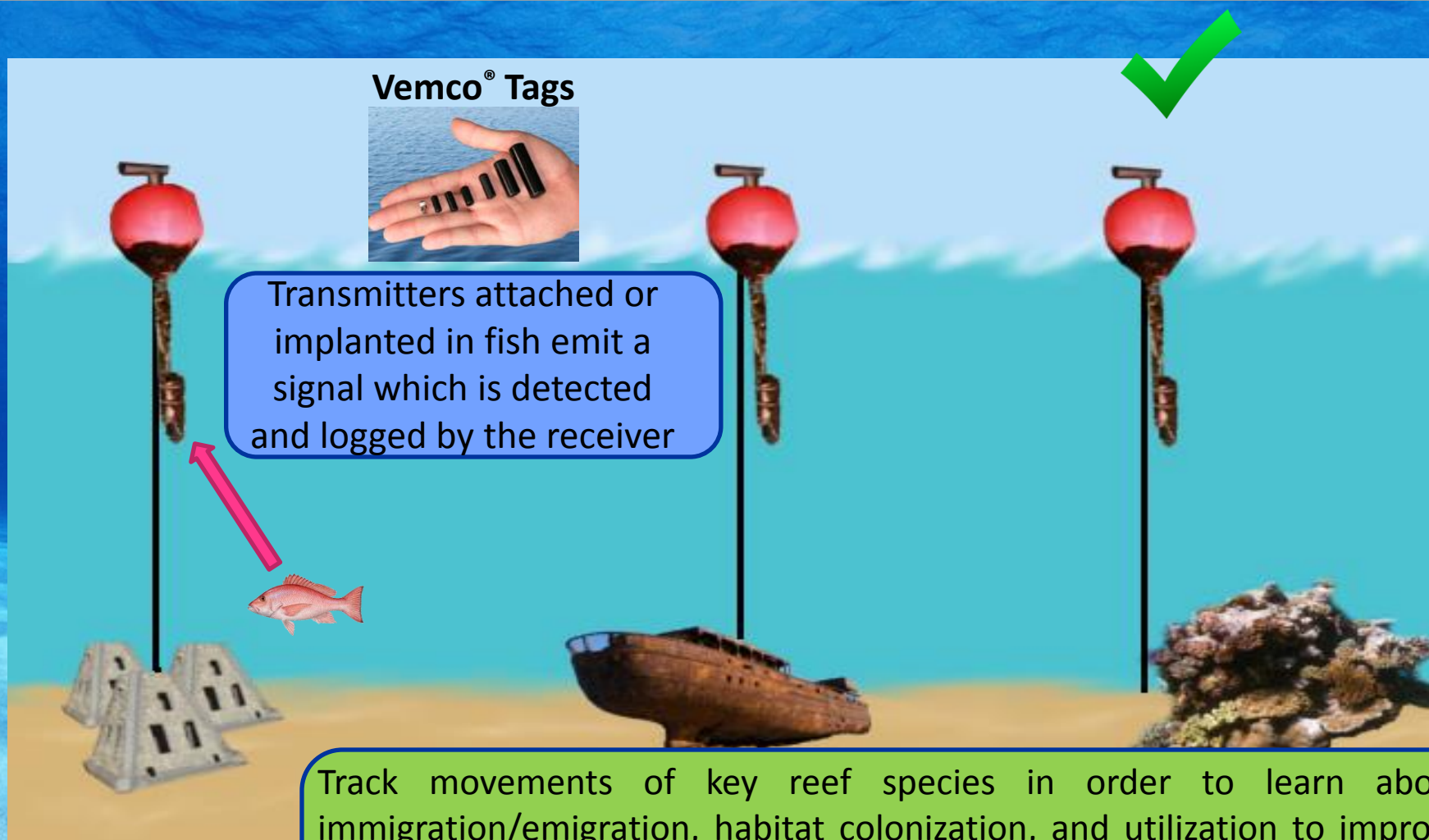
TASK 3:

