USACE Threatened & Endangered Species Team (TEST) Approach:

ESA Section 7(a)(1)
&
Engineering With Nature

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USACE – ERDC, Environmental Lab.

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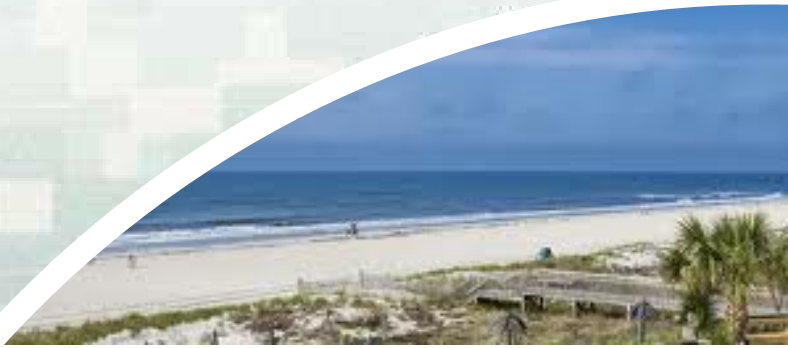
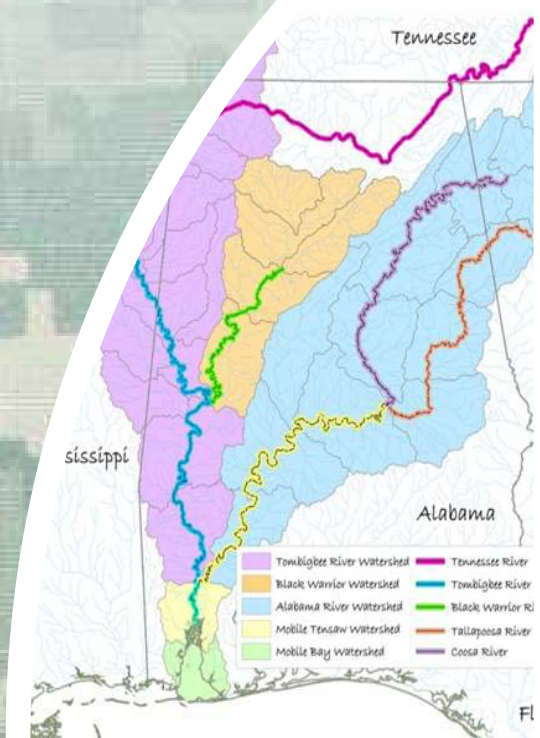
August 27, 2014





USACE Threatened & Endangered Species Team (TEST) Approach: ESA Section 7(a)(1) & Engineering With Nature

Webinar Outline

- USACE Threatened & Endangered Species Team (TEST)
  - Jennifer Gerhardt Smith
- Endangered Species Act (ESA) – Section 7 Conservation in the 21st Century
  - Paul Hartfield
- ESA Section 7(a)(1) & EWN – Advancing the USACE Approach
  - Jennifer Gerhardt Smith
- Questions & Discussion

USACE Threatened & Endangered Species Team (TEST)

- Purpose

  Accelerate the development of solutions to priority threatened and endangered species issues that will:

  - *Improve operational flexibility*
  - *Reduce future costs*
  - *Improve budget planning capabilities*
  - *Reduce adverse impacts to mission execution*
  - *Improve species conservation outcomes*

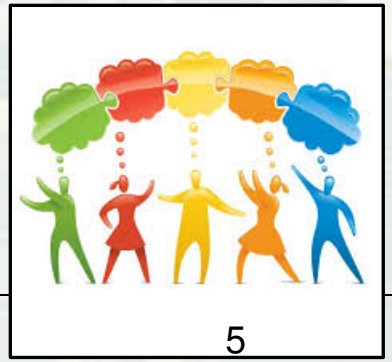
USACE Threatened & Endangered Species Team (TEST)

- Background
  - Scope of USACE Missions – Construction and O&M; unique, diverse & repeated activities, distant out-year budgeting, increasing demand
  - Species distributions and life history – Wide ranges, complex trophic interactions, varied effects knowledge sets, characterizations, and 7(a)(2) outcomes.
  - USACE ESA Section 7 Conservation
    - 400+ projects
    - 450+ species

  - Posture
    - Reactionary
    - Resource constrained
    - Lacking scientific evidence for effects assessments
    - Accustomed to confrontational consultation
    - Without a strategic, corporate approach for addressing TES issues and mission impacts.

