THE VALUE OF HARD BOTTOM AND HARD BOTTOM MONITORING

DIPPING OUR TOES INTO THE NEARSHORE

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OVERVIEW

- Are hardbottom communities unique and worthy of regulatory oversight?
- If so, are the current regulatory mechanisms overseeing hardbottoms effective in assuring their continued existence and proliferation?
- Are taxpayers and communities getting good value for their dollars spent?
- Are there other methodologies which can both:
  - assure the continued existence of hardbottom communities, and
  - ensure efficient use of beach renourishment dollars?


UNIQUE?

HARDBOTTOMS…UNIQUE?

They are also Ephemeral

*Data available at: dep.state.fl.us/beaches

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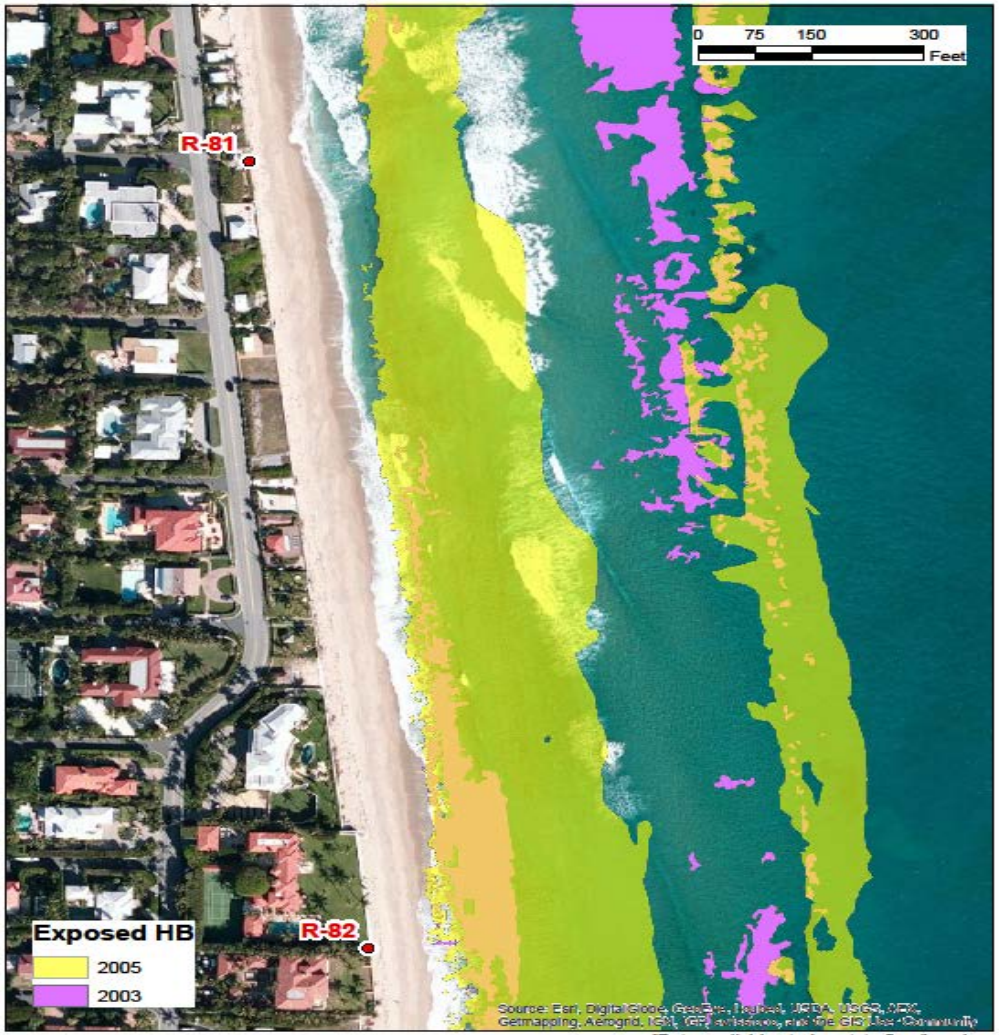

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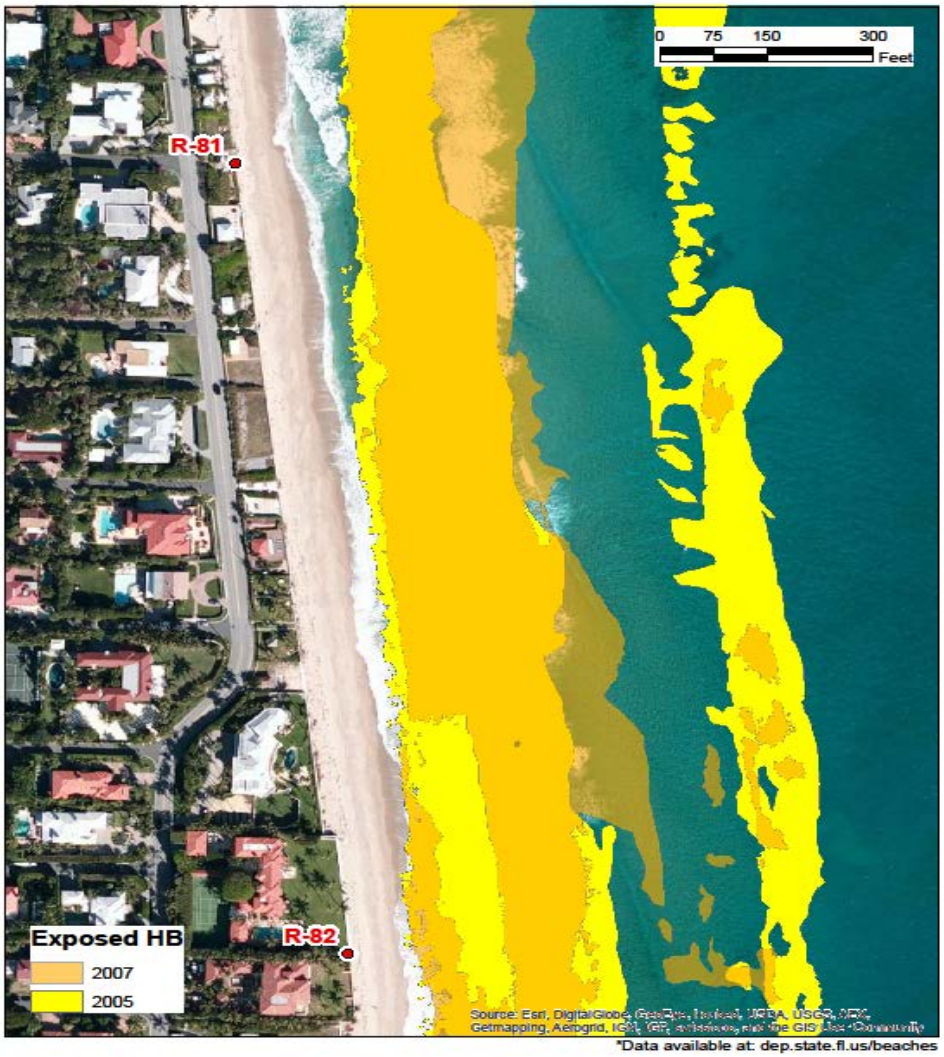