Monitoring Large Scale Movements of Reef Species with Acoustic Telemetry



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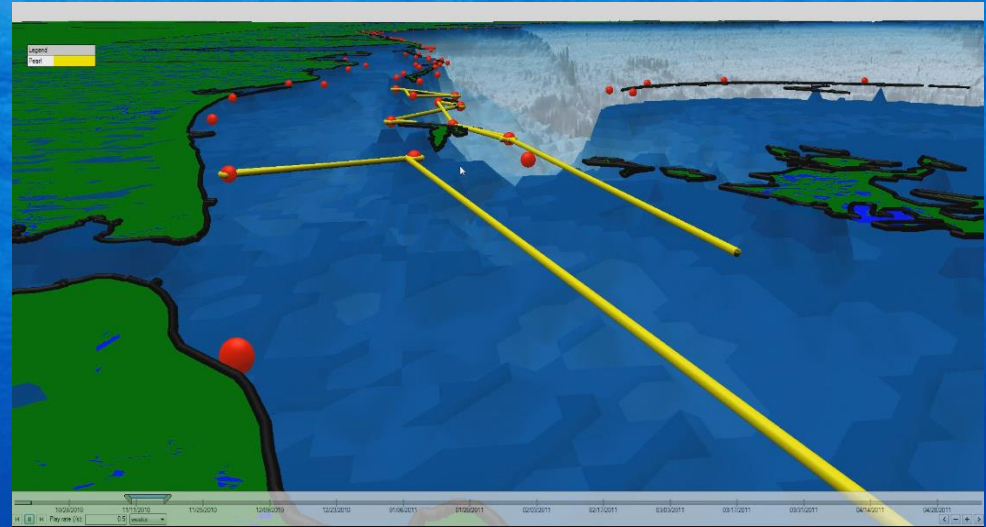
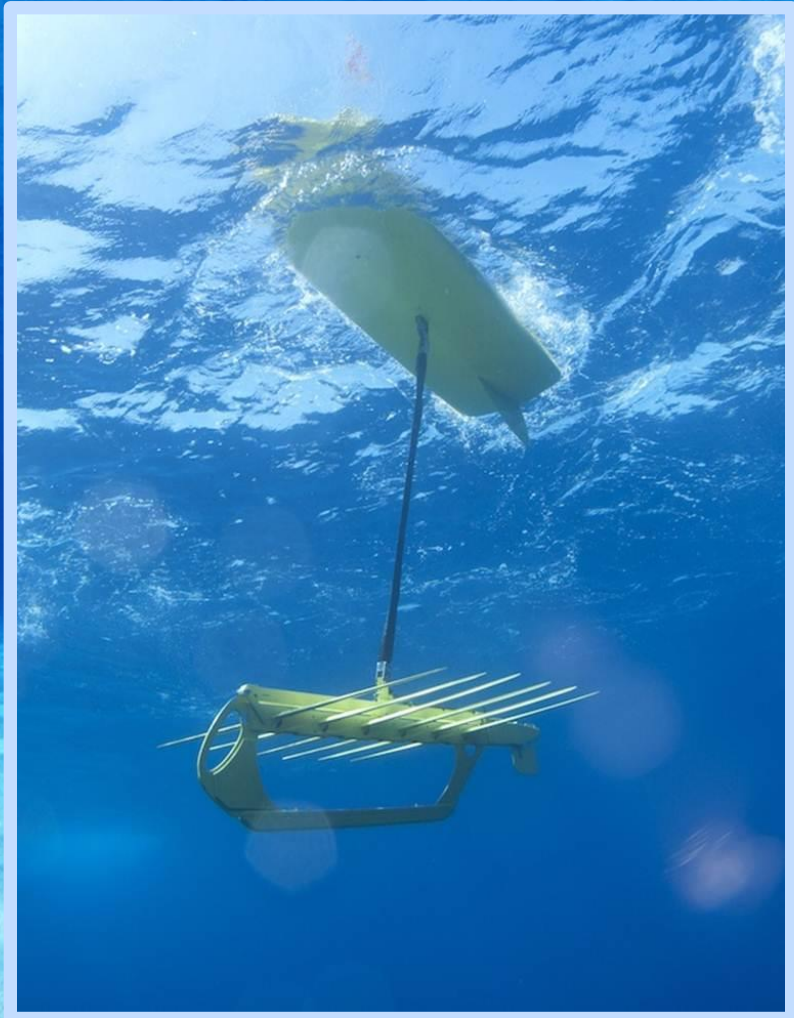
Track movements of key reef species in order to learn about immigration/emigration, habitat colonization, and utilization to improve reef management/ artificial reef placement decisions and understanding of regional differences in species density. Determine long term survival of hatchery species released into the wild

