Engineering With Nature Geographic Project Mapping Tool (EWN ProMap)

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US Army Corps of Engineers

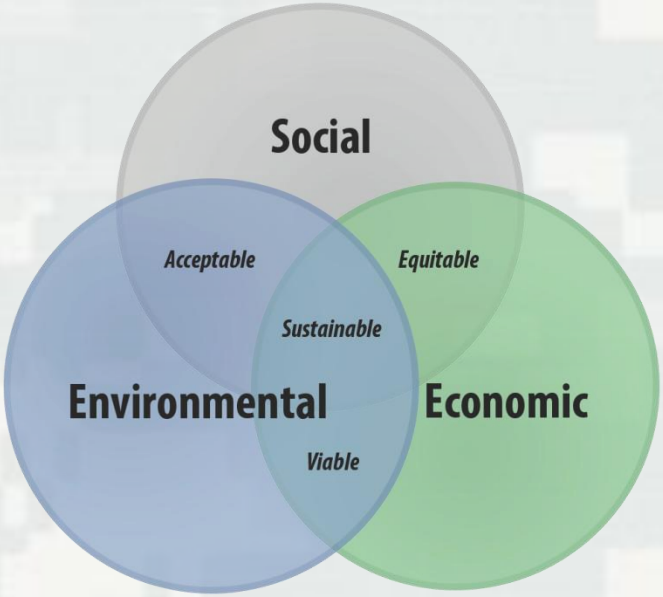
ERDC Engineer Research and Development Center

Engineering With Nature (EWN) is…

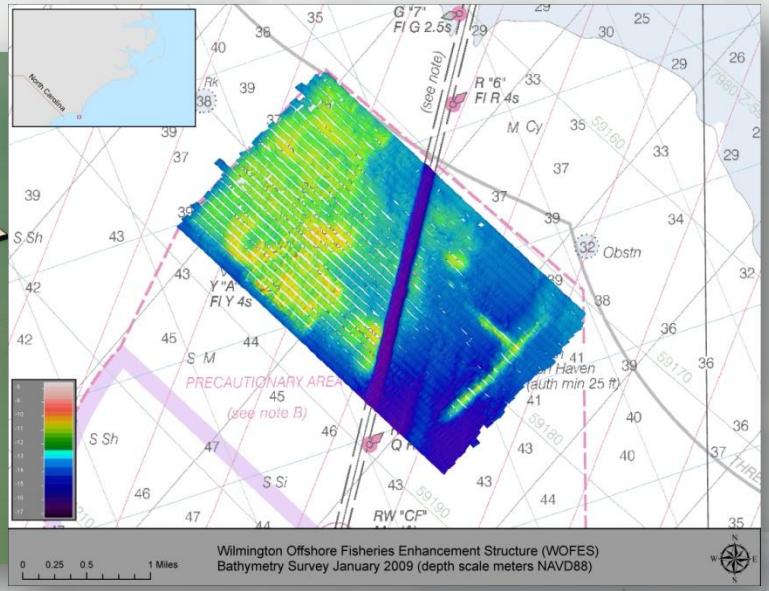
…the intentional alignment of natural and engineering processes to efficiently and sustainably deliver economic, environmental and social benefits associated with water resource infrastructures through collaborative processes.

Key Elements:

- Science and engineering that produces operational efficiencies
- Using natural processes to maximum benefit
- Broaden and extend the benefits provided by projects
- Science-based collaborative processes to organize and focus interests, stakeholders, and partners