USACE Threatened & Endangered Species Team -TEST
Advancing the USACE Approach

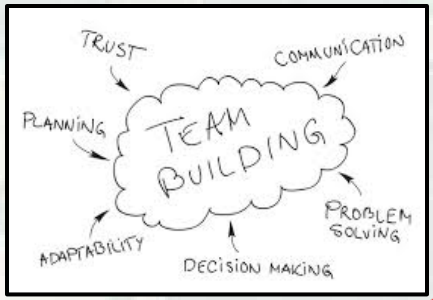
- "**T**" in TES**T**
  - HQ - Mr. Joe Wilson, Coordinating Lead; Legal, Business Line Leaders, Others
  - MSC & District Chiefs and T&E Leads
  - ERDC - Dr. Todd Bridges, ST; Ms. Jennifer Gerhardt Smith, Coordination; and Subject Matter Experts (SMEs) across labs
  - District Staff – Project Managers, SMEs
  - Additional USACE Resources – IWR, Military Programs T&E SMEs, others
  - Resource Agencies, Industry, Academia, Other Stakeholders



USACE Threatened & Endangered Species Team -TEST
Advancing the USACE Approach

- Goals
  - Develop, sustain organizational capability and technical team
  - Address priority, resolvable issues; ROI
  - Provide evidence-based science, methods, and support
  - Develop, deploy solutions
  - Support implementation, measure effectiveness, evolve strategies
  - Document, transfer, and utilize lessons learned → multiply benefits.

- Requirements for TEST: Identify – Develop – Implement – Transfer
  - Focused, cooperative participation across USACE
  - Resource leveraging, innovative financing
  - Collaboration with external partners, stakeholders
  - Adaptation, communication, transfer



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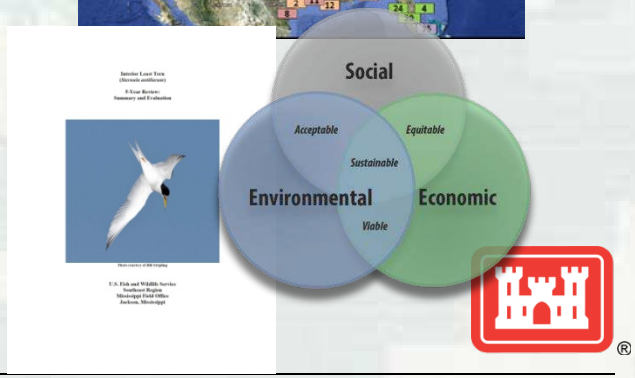
USACE Threatened & Endangered Species Team -TEST
Advancing the USACE Approach – Initial Activities (Sample)

- TEST Strategy Development, Awareness, Initial Collaborations
- Issue Identification, Action Planning and Decision Support Tools
  - Mission Vulnerabilities
  - Effects Risk Assessments and Trade-Off Analyses
- Proactive Assessment of Potential Impacts – Upcoming ESA Listings
- Support to ILT 5-year Review & Delisting
- Invigorating Collaboration w/USFWS, Region 4
- ESA Compliance Opportunity Assessments
  - Applying Engineering With Nature
  - Integrating Section 7(a)(1)



SECTION 7 CONSERVATION

Interagency Cooperation in the 21st Century

Paul Hartfield
U.S. Fish and Wildlife Service
Mississippi Field Office
Jackson, Mississippi

Advancing the USACE Approach

Integrating
Section 7(a)(1) and Engineering With Nature (EWN)
into
Section 7 Practice

Why??

How??

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- WHY 7(a)(1)??
- Question:

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- WHY 7(a)(1)??
- Question:

Is 7(a)(2) Standard Practice Working?

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- WHY 7(a)(1)??
- Question:

Is 7(a)(2) Standard Practice Working?

Michellewelti.blogspot

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- WHY 7(a)(1)??
- Question:

Is 7(a)(2) Consultation Working?