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RIVERS**

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TASK 3:

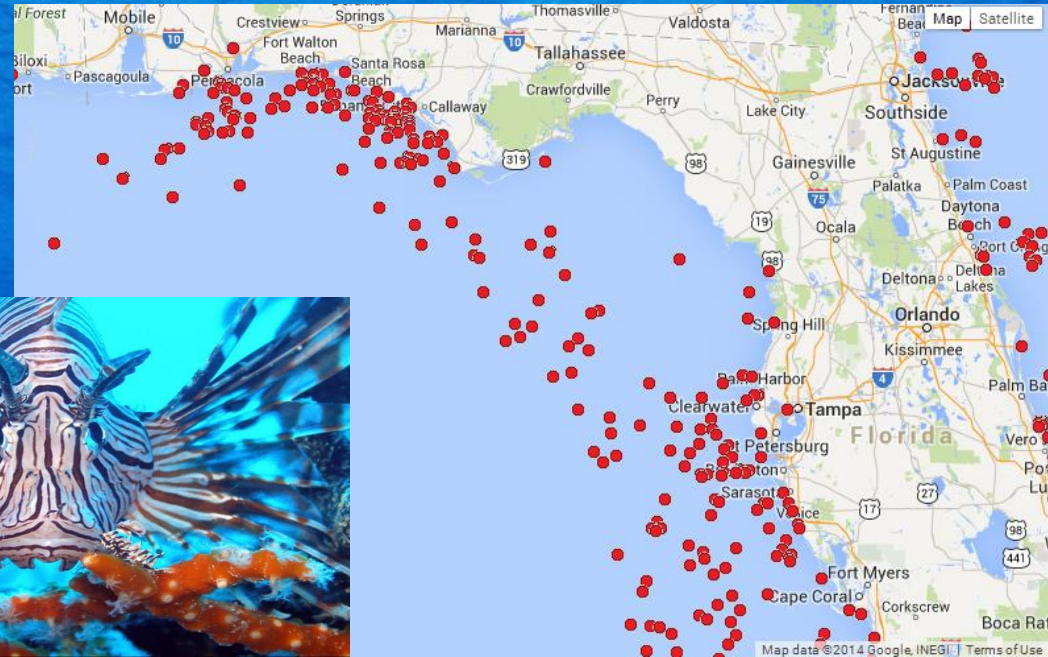
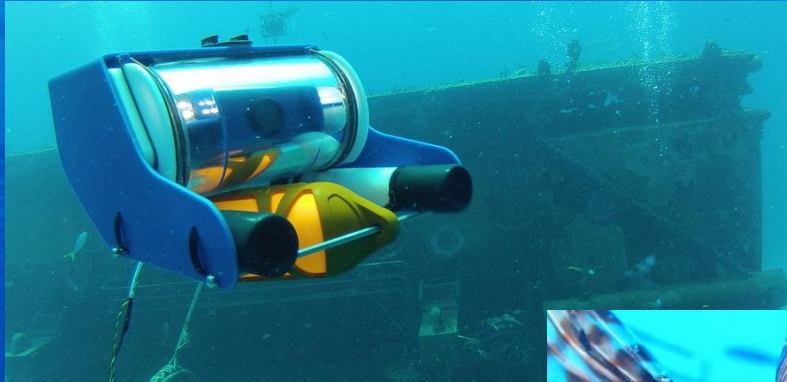
Monitoring Large Scale Movements of Reef Species with Acoustic Telemetry