Opportunities/Existing Examples



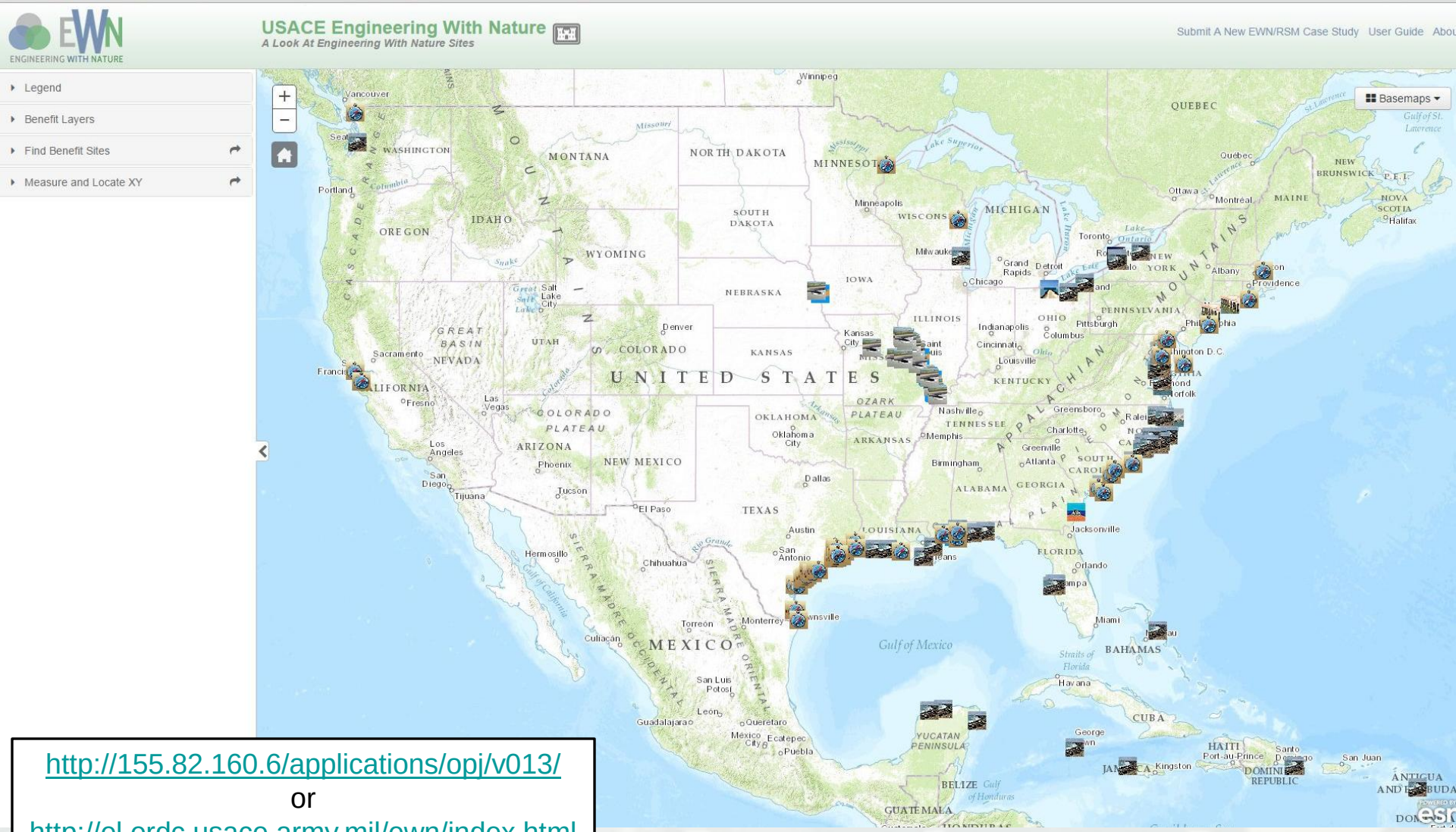
U.S.ARMY

EWN

ERDC

EWN Project Mapping Tool

- Interactive on-line catalog of case studies that apply the EWN concept.