USACE Perspective

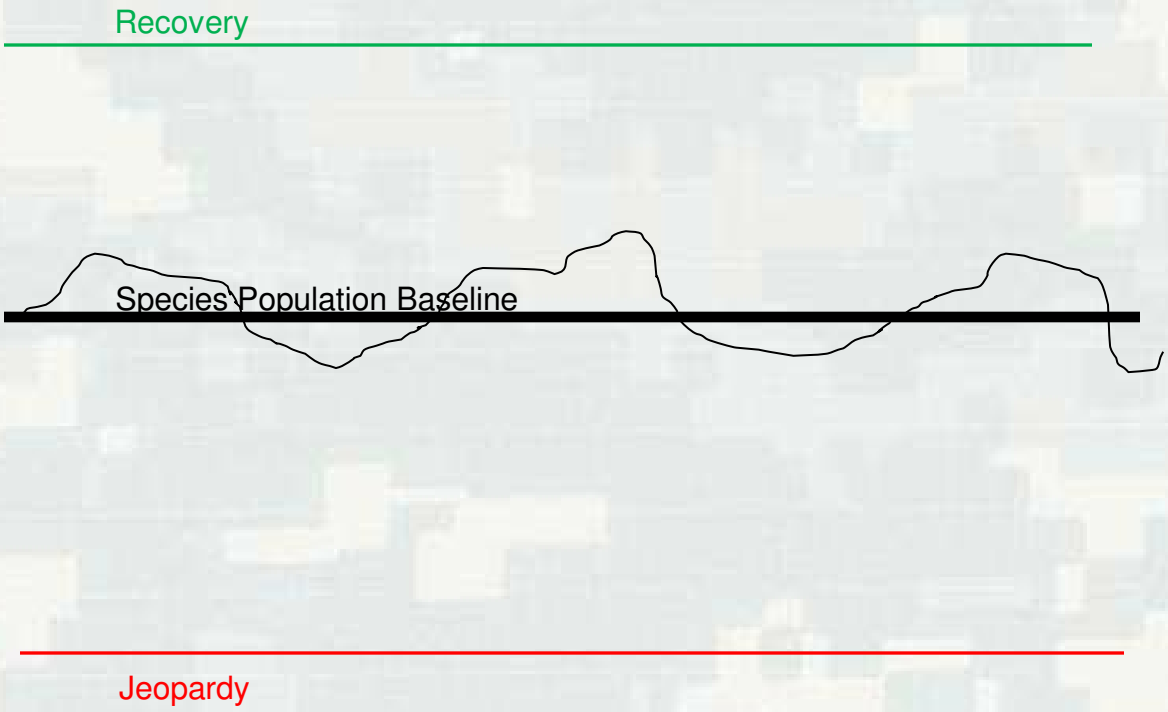
- The job gets done, but it
  - Took more time
  - Cost more money
  - Got pushed to a time when we couldn't do beneficial use of material
  - Had to shut down operations and restart
- Frustrated with being "told" what to do – not reasonable, no authority, no $.
- Always in defensive mode.

- Resource Agencies Perspective
  - Little recovery achieved – "permitting"
  - Objectives unfulfilled, frustrated