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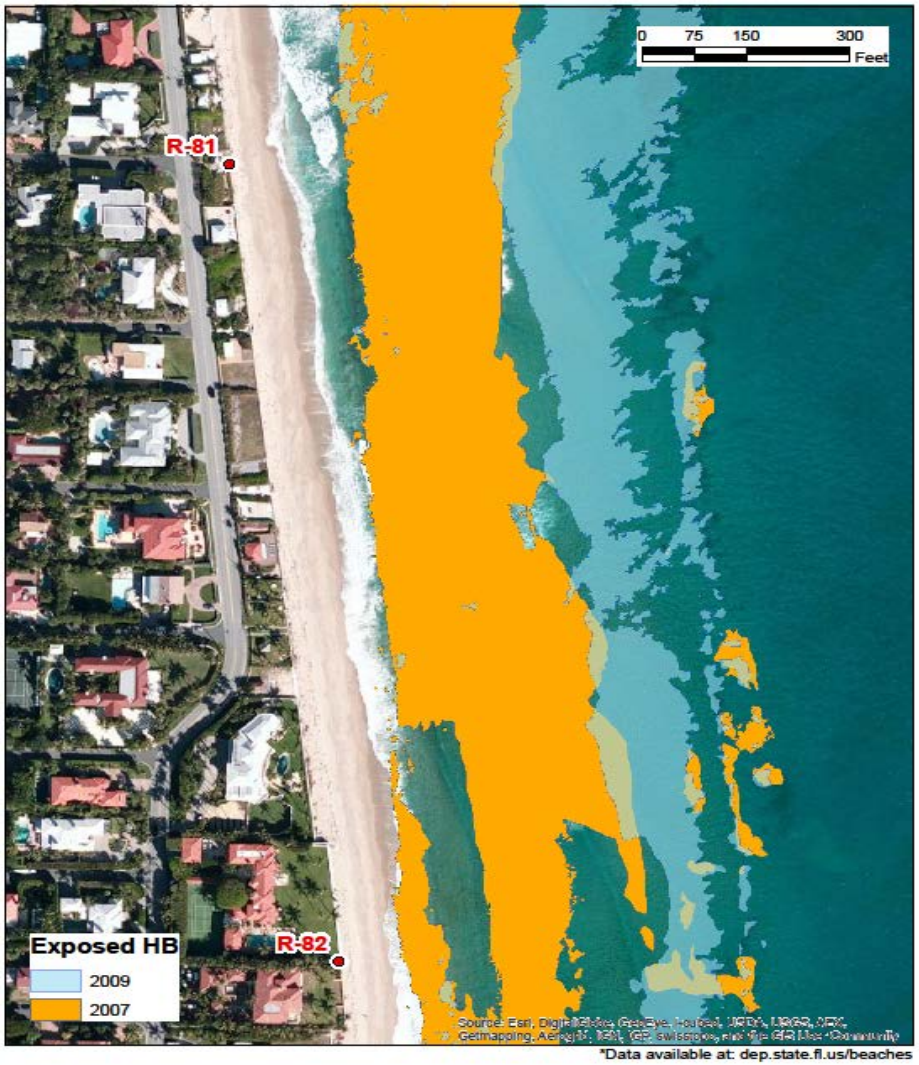

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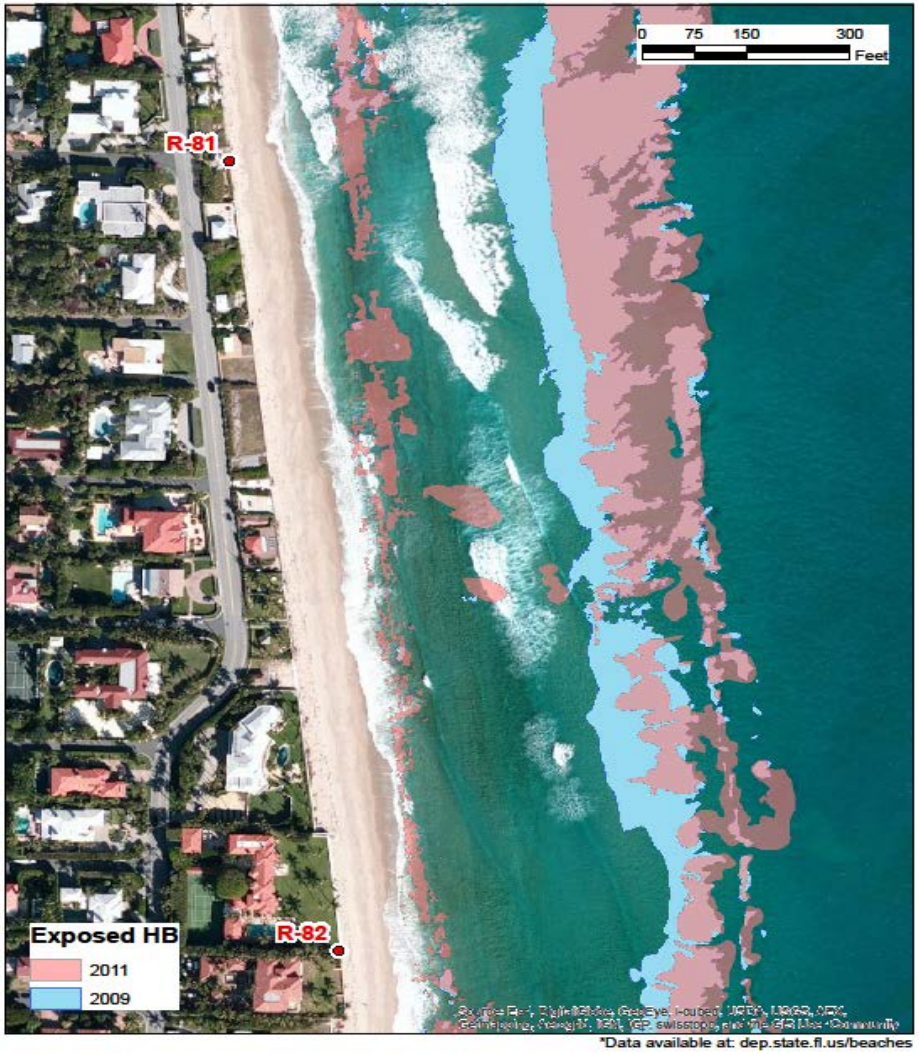