Wave Glider used to capture large scale movements of reef species throughout the Gulf of Mexico.
Georeferenced data in 4-D

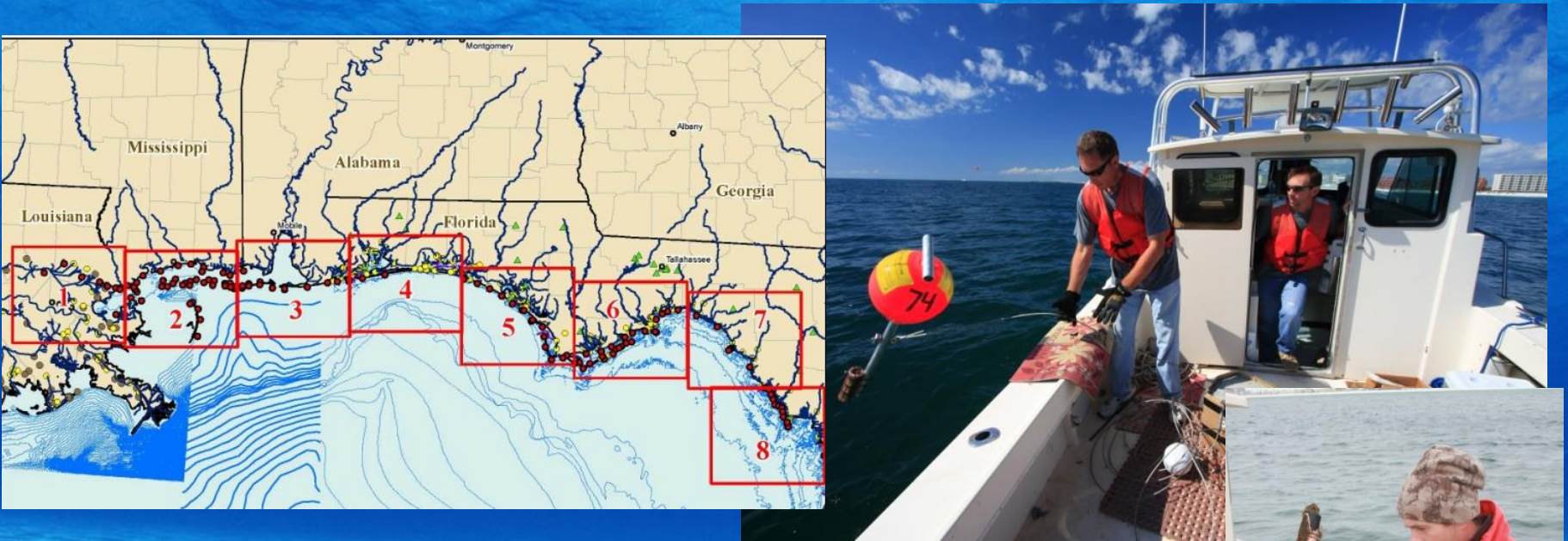
TASK 4:

Large-scale Lionfish Population estimate and spatial and temporal distribution in the northern Gulf of Mexico



Utilize improved technologies (underwater ROV, remote cameras, etc.) to survey for the presence of lionfish in order to monitor their spread and develop targeted eradication efforts.

Technical Feasibility



Gulf-wide/Multi-year Gulf Sturgeon NRDA Study
in partnership with U.S. Fish and Wildlife
Service

Decades of combined experience in marine
natural resources research and species
management



Summary

- Improved understanding of species, processes, habitats, and relationships
- Leads to improved management of these ecological resources
- Improves stocks and sustainability
- Directly tied to economic prosperity on the Gulf Coast

Support

- The proposed work has been vetted by the leading experts at state and federal resource agencies, conservation organizations and commercial and recreational fishing interests as being highly beneficial to improved management of red snapper and other economically-important reef fisheries to ensure their sustainability.
 - FWC
 - FWRI
 - NOAA NMFS