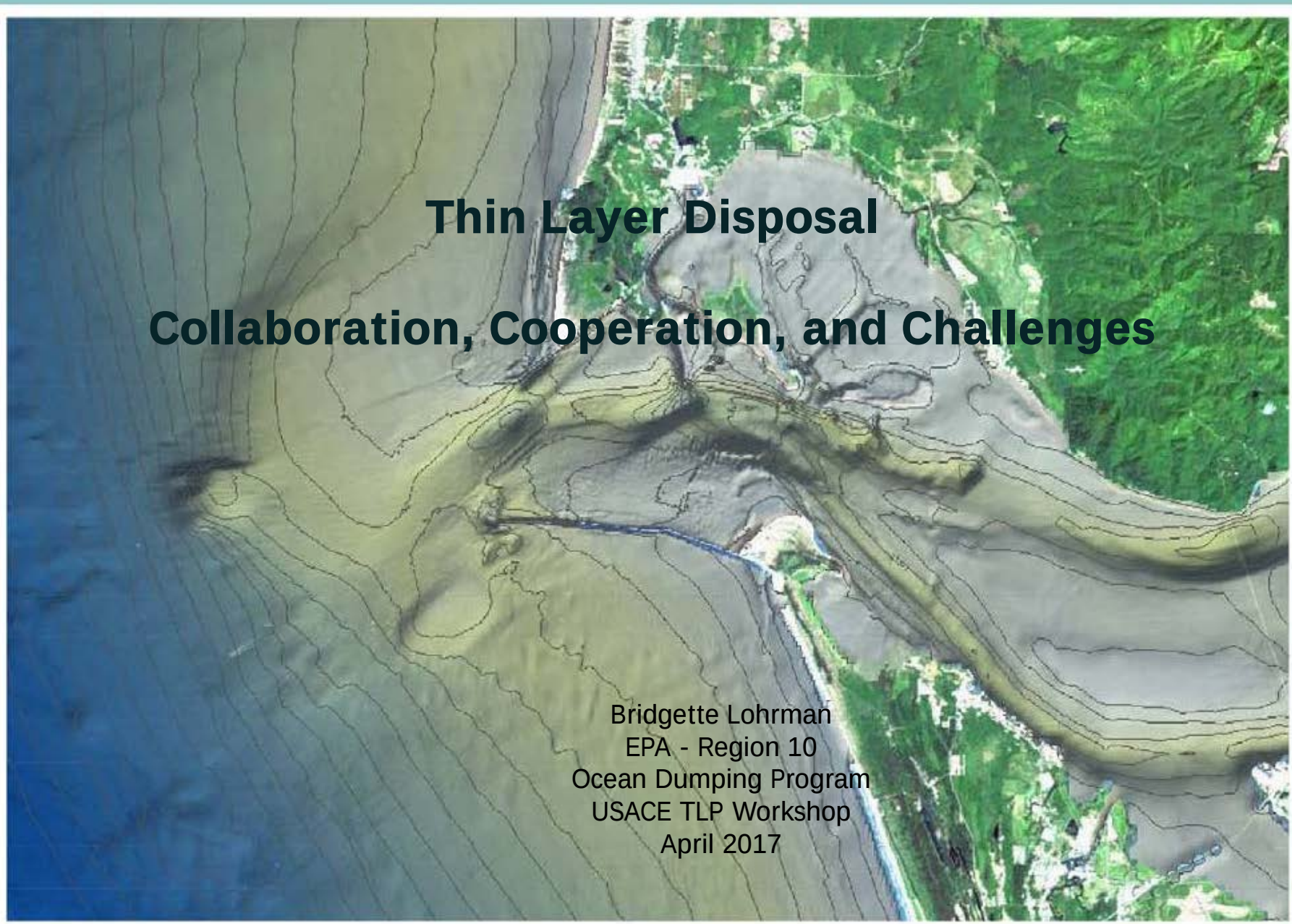


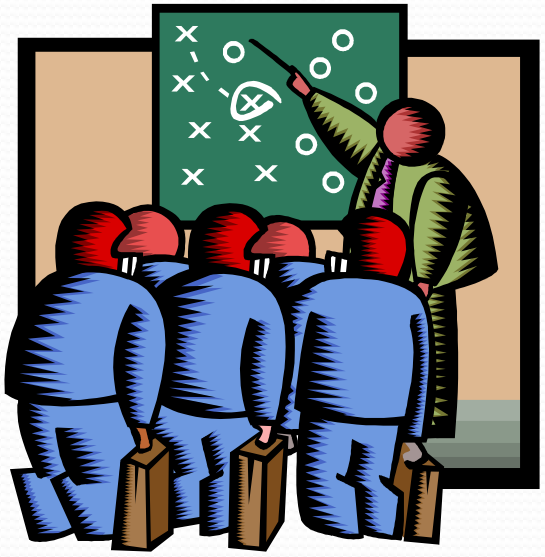
Thin Layer Disposal

Collaboration, Cooperation, and Challenges

Bridgette Lohrman
EPA - Region 10
Ocean Dumping Program
USACE TLP Workshop
April 2017