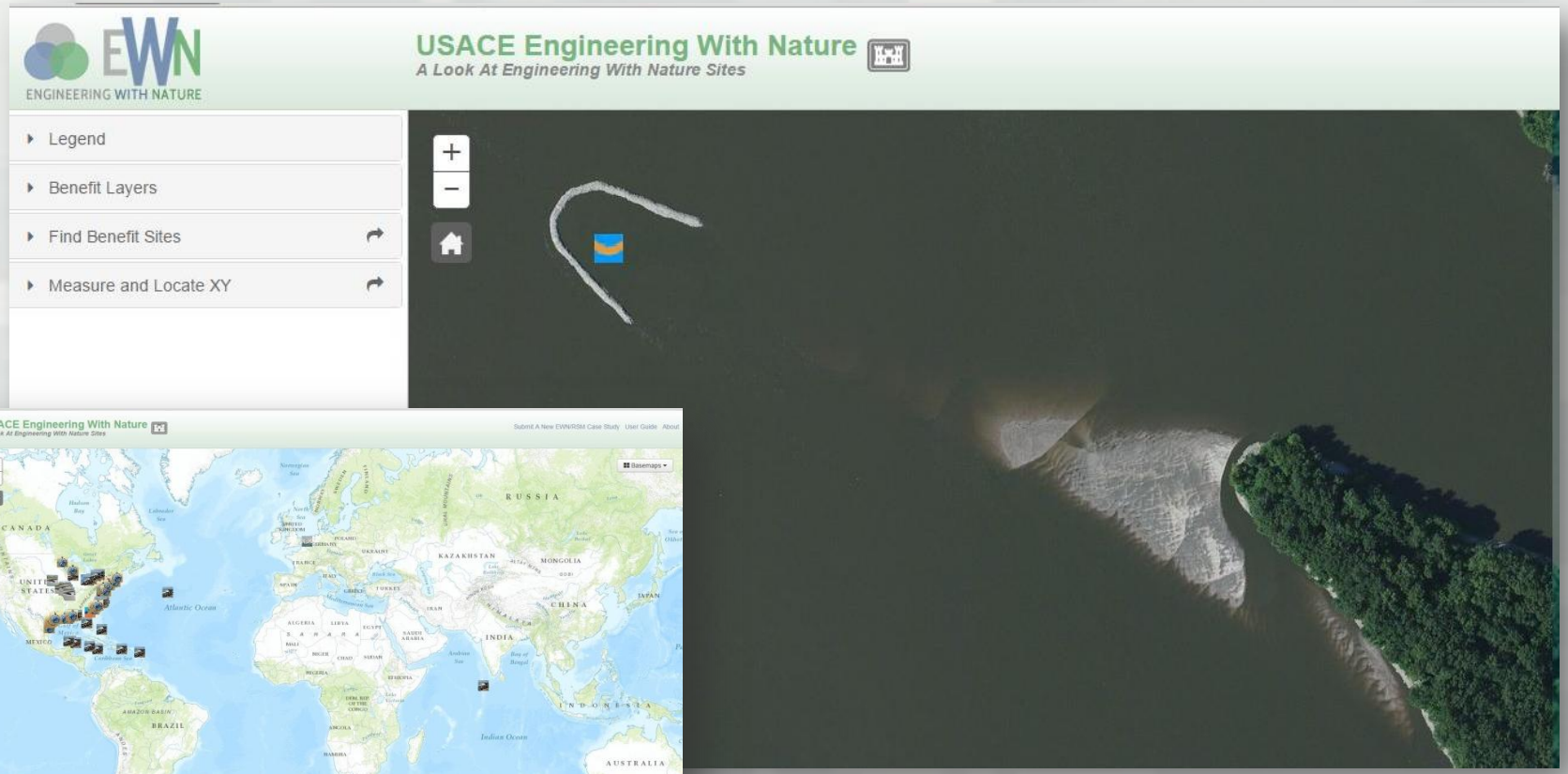


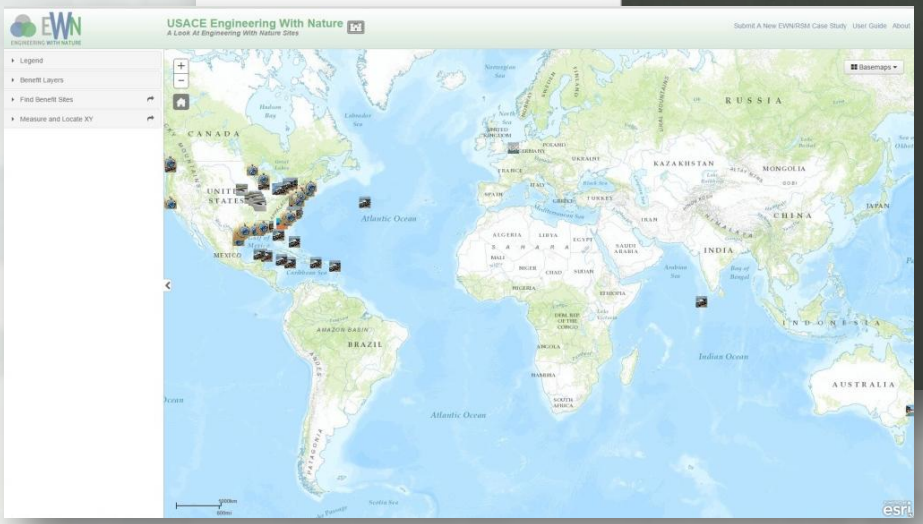
http://155.82.160.6/applications/opj/v013/
or
http://el.erdc.usace.army.mil/ewn/index.html

ProMap Specifications

- Previously based on:
  - Esri's ArcGIS Application Programming Interface (API) for Flex 3.0
  - ArcGIS Online
- Currently based on:
  - HTML5/CSS/JavaScript architecture
  - ArcGIS Portal
  - Better Photo & Document Capabilities
  - Greater Collaboration Options
  - Easier Maintenance