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CURRENT PRACTICES: A QUICK SYNOPSIS

APPLY FOR THE PERMIT:

Current practices require a beach nourishment proponent to approach the Regulatory Agencies with a plan to nourish.

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CURRENT PRACTICES: A QUICK SYNOPSIS

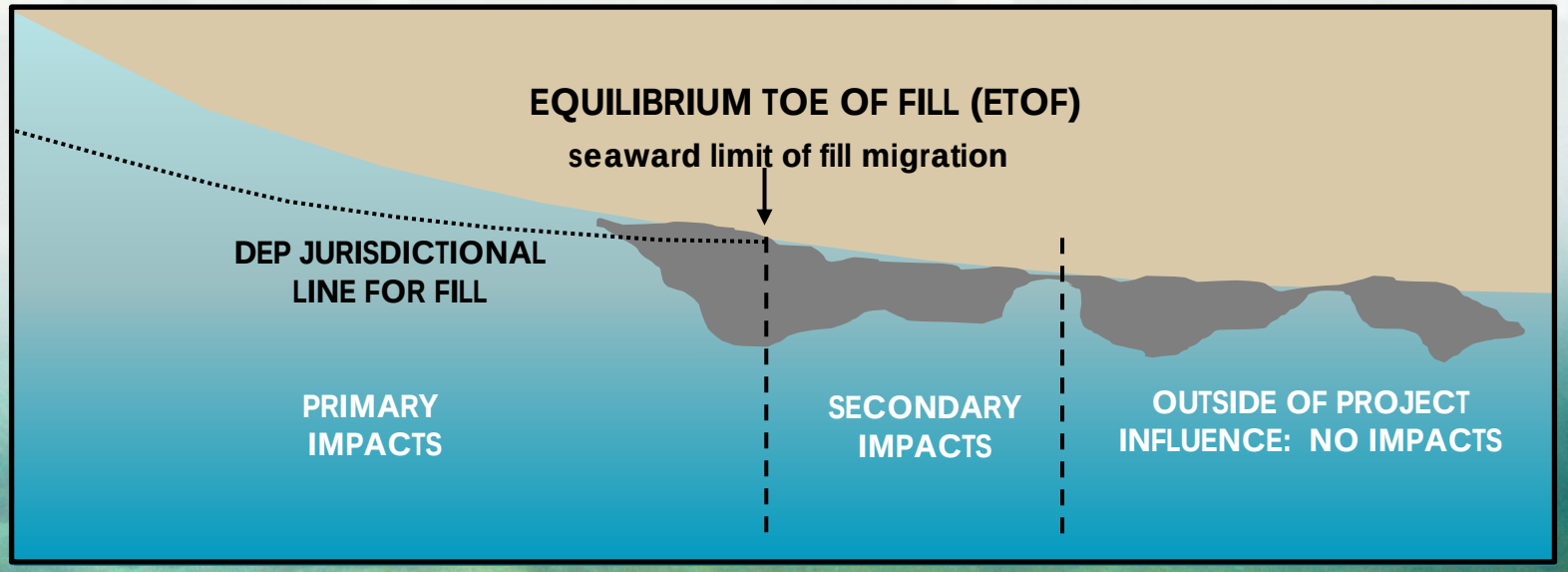
1) ASSESS THE IMPACT:

Demonstrate through a functional assessment the <u>primary and secondary</u> impacts

CURRENT PRACTICES: A QUICK SYNOPSIS

2) ASSESS THE IMPACT:

The results of this analysis will provide a functional deficit (a loss of habitat function) from the proposed project