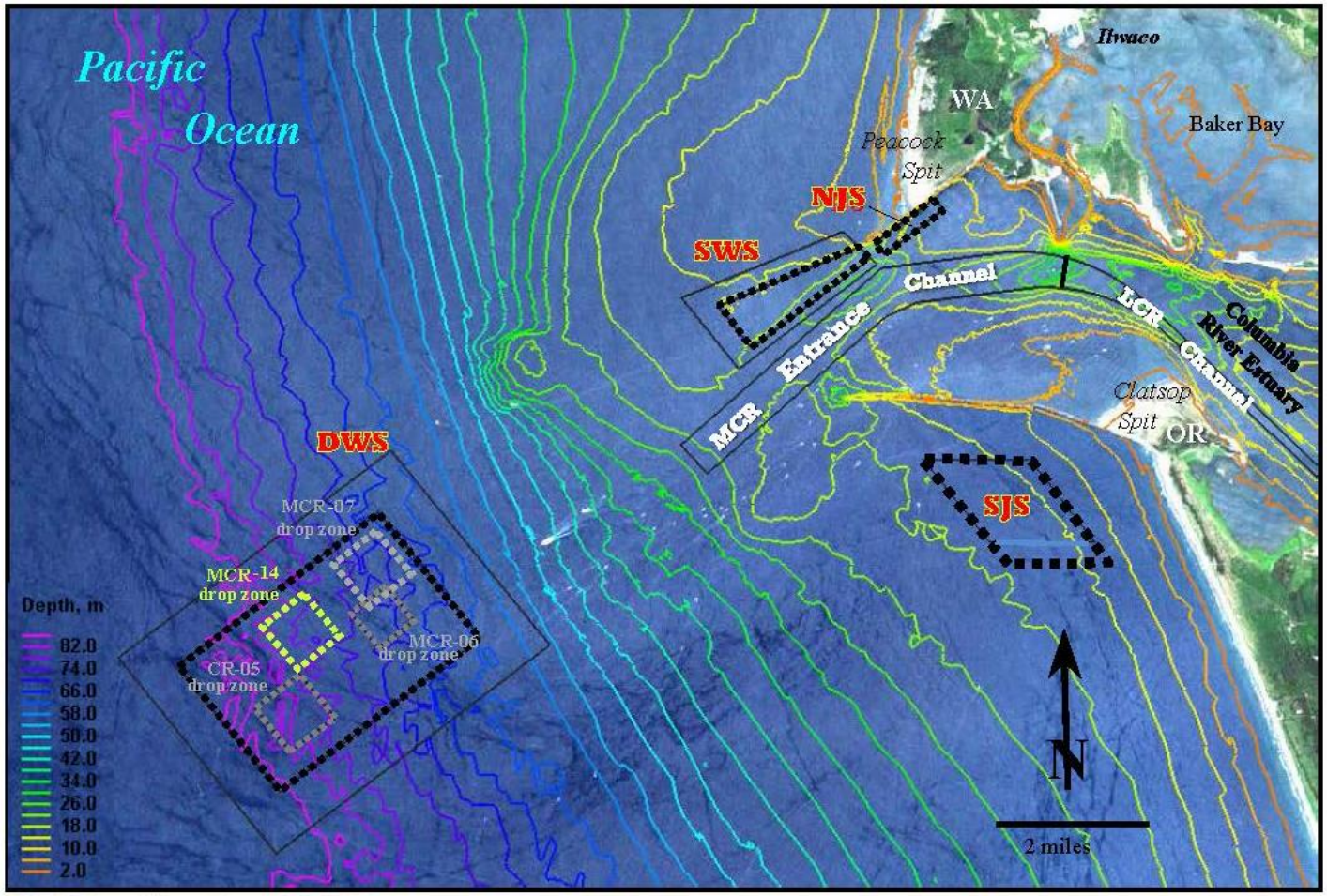
Today's Discussion

- Context for my presentation
  - Geographic
  - Career
  - Dredged material
- Success story
- Lessons Learned
- Challenges



Context
Geographic

Network of nearshore disposal sites



DWS: Deep Water Site, 102 MPRSA

MCR-14-DWS: sub-region within DWS to be used as the drop zone for 2014 dredging season.

SWS: Shallow Water Site, 102 MPRSA

SJS: South Jetty Site, 404 CWA

NJS: North Jetty Site, 404 CWA

102 MPRSA: Section 102, Marine Protection, Research & Sanctuary Act

404 CWA: Section 404, Clean Water Act

Context
Career perspective

- Pacific Northwest focus
- Federal career in Oregon and Washington
  - National Marine Fisheries Service 7 years
    - Endangered Species Act Section 7 consultation biologist
    - Essential Fish Habitat Biologist
  - Environmental Protection Agency 5 years
    - Ocean Dumping Coordinator
      - Dredged material management at Marine Protection, Research, and Sanctuaries Act sites (Section 102) and Clean Water Act sites (Section 404)

Context
Dredged Material Disposal

- Regulatory
  - Disposal (under MPRSA) and Placement (under CWA)

- Environment
  - Coastal, nearshore, shallow-water
    - Not on the beach
    - 35 to 70-foot bathymetric contour

- Disposal methodology
  - Dredge *Essayons* or Dredge *Yaquina*

- Purpose
  - Coastal resiliency from climate change
    - Sea level rise
    - Increase frequency and intensity of storm events
  - Cause erosion of sand from:
    - Corps infrastructure
    - Ocean-front homes
    - ESA-listed shorebird habitat protection, restoration
    - Beaches for recreation