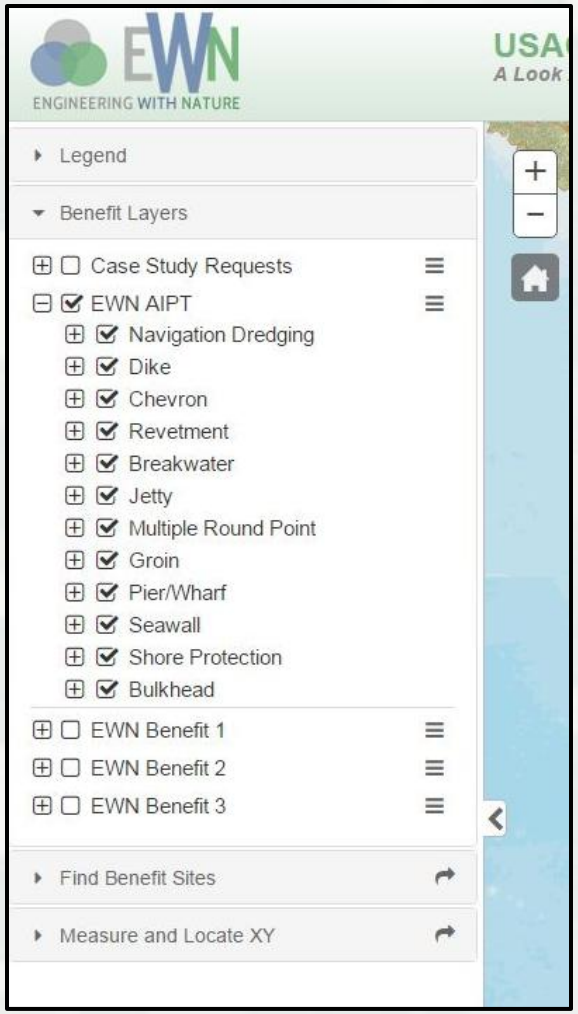
ProMap Spatial Scale





- Global to Project Site

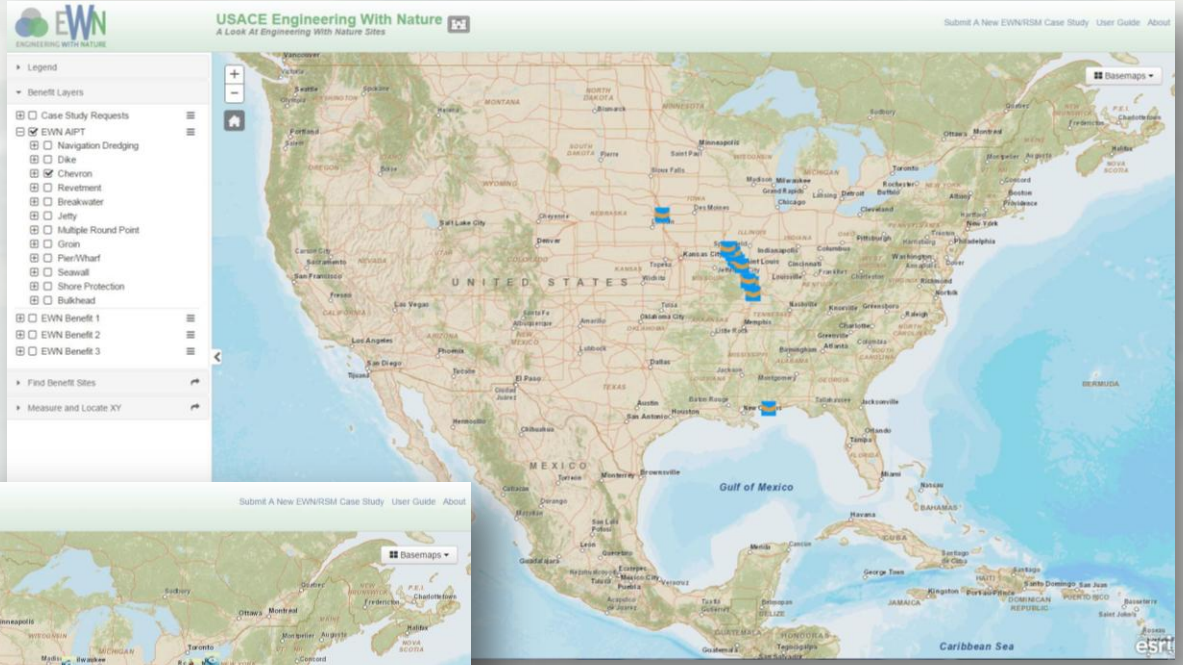
ProMap Benefit Layers

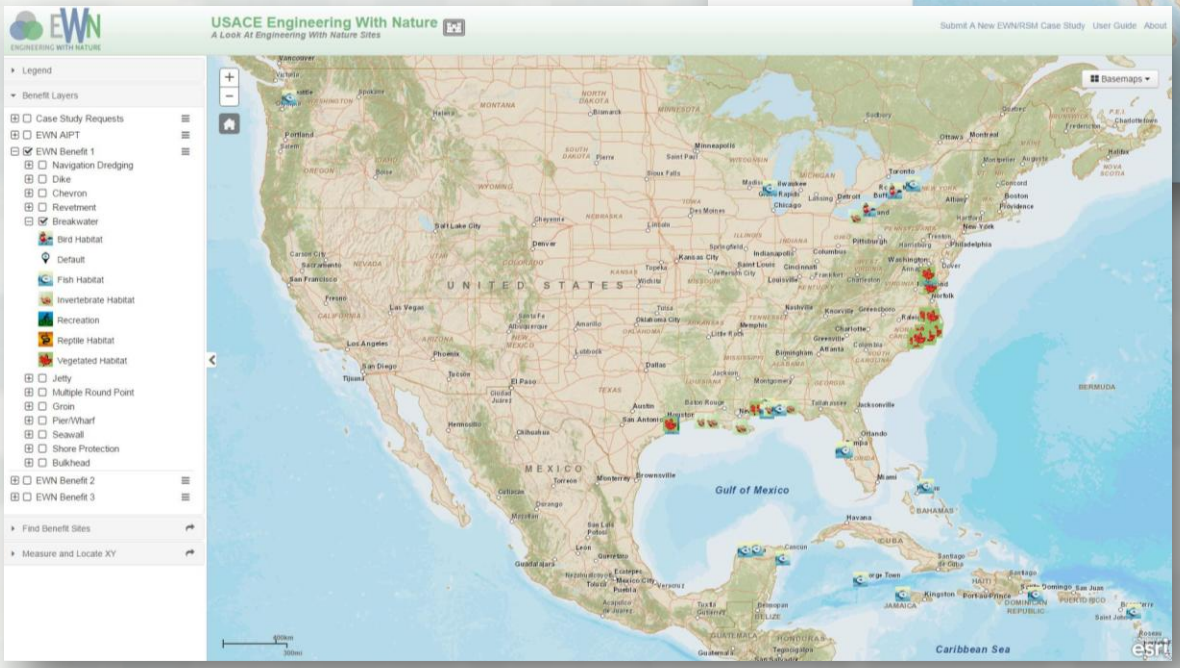


EWN ProMap site classifications used in the Tool Panel		
Classification Acronym	Description	Information Content
AIPT	Associated Infrastructure Project Type	Defines the type of water resource project from which additional benefits are provided
EWNB1, B2, B3	Engineering With Nature Benefit 1, Benefit 2, Benefit 3	Defines the first, second, and third EWN benefits intended by project designers

AIPT and EWNB Selections in the Tool Panel	
Available AIPT Selections	**Available EWN Benefit Selections**
Breakwater	Aesthetics
Bulkhead	Beach nourishment
Chevron	Bird habitat
Dike	Fish habitat
Groin	Invertebrate habitat
Jetty	Island restoration
Multiple round point	Mammal habitat
Navigation dredging	Recreation
Pier/wharf	Reptile habitat
Revetment	Shore protection
Seawall	Vegetated habitat
Shore protection	