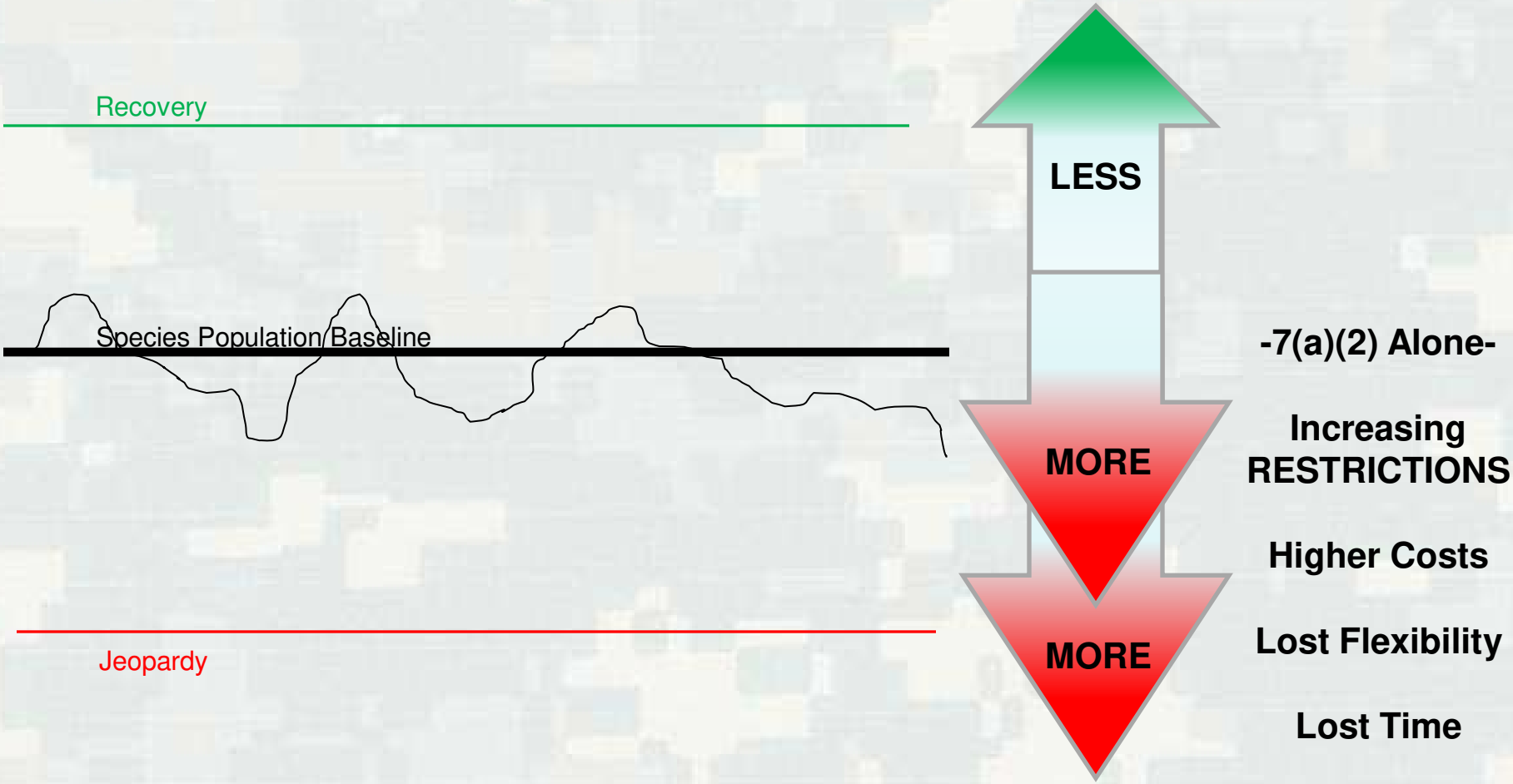
Integrating Section 7(a)(1) & EWN into Section 7 Practice

- WHY 7(a)(1)??
- Puts USACE in the drivers seat – We CAN do THESE THINGS….
- Facilitates positive agency collaboration and leveraging with stakeholders, justifications for resource requests
- Allows USACE to present actions from a beneficial perspective
- Works towards improvements to the species baseline…

WHY 7(a)(1)??
Improvements to the Species Baseline



WHY 7(a)(1)??
Improvements to the Species Baseline



BUILDING STRONG®

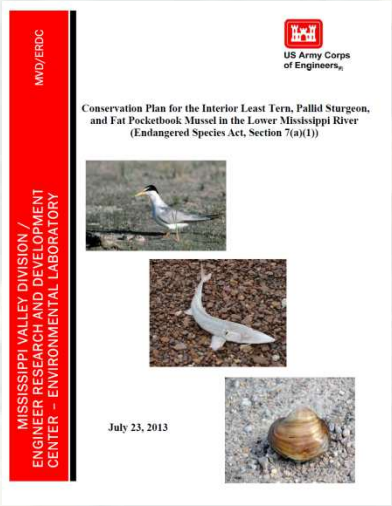
WHY 7(a)(1)??
Improvements to the Species Baseline

BUILDING STRONG®

What does a 7(a)(1) Plan Contain?

- Flexible - Few exist; No written guidance or standards
- Can be a stand-alone 7(a)(1) -or- built upon BA or other docs
- Can incorporate current BMPs, not all MCMs must be novel.

1) Environmental Setting of Project/Program – Geo/Hydrology/Habitat
2) Description of Authorized Project – Broad and Specific Features
3) T&E Species - General Info:
    - ► Range, Life History Details (breeding, migration patterns)
4) Environmental Baseline
    - ► Historical & Current – Across Range
    - ► ALL factors affecting species (*not just USACE actions)
5) Effects of Project/Program on Subject T&E Species
    - ► Understanding Baseline in Action Area(s)
    - ► Strategies & Actions
        - Avoidance and Minimization
        - Collaborative Partnerships (knowledge building, monitoring, adaptation)
        - Management and Conservation Measures (MCM) & Features
        - Monitoring/Research – To inform/improve activities/outcomes