Context
Regulatory Processes

- Endangered Species Act (salmon, sturgeon, eulachon)
- Magnuson-Stevens Act (Essential Fish Habitat for groundfish, salmon)
- Clean Water Act – suitability determinations, alternatives analysis
- National Environmental Policy Act
- Marine Protection, Research, and Sanctuaries Act
  - Environmental effects
  - Impacts to navigation
  - Impacts to recreation
  - Impacts to recreational and commercial fisheries
  - Impacts to commerce
  - Impacts to navigation safety

Success Story

Mouth of Columbia River
Regional Sediment Management

Lower Columbia Solutions Group

History – a lot of it!

People have joined and left the process, had babies, sent their kids off to college, changed jobs, and retired during this process.

Sediment Management at Mouth of Columbia River

- 2002- Lower Columbia Solutions Group convened by Governor's of Oregon and Washington
- 2005 – EPA designated Shallow Water Site and Deep Water Site
- 2005, '07, '09, '10 – science policy workshops (focus: sand depletion; sediment transport; wave amplification; pump-ashore project; sand tracer; biological resources: Dungeness crab, groundfish, razor clams).
- 2009 to 2011 – drafted RSMP. Goal is a network of nearshore disposal sites.
- 2012 to present – implementation of RSMP

Regional Sediment Management Plan

2011

RSMP signed by 16 Federal and State agencies, local governments and Columbia River Crab Fishermen's Association

Goals

1. Increase the **beneficial use** of dredged sediment at the MCR to help protect nearshore fishery habitats, coastal beaches and the jetties from erosion.