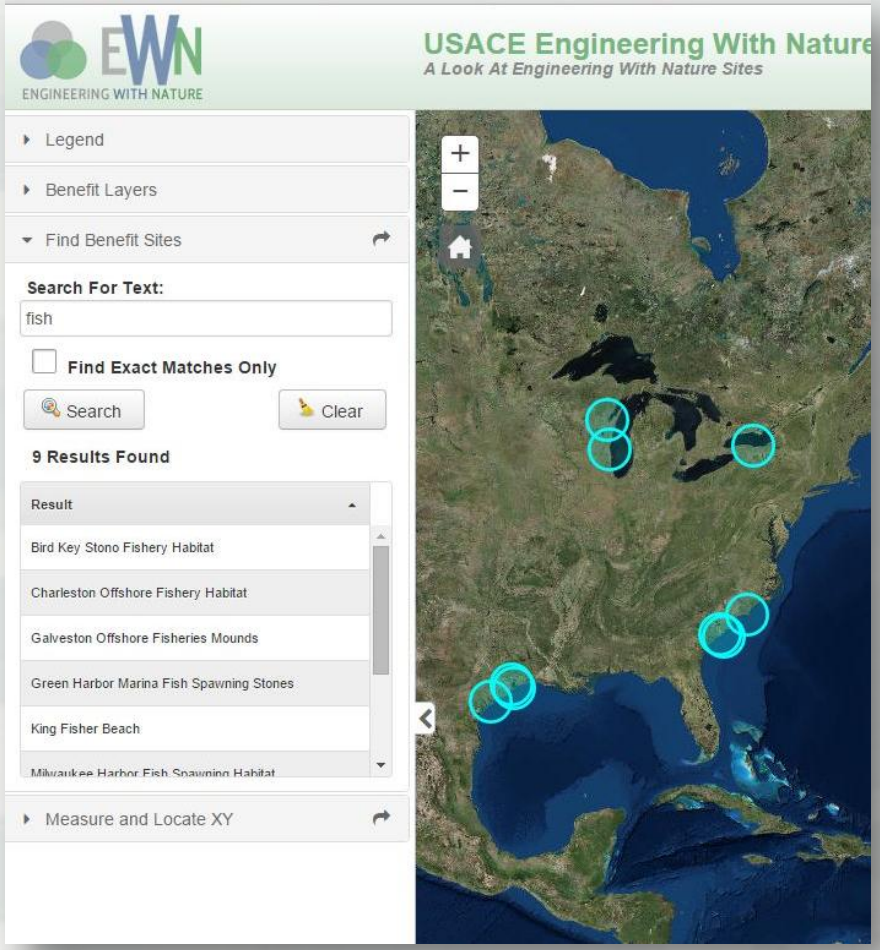
ProMap Benefit Layers

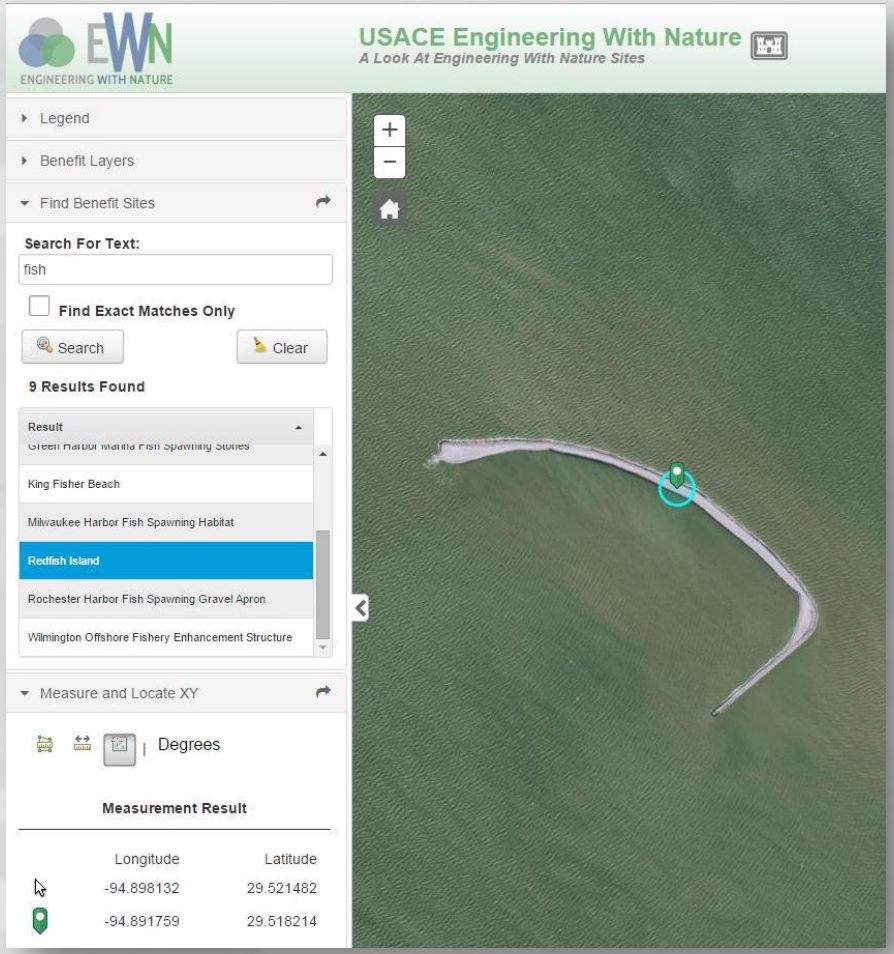




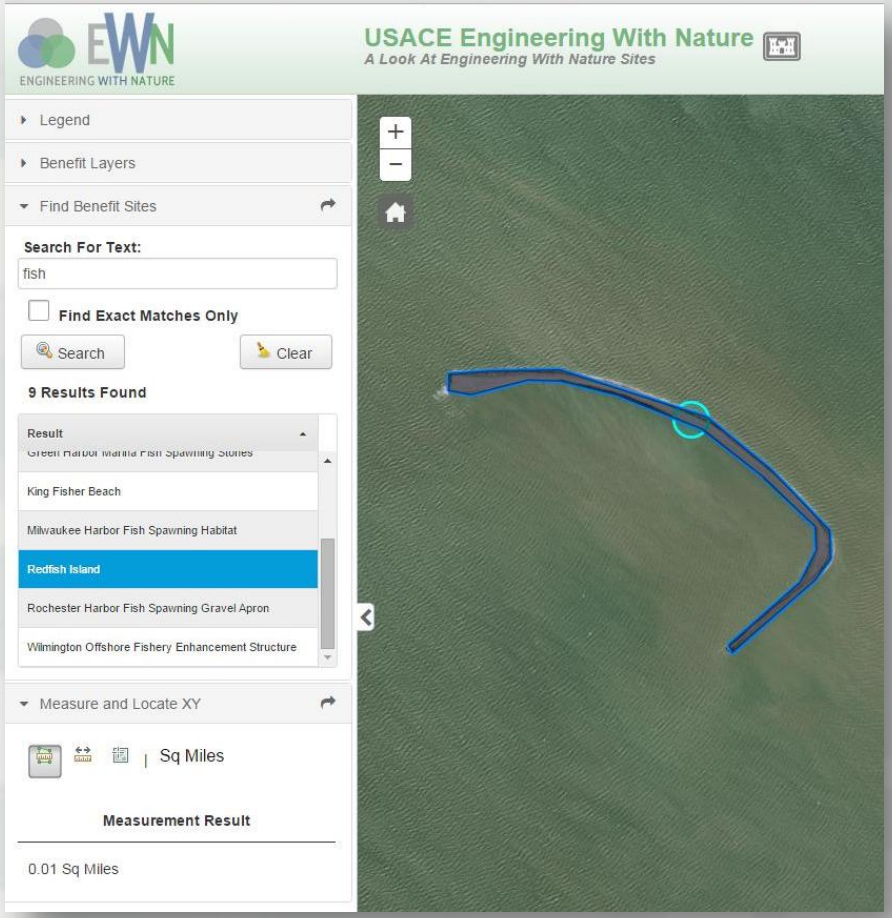
- Filter sites by infrastructure type (top)
- Filter sites by benefit associations (left)