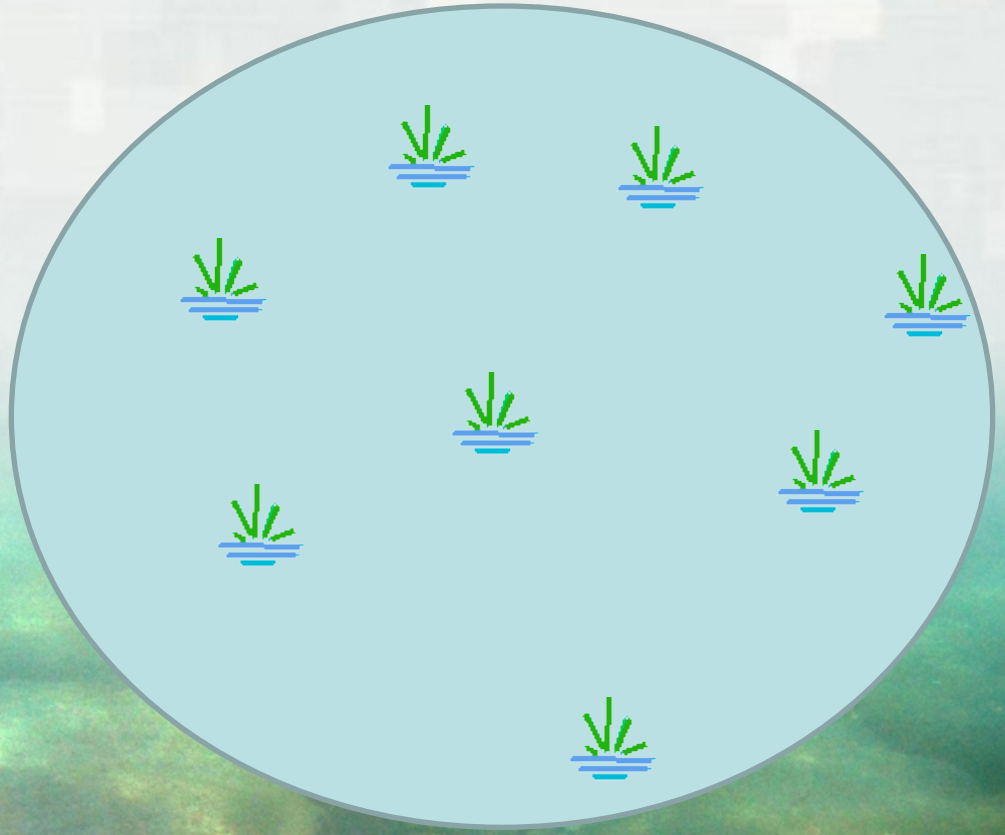


IMPORTANT: This primary and secondary analysis must be reviewed & approved by the Regulatory entity (they have the last word)

CURRENT PRACTICES: A QUICK SYNOPSIS

2) ASSESS THE IMPACT:

Secondary Impact Analysis



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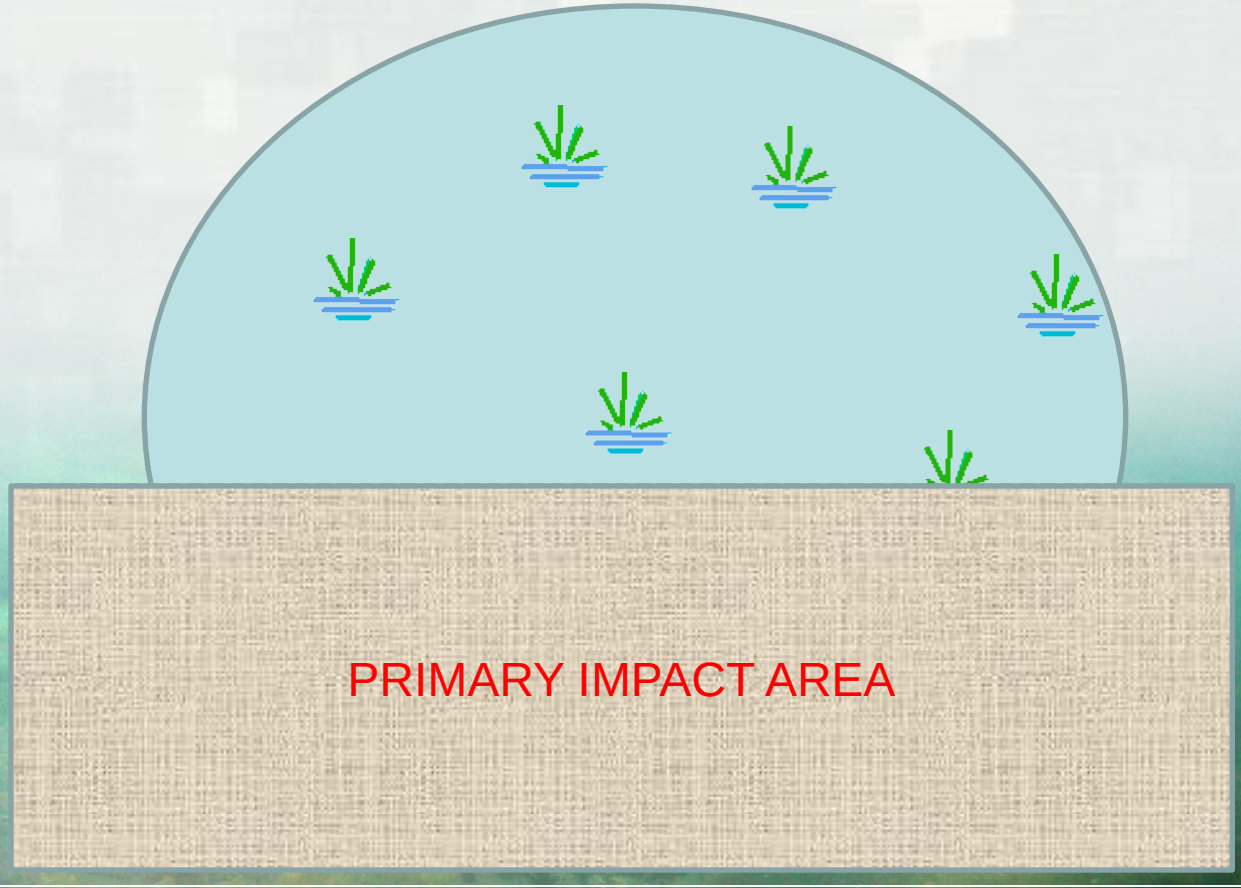