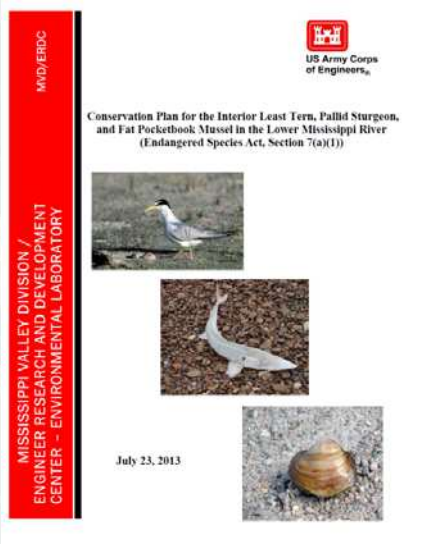


Integrating Section 7(a)(1) & EWN into Section 7 Practice
Engineering With Nature

Example Strategies & Actions

(Highly-abridged and simplified from the LMR CIP)

http://www.fws.gov/mississippies/pdf/LMR%20Conservation%20Plan%20Final%20USACE%20CIP%2023%20July%202013.pdf



Example Strategies & Actions

(Highly-abridged & simplified versions - From the LMR CIP)

- **Strategy – Avoid adverse impacts directly associated with project actions**
  - Action - Comply with timing restrictions when appropriate and/or possible
  - Action - Avoid closure of secondary channels (i.e. retain connectivity)

- **Strategy – Develop Construction and O&M practices that support growing environmental benefits AND that are sustainable over time.**
  - Action - Utilize chevrons instead of dikes where appropriate
  - Action - Reuse large woody debris removed from dikes/levees to provide habitat diversity in-channel.

- **Strategy - Develop collaborative partnerships and cost-effective monitoring programs, as funding allows, to…document species response.**
  - Action - Collaborate w/partners to capitalize/grow knowledge, evolve approaches
  - Action - Utilize surrogate species for monitoring

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- HOW??

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- HOW??

1) **Understand** the Baseline and Action Effects – Positive **&** Adverse

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- HOW??

1) **Understand** the Baseline and Action Effects – Positive **&** Adverse
2) Research the **Critical** Unknowns
    - Population Status, Ecology
    - Inter-relationship b/w actions and species outcomes
    - What do we need to know **now** to improve mission sustainability →?

Integrating Section 7(a)(1) & EWN into Section 7 Practice

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Integrating Section 7(a)(1) & EWN into Section 7 Practice

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3) Plan & Implement **Strategies** for Avoidance & Minimization
4) Build in Environmental **Benefits** – Habitat Improvements, Collaborations
    - Project Design
        - Serving life history needs
        - Natural and nature-based features
    - Construction and O&M techniques
        - Ex. BU of DM, fish migration lockages
        - Using natural processes

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- HOW??

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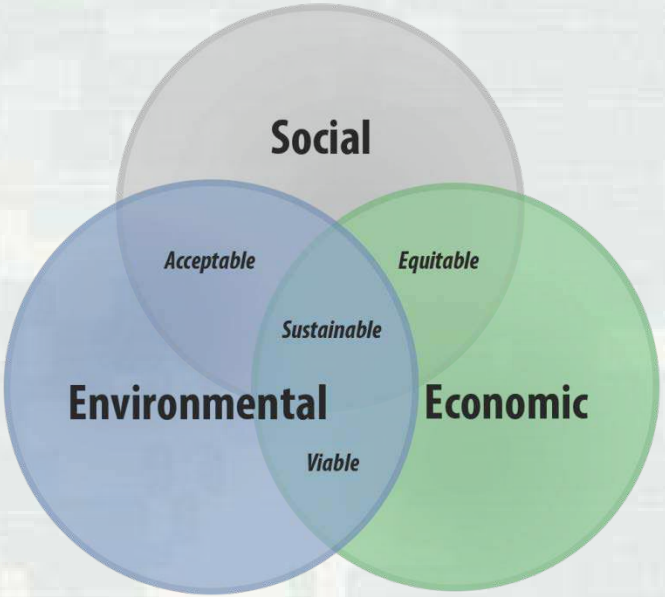
Integrating Section 7(a)(1) & EWN into Section 7 Practice Engineering With Nature