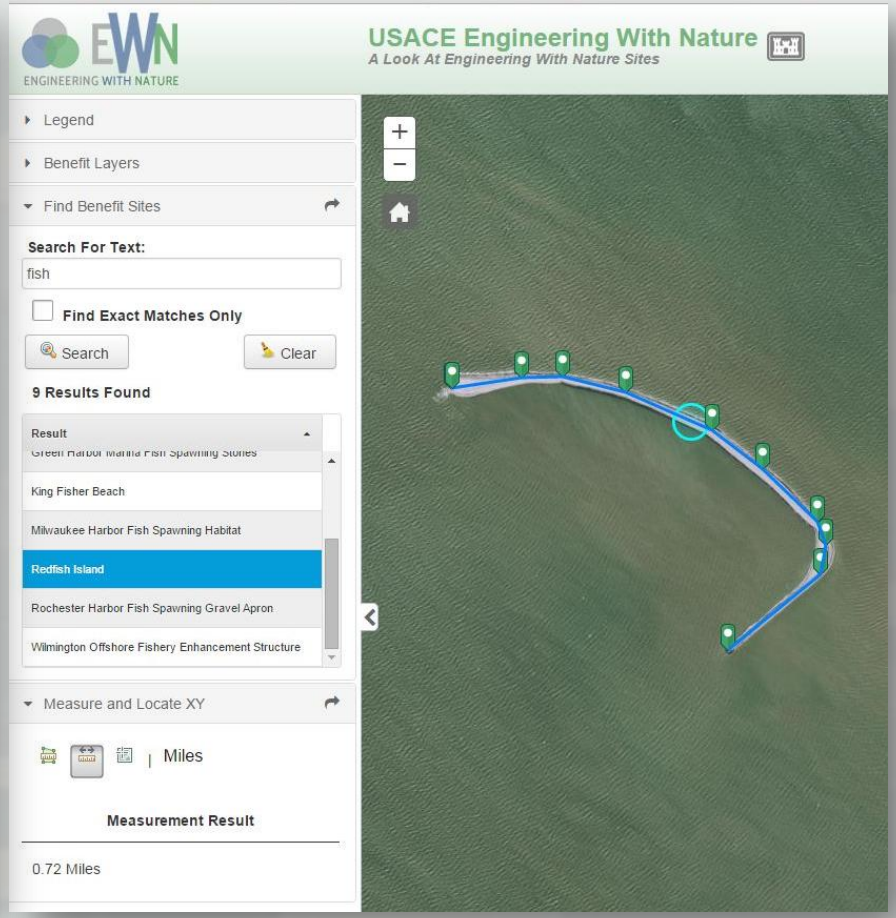
Additional ProMap Tools



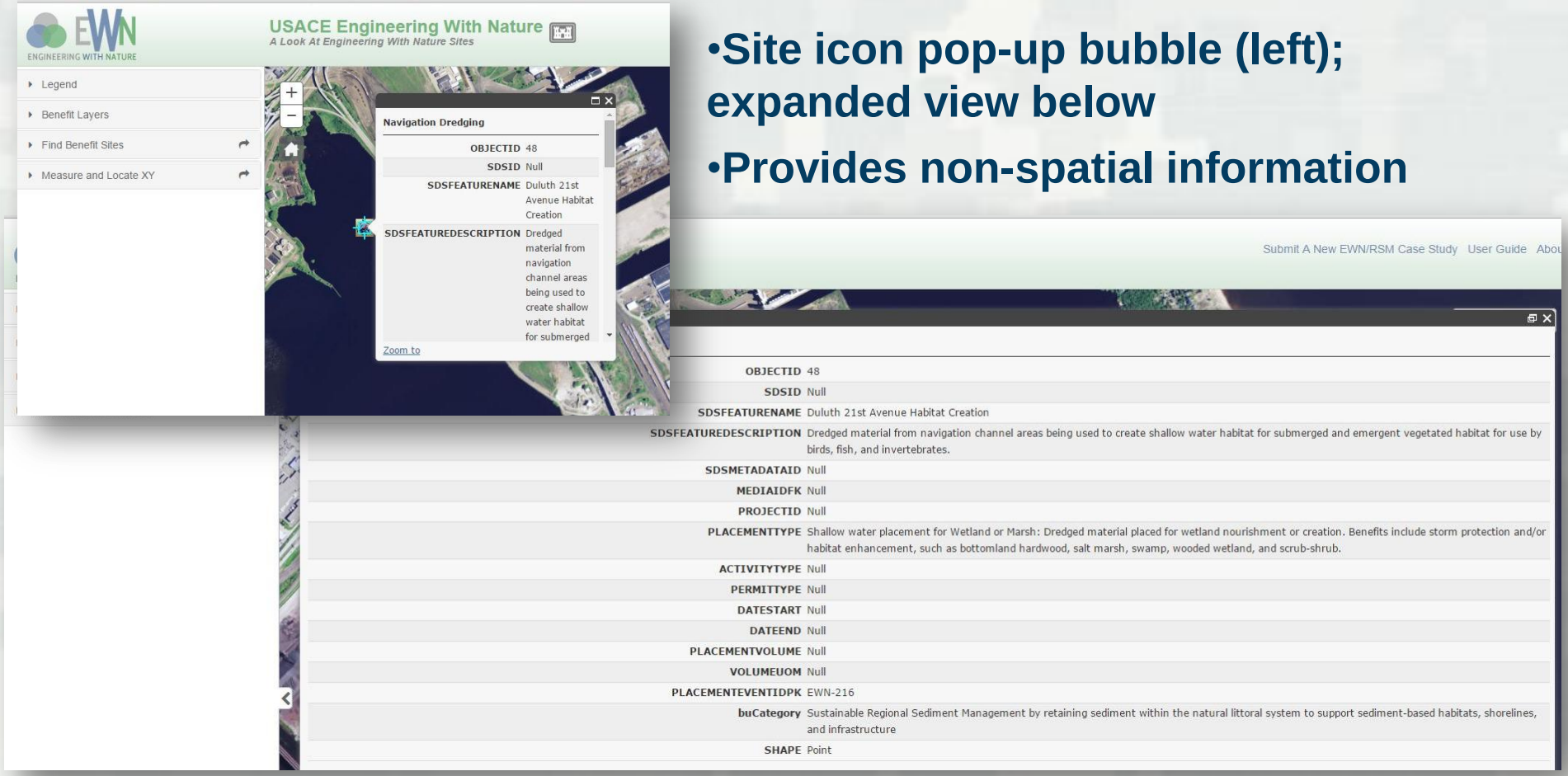


Additional ProMap Tools



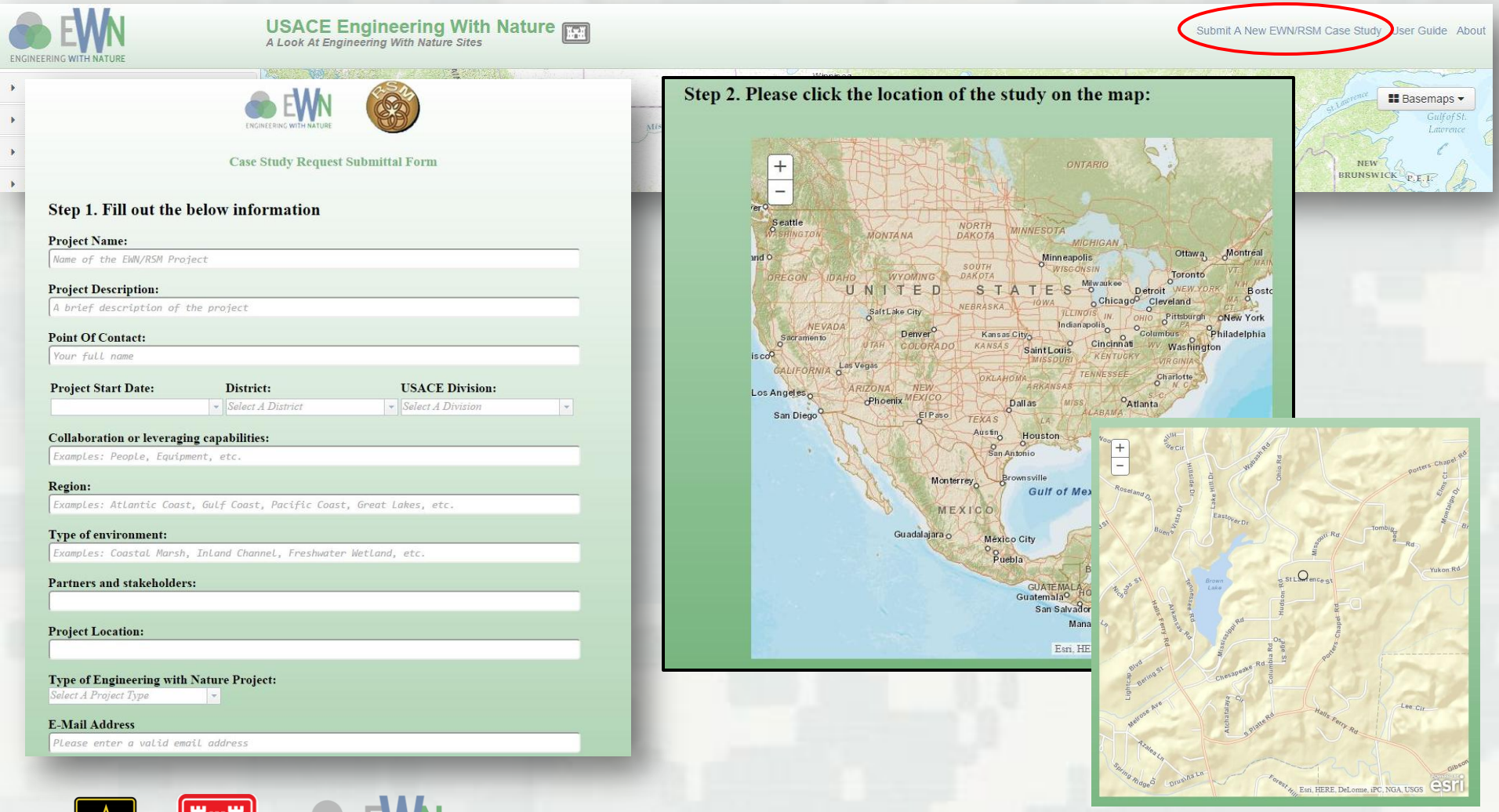


ProMap Non-Spatial Information



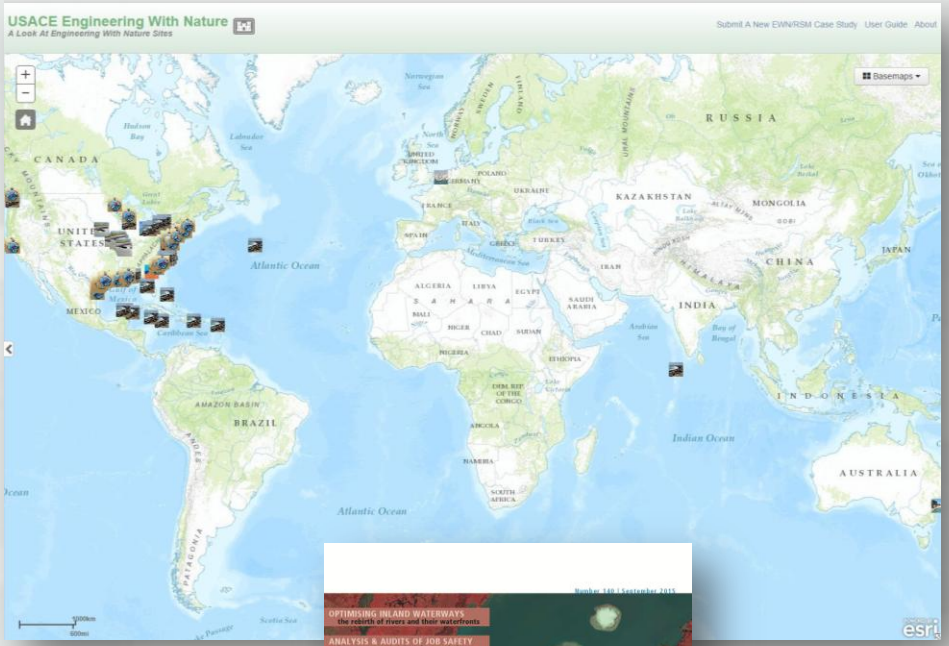
- Site icon pop-up bubble (left); expanded view below