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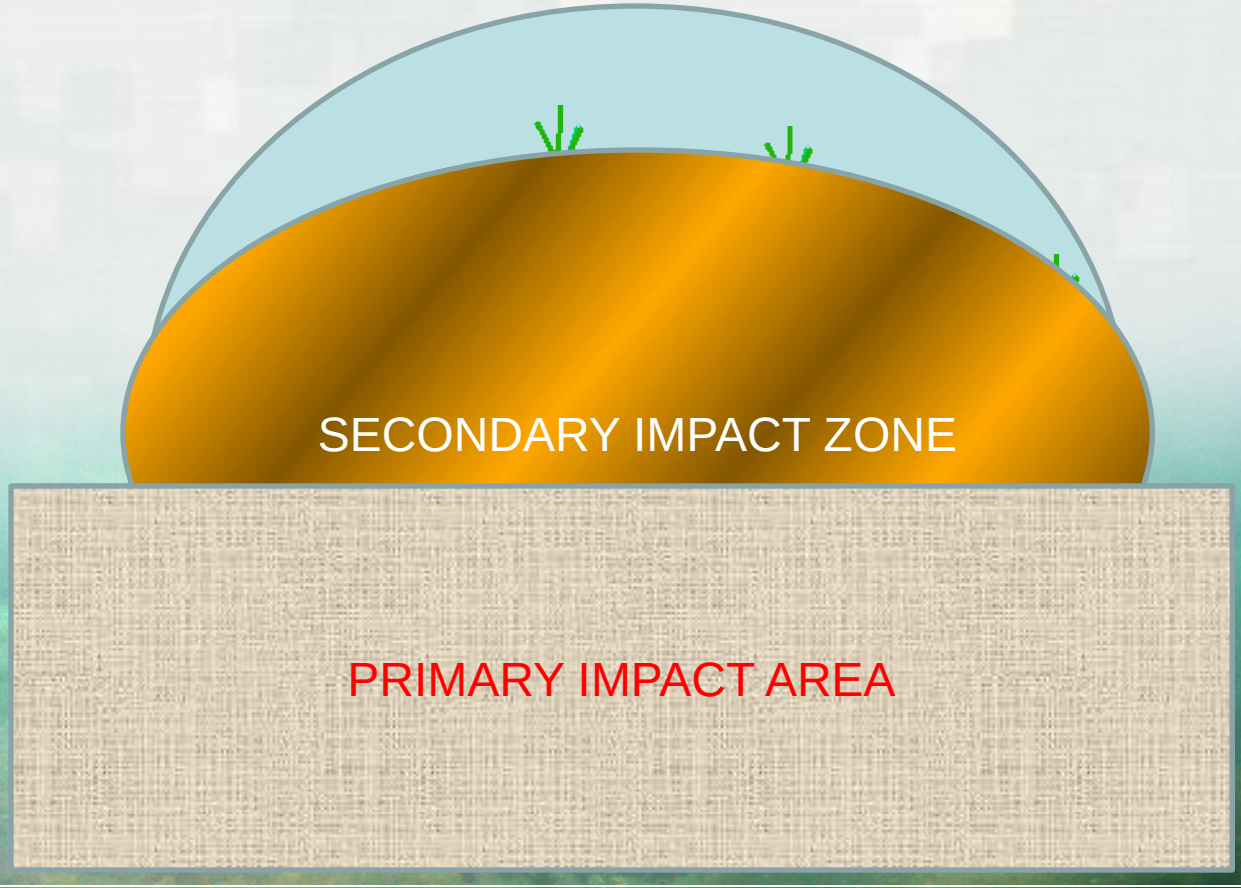

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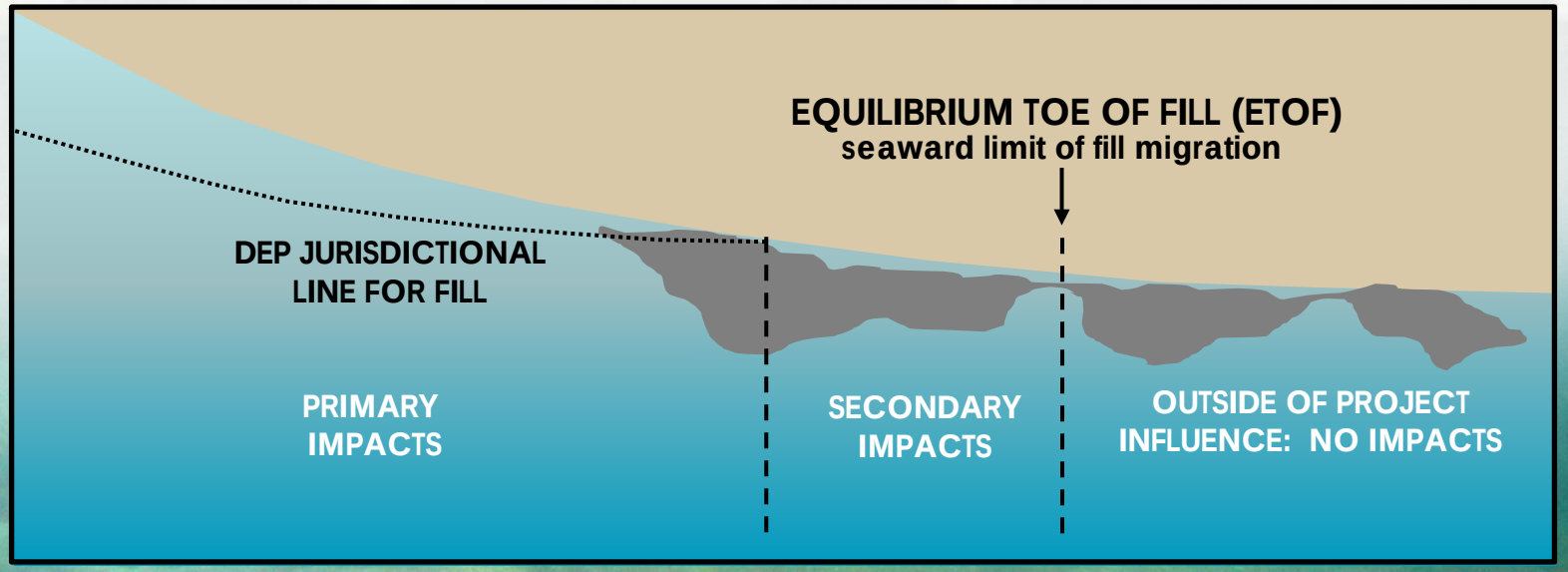