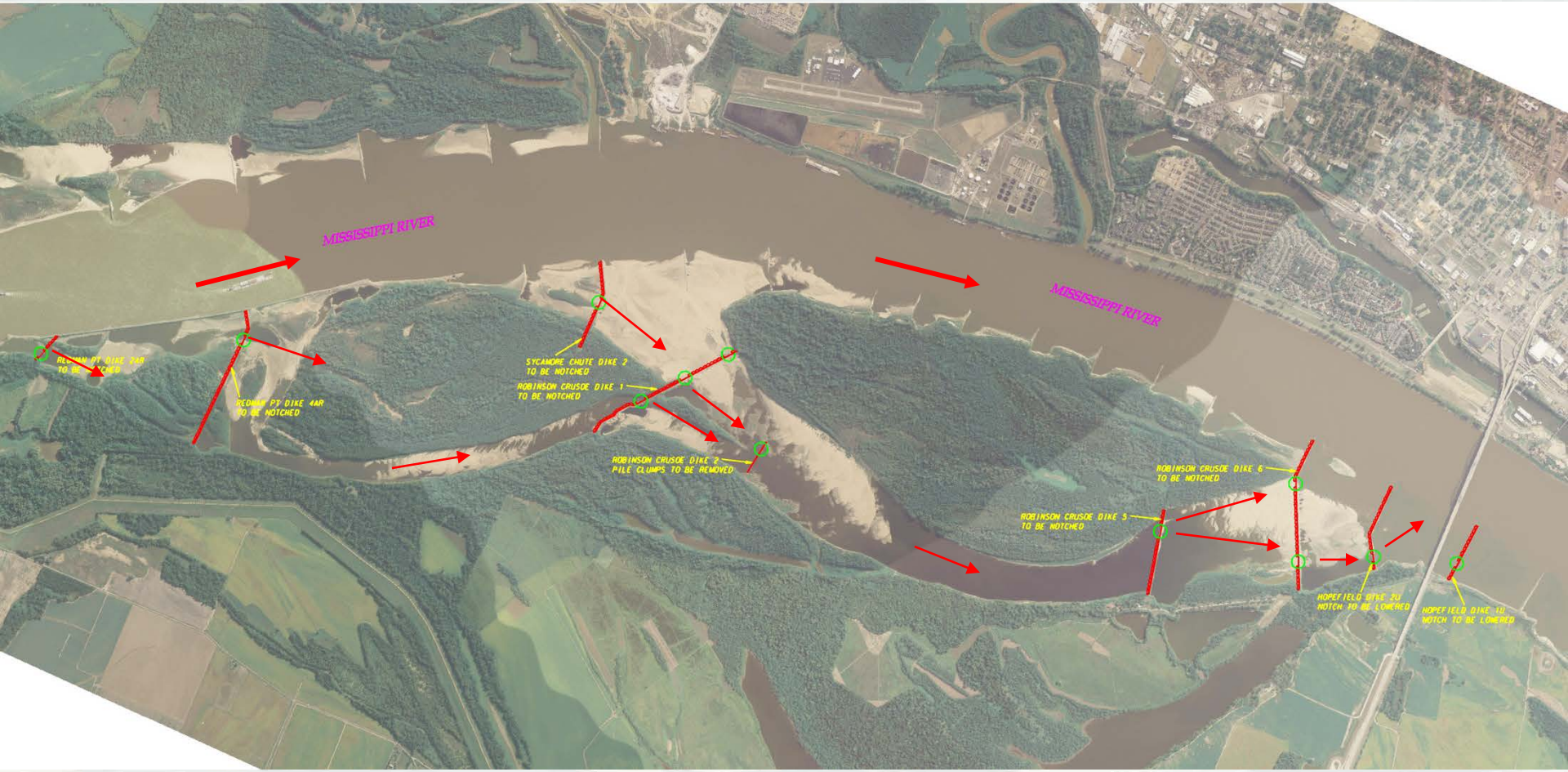
Engineering With Nature (EWN) ***…the intentional alignment of natural and engineering processes to efficiently and sustainably deliver economic, environmental and social benefits through collaborative processes.***

Key Elements:

- Science and engineering that produces operational efficiencies, supports sustainable delivery of benefits.
- Using natural processes, reducing resource demands, minimizing project footprints, enhancing quality of benefits
- Broaden and extend the benefits provided – “triple-win”
- Uses science-based collaborative processes to organize and focus interests, and reduce friction and delays