2. **Avoid wasting** clean sand resources to deep water disposal offshore.

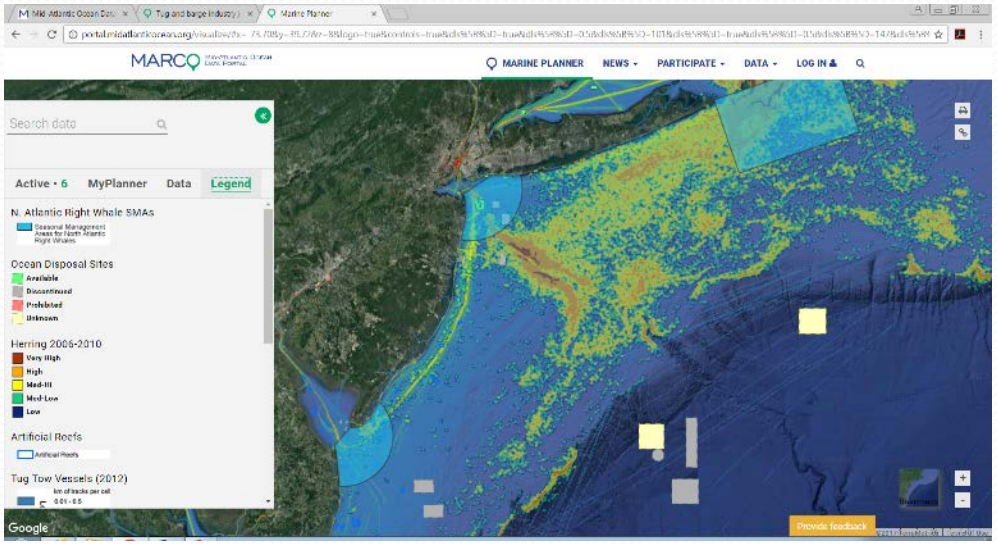
3. Maintain **collaborative partnerships** among federal and state agencies, local governments, fishing community, and other interests.

4. Develop an ongoing **research and monitoring program** to measure effectiveness of beneficial use site disposal and minimize adverse environmental, resource and safety effects.

Lessons Learned

1. Engage a multi-stakeholder forum

- We do not operate in a vacuum
  - National Ocean Policy
    - Regional Planning Body
    - Greater demand on our oceans and coastlines
  - Communication efficiencies



Lessons Learned

- Include:
  - Federal agencies
  - State agencies
  - Local governance
  - Academia
  - Key commercial and recreational interests

Lessons Learned

Start early to allow meaningful engagement and ability to address concerns.

Lessons Learned

Establish effective facilitation

Lessons Learned

Conduct science

Choose the lead science entity carefully

Lessons Learned

Incremental steps

Incremental Steps
South Jetty Site (CWA 404 placement site)

Major Concerns

- Dungeness crab
- flatfish and other groundfish
- ESA-listed green sturgeon
- razor clams

Injury or mortality from disposal? Effects to crab populations?

Agreement – focus on South Jetty Site (serious breach concern at the jetty, know sediment transport pathways)

Experimental - thin-layer placement in 40-60 feet of water, Corps' Dredge *Essayons*

Research at South Jetty Site (SJS)

2012
- USACE, NOAA-NMFS, State of Oregon, State of Washington, EPA
- 1st disposal of 30,000 cy at SJS
- Campods, benthic sled

2013
- only 70,000 cy placed at SJS (Essayons needed repairs)
- Commitments from USACE, EPA, State of Oregon, crab fisherm to support Oregon State University graduate student