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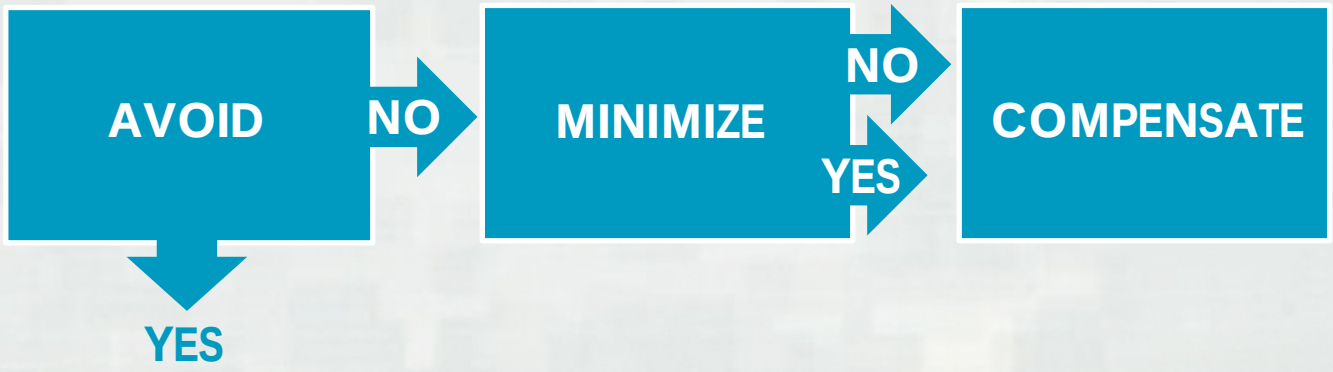
CURRENT PRACTICES: A QUICK SYNOPSIS

ADJUST PROJECT TO AVOID AND MINIMIZE POTENTIAL IMPACTS

REGULATORY SEQUENCING:



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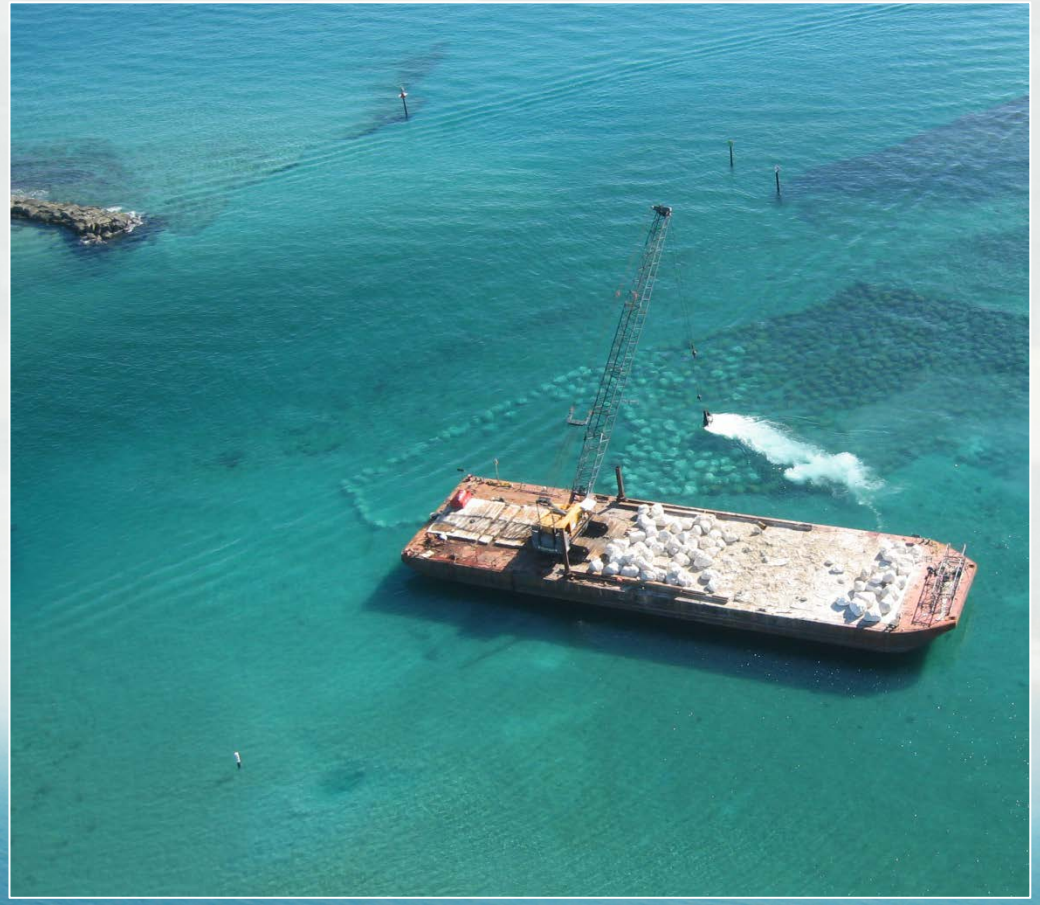

- **Mitigate for all unavoidable impacts**
- **Monitor the mitigation**

CURRENT PRACTICES: A FINAL SUMMARY

MONITOR FOR ACCURACY OF PREDICTED EQUILIBRIUM TOE OF FILL (ETOF)

1. Propose a project. Include solid calculations (the "what & how") to regulatory entities
2. Receive Authorization (permit) for volume & placement
3. Acquire and Expend Funds to build project as authorized in permit
4. Build the Project & submit compliance reports to regulatory entities

NOW you must perform physical and biological monitoring of the hardbottom area outside of the predicted impact area