- Provides non-spatial information

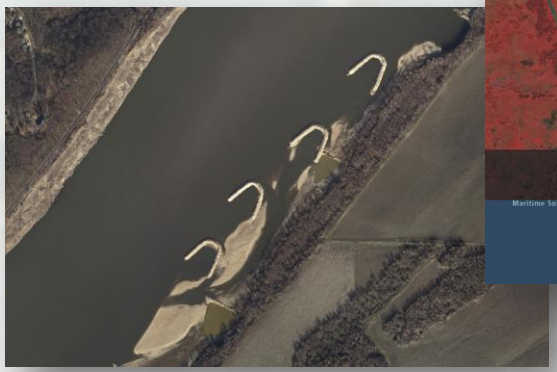
ProMap Submission Process

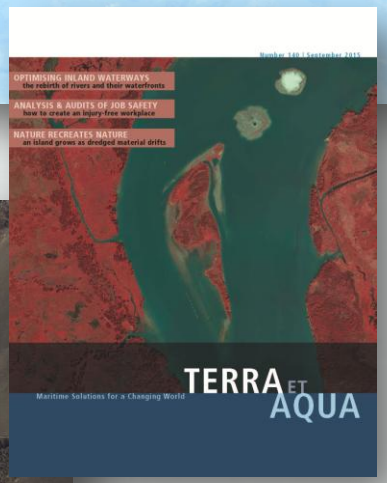


What's Next…

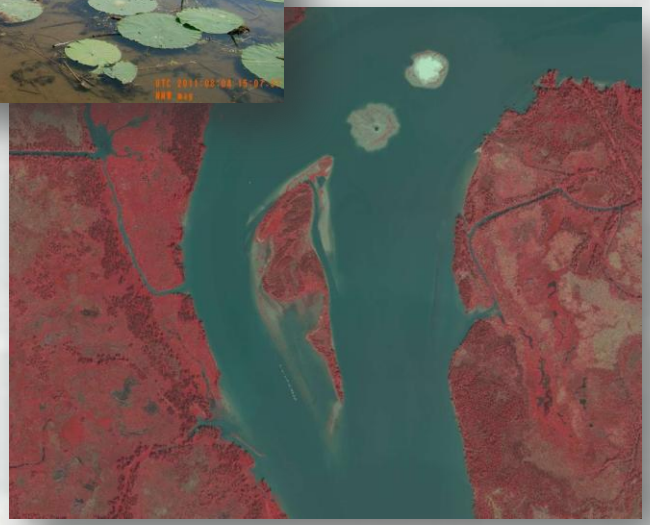
- Additional *international* sites, as well as national sites
- Expanding/adding non-spatial project information and supporting documents
- Upcoming publication in *Terra et Aqua* journal







Thanks



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EWN ProMap:
http://155.82.160.6/applications/opj/v013/ or
http://el.erdc.usace.army.mil/ewn/Tools.html

EWN:
www.engineeringwithnature.org