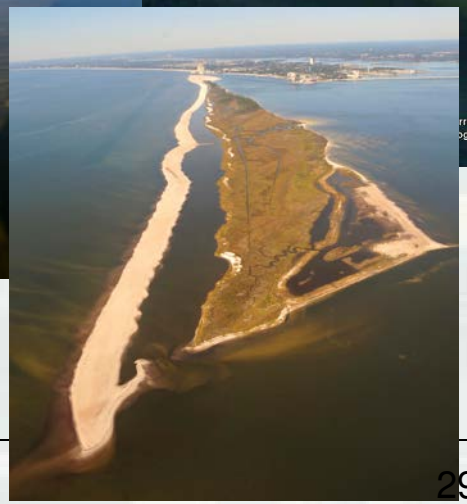
ESA Section 7(a)(1) Conservation
Examples of EWN Measures & Features



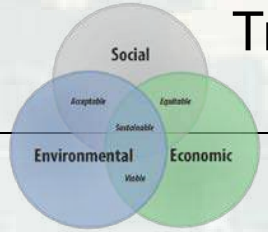
Loosahatchie Bar Aquatic Habitat Rehabilitation

ESA Section 7(a)(1) Conservation
Examples of EWN Measures & Features

Loggerhead Sea Turtle Nest



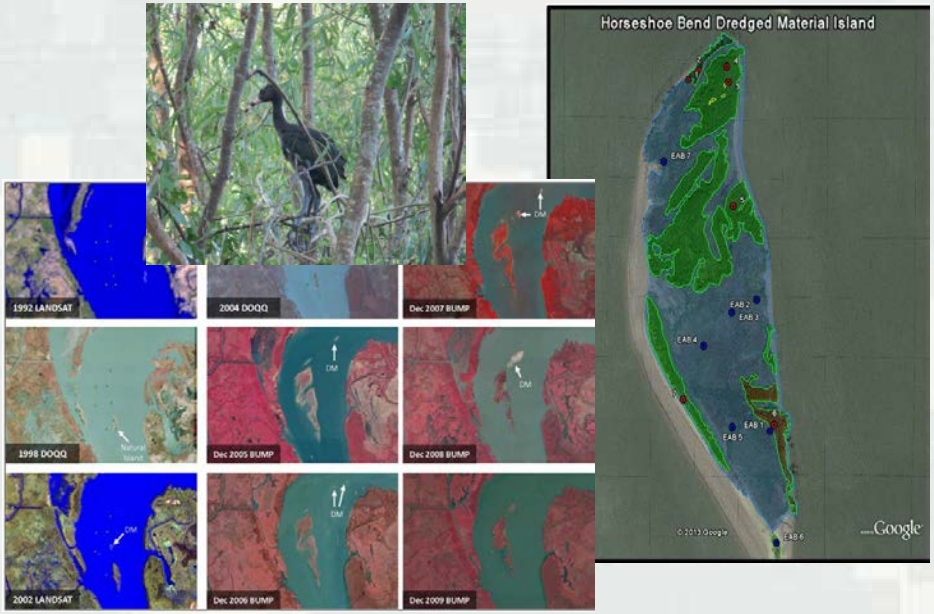
Deer Island
Aquatic Ecosystem Restoration
Triple-Win!!!



ESA Section 7(a)(1) Conservation
Examples of EWN Measures & Features

Upper Mississippi River Training Structures: Chevrons

Uses natural processes & supports sustainable delivery of broader benefits

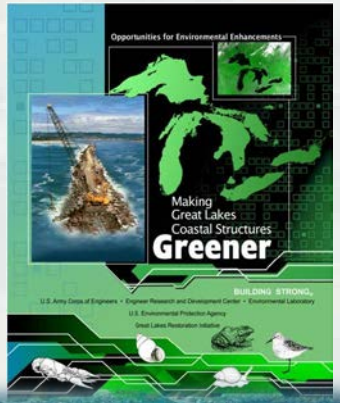


Horseshoe Bend Atchafalaya River: Beneficial Use of Dredged Material

Ongoing monitoring and analyses to improve understanding of natural processes for sustaining benefits and transferring practice