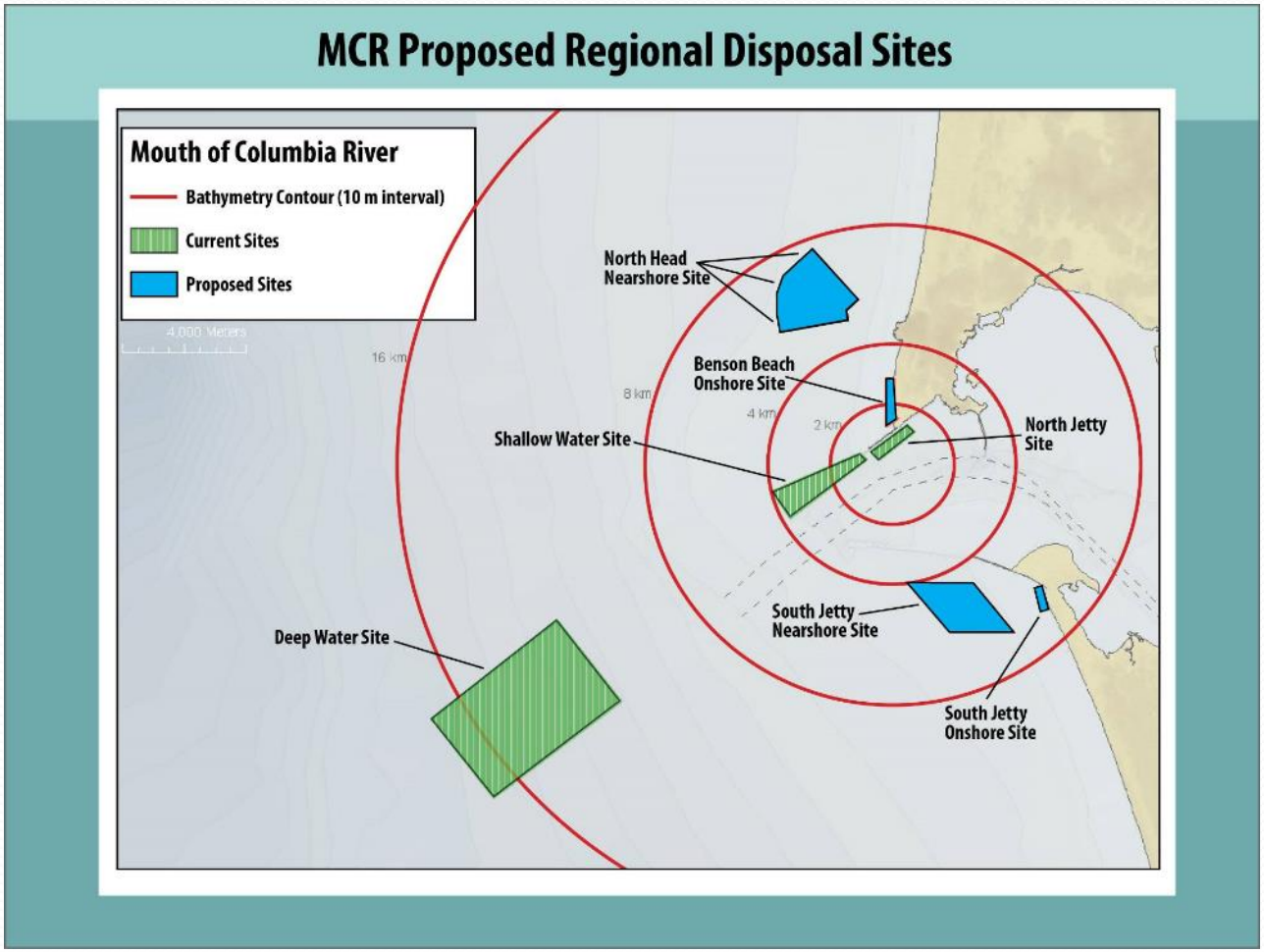
2014
- comparative survey design of technologies (SWS, SJS, DWS)
- Benthic sled, Campod, acoustic tagging of crab. ~300,000 cy