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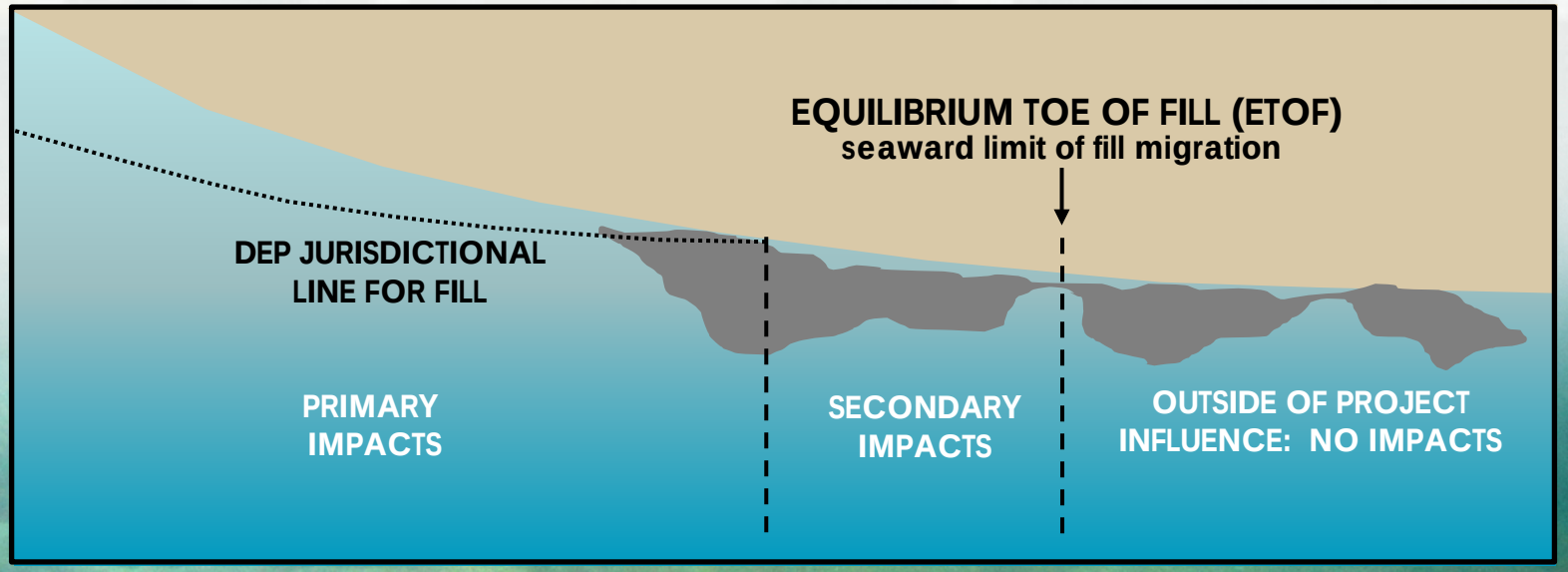
CURRENT PRACTICES: A QUICK SYNOPSIS

2) ASSESS THE IMPACT:

Secondary Impact Analysis



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WHERE THIS PROGRAM DIFFERS
FROM OTHER RESOURCE PROTECTION PROGRAMS

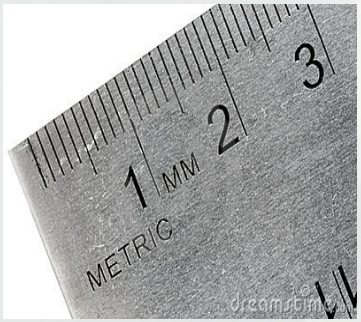
Few other resource protection program require you to:

Continue to affirm your predictions
(the predictions which were already affirmed through the regulatory community)

In such a detailed manner
(physical and biological monitoring protocols)

Within a known dynamic environment
with several outside variables

For multiple years
after the nourishment event



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THE CRUX OF THE ISSUE

We are trying to assure that the projects work as intended via physical and biological monitoring.

But we can't get there from here….

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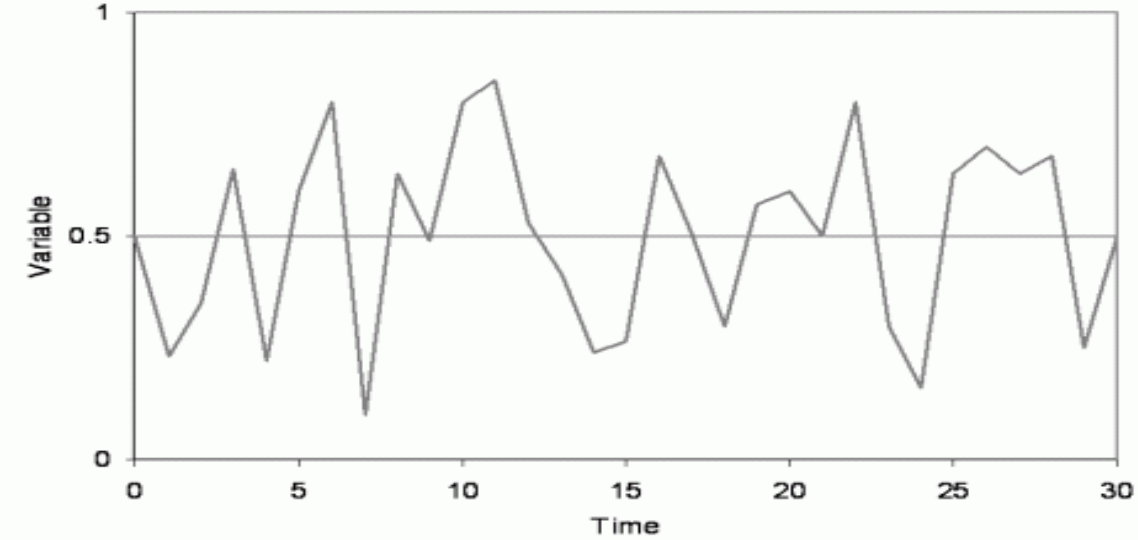
THE VALUE OF HARDBOTTOM PHYSICAL & BIOLOGICAL REQUIREMENTS

Reasons WHY Current Practices will NOT Work:

1. **Lack of accounting for known variability in the monitoring plans***



*L.K.B. Jordan et al/Marine Pollution Bulletin 60 (2010) 261-271

THE VALUE OF HARDBOTTOM PHYSICAL & BIOLOGICAL REQUIREMENTS

Reasons WHY Current Practices will NOT Work:

2. **Lack of Sufficient Baseline****

**Peterson, C.H., Bishop, M.J., 2005. Assessing the environmental impacts of beach nourishment. BioScience 55, 887–896

COSTS OF HARDBOTTOM PHYSICAL & BIOLOGICAL REQUIREMENTS

Approximate costs and expenditures of physical and biological monitoring (active beach nourishment projects):

PHYSICAL MONITORING	BIOLOGICAL MONITORING
$125,000 to $300,000/year	$350,000 to $500,000/year