ESA Section 7(a)(1) Conservation
Examples of EWN Measures & Features

Nesting & Rearing Habitat



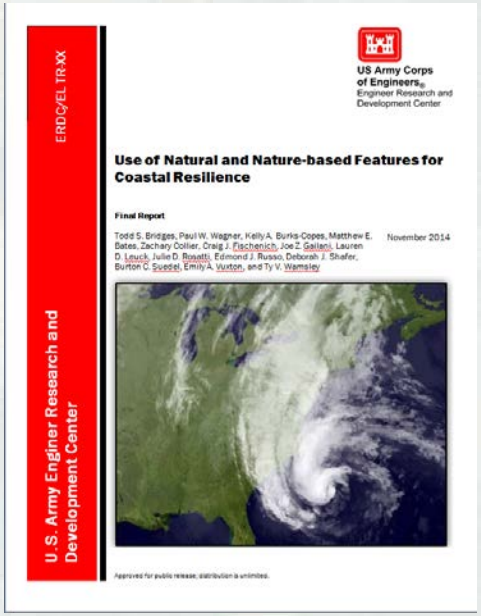
Collaborative Scoping
Cost-Sharing

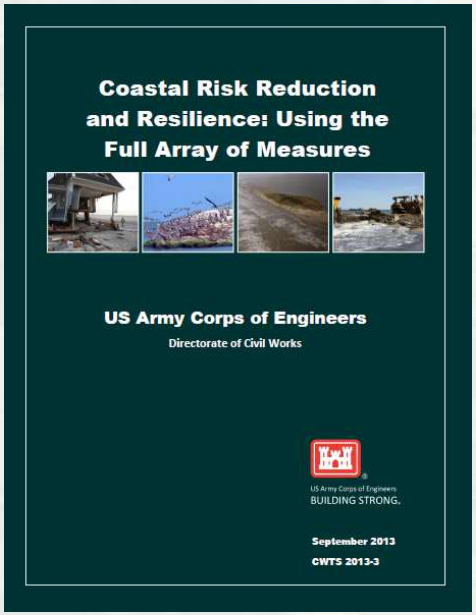
Colonization
Foraging Habitat

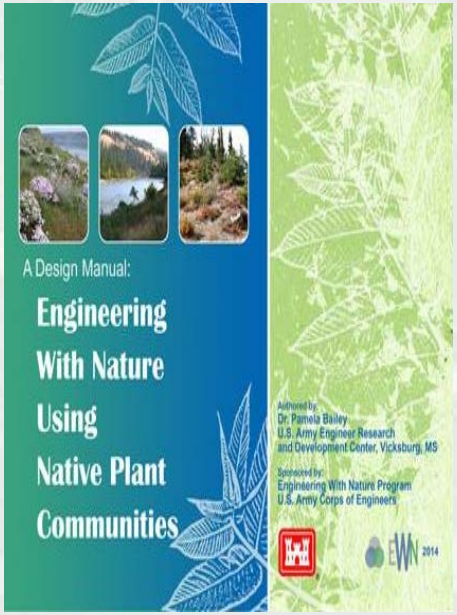
Cooperative Monitoring
Adaptive Management

Ashtabula Breakwater Maintenance & Repair

ESA Section 7(a)(1) Conservation
Examples of EWN Resources







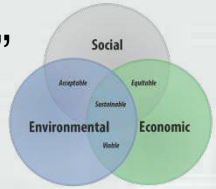
"The USACE planning approach supports an **integrated approach** to reducing coastal risks and increasing **human and ecosystem** community resilience through a combination of **natural, nature-based, non-structural and structural measures.** This approach considers the engineering attributes of the component features and the dependencies and interactions among these features over both the short- and long-term. It also considers the **full range of environmental and social benefits** produced by the component features."

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- Why?
  - ~$300M T&E expenditures per year; Inefficiencies
  - Unrealized potential to expand benefits; improve mission sustainability
  - Increase Value to the Nation

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- Why?
  - ~$300M T&E expenditures per year; Inefficiencies
  - Unrealized potential to expand benefits; improve mission sustainability
  - Increase Value to the Nation through “triple-wins”



- How?
  - Explore Opportunities for Integrating 7(a)(1) into Section 7 Practice
  - Implement Engineering With Nature to maximum extent; Add benefits

www.engineeringwithnature.org

Integrating Section 7(a)(1) & EWN into Section 7 Practice

- POCs for this Webinar
  - USFWS – Mr. Paul Hartfield & Mr. Stephen Ricks
    - paul_hartfield@fws.gov
    - stephen_ricks@fws.gov
  - USACE – Dr. Todd Bridges, ST & Ms. Jennifer Gerhardt Smith
    - todd.s.bridges@usace.army.mil
    - jennifer.m.gerhardt-smith@usace.army.mil

USACE Threatened & Endangered Species Team (TEST) Approach: ESA Section 7(a)(1) & Engineering With Nature

Thank you!!!

Questions???

USACE Threatened & Endangered Species Team (TEST) Approach: ESA Section 7(a)(1) & Engineering With Nature

What do you see as opportunities or challenges associated with pivoting from an emphasis on 7(a)(2) to 7(a)(1)?