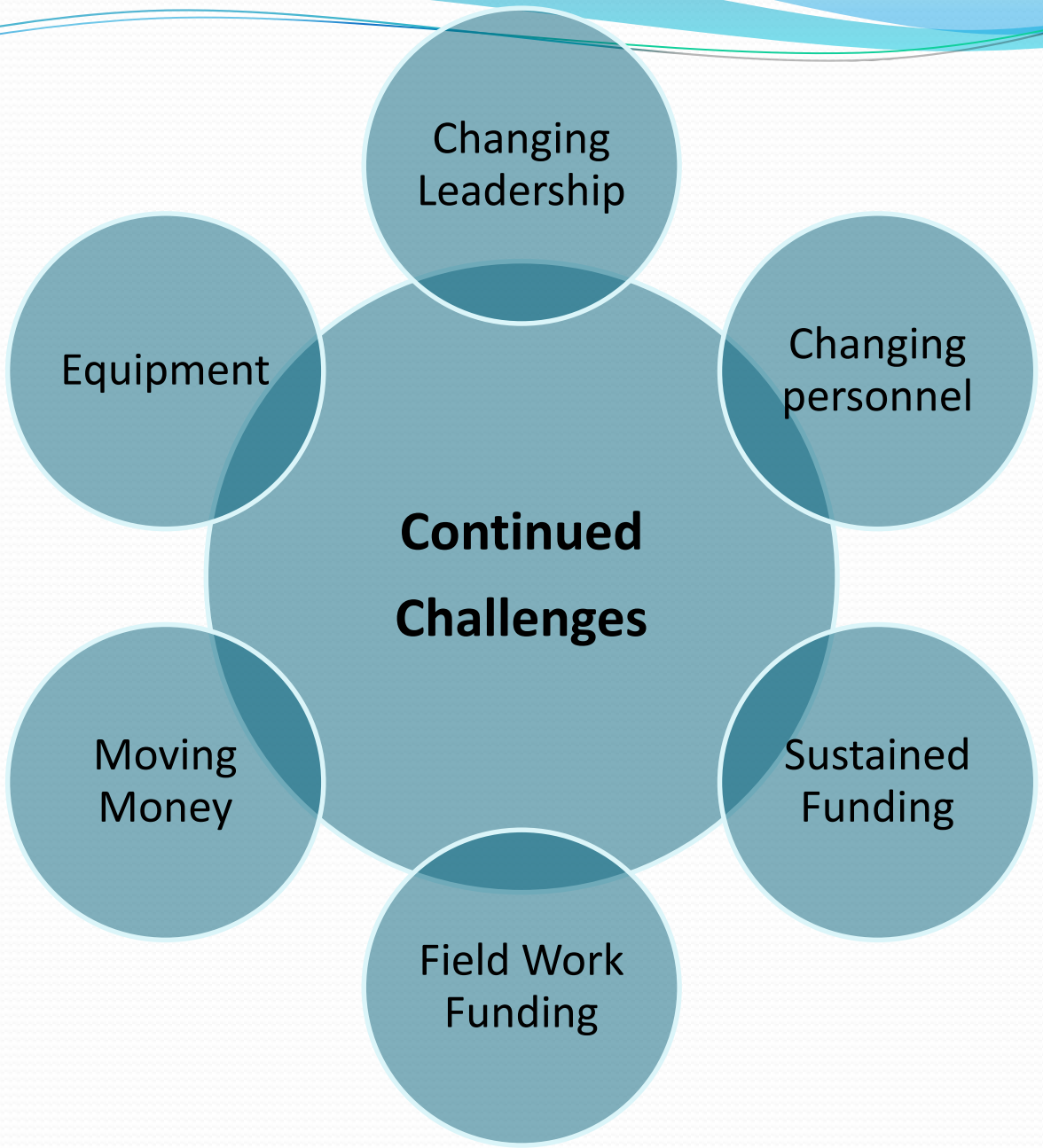
2015
- Campod, acoustic tagging, crab pots, benthic sled (SJS, DWS). ~300,000 cy

2016
- Campod, acoustic tagging (SJS) ~300,000 cy

Lessons Learned

Have a back-up plan




Changing Leadership
Changing personnel
Sustained Funding
Field Work Funding
Moving Money
Equipment
Continued Challenges

Discussion

Campods

Deep Water Site (MPRSA)

Insert: screenshot of DWS video

Methodology – similar to nearshore sites

- USACE Dredge Essayons
- 5,000 cubic yard disposal
- 7 nm offshore
- ~250 feet depth

https://www.youtube.com/watch?v=WXctd9CDlrs