MITIGATION CONSTRUCTION AND MONITORING
$675,000 to $1,000,000/acre

ALTERNATIVES TO THIS ADDITIONAL MONITORING

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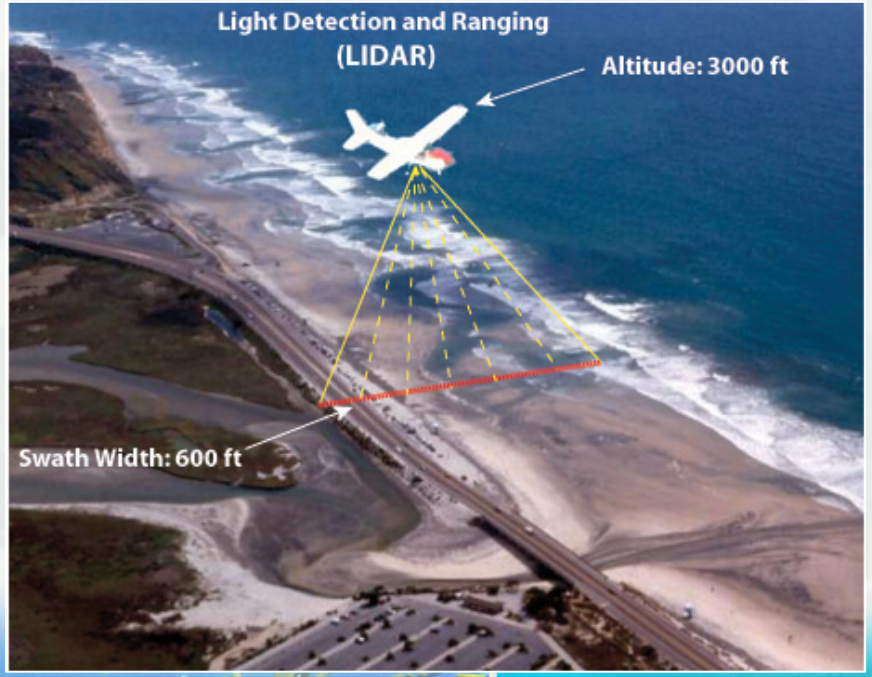
Idea 1: Re-examine Risk→ Enhance Mitigation

ALTERNATIVES TO THIS ADDITIONAL MONITORING

Idea 2: **Adopt Remote Sensing surveys - long spans, each year, during spring and fall. Combine with known meteorological data to determine coastal movements on scales better suited to beach management.**

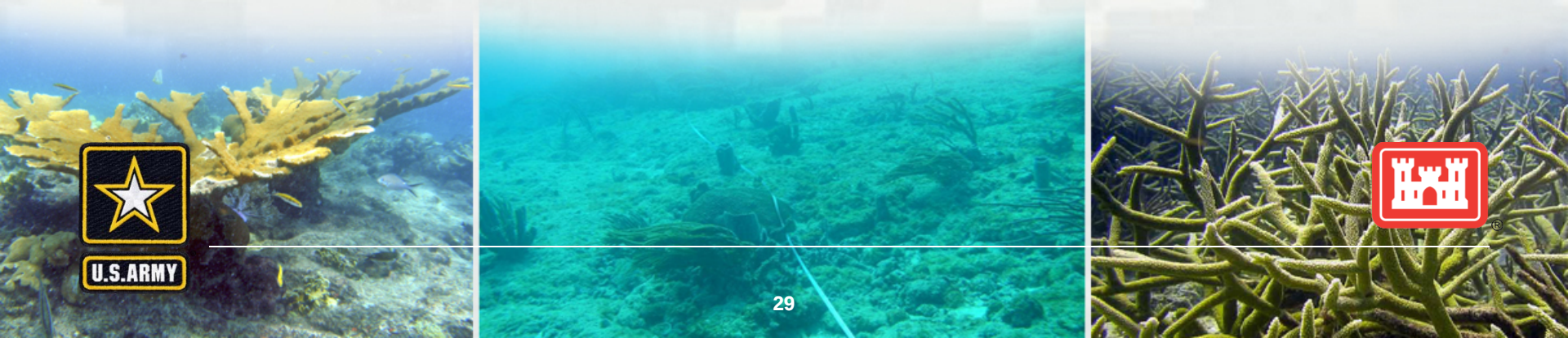


ALTERNATIVES TO THIS ADDITIONAL MONITORING

Idea 3: Use the FSBPA as a platform to develop a Task Force to examine the current monitoring program & develop alternative solutions

FLORIDA SHORE & BEACH PRESERVATION ASSOCIATION

A League of Cities and Counties on Beach and Coastal Issues



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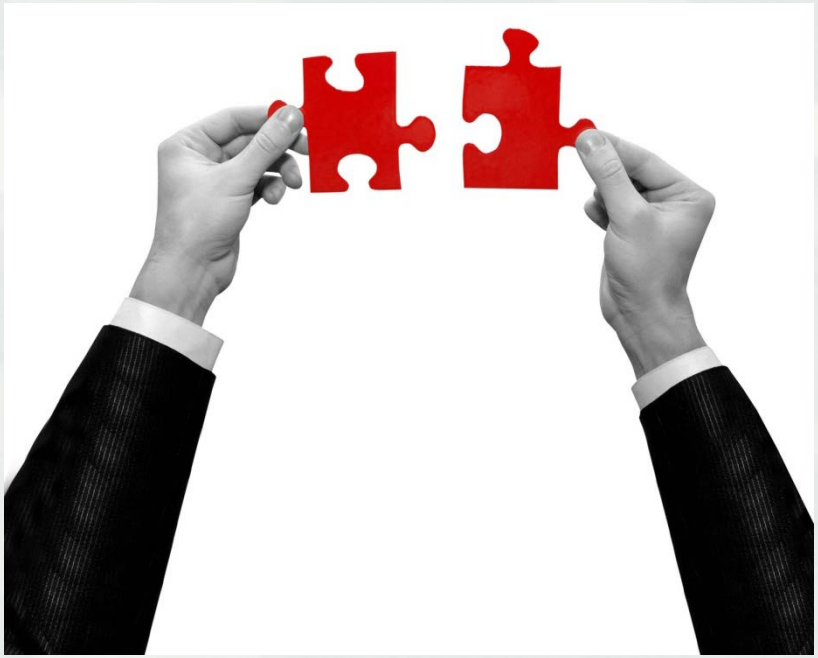

Idea 4: **A combination of all of the prior three ideas**

SUMMARY

Goals for Projects:

- A long design life
- With great profiles just as readily used by nesting turtles & piping plovers as by tourists & recreationalists
- Equally effective at protecting the coastal community as it is at ensuring the existing & continued proliferation of nearshore HB communities

THANK YOU!

#bethechange@fsbpa

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