

DUCKS UNLIMITED-BUILDING RESILIENCY THROUGH PARTNERSHIPS: CASE STUDIES- A LOOK AT PAST, PRESENT, AND FUTURE WETLAND RESTORATION PARTNERSHIPS

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US Army Corps
of Engineers®

Building Resiliency Through Partnerships: Case Studies - A Look at Past, Present and Future Wetland Restoration Partnerships



Todd Merendino, Ph.D. – Ducks Unlimited



The Texas Coast: Reasons for Building Resiliency and Partnerships

- Texas is losing coastal marshes and other resources due to erosion and relative sea level rise
 - >5,700 acres annually
- USACE contracts 31.6 MCY of dredging (FY17-18)
 - Private entities and Ports have additional dredging needs

Texas GLO 2017 Texas Coastal Resiliency Master Plan –“A sediment management plan for the entire Texas coast is necessary to allow for coastwide coordination in sediment resources. The ultimate goal is a full-fledged program to coordinate the beneficial use of dredged material with the U.S. Army Corps of Engineers and other identified partners.”

Beneficial Use Project Challenges

- Successful BU projects require
 - A source of sediment
 - A degrading resource and opportunity for enhancement
 - Scheduling coordination
 - Logistics
 - Permits
 - Funds
 - Collaboration among entities



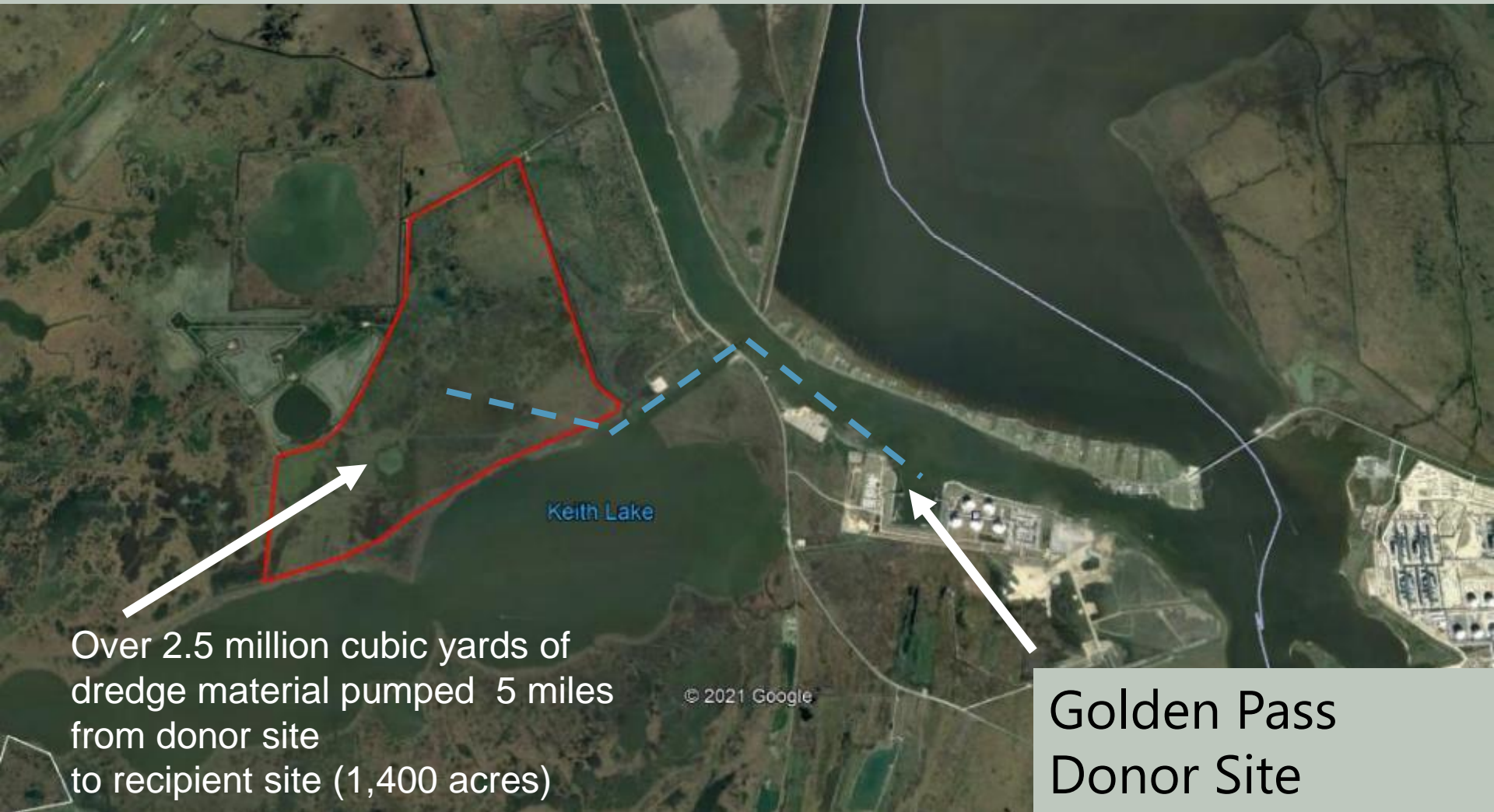
J.D. Murphree WMA Compartment 15 Beneficial Use Restoration of Emergent Marsh



Golden Pass LNG
SABINE PASS, TEXAS



J.D. Murphree WMA Compartment 15 Beneficial Use Restoration of Emergent Marsh





Beneficially used dredged material from GPLNG berth (2.5+ million cubic yards)



1,400 acres of restoration



Twice weekly contractor meetings
Integrate with dredge maintenance/moves
Some plantings to kick start recovery



Restore marsh elevation
Baseline elevation MSL (+0.75 feet NAVD 88)

Desired elevation +1.0 to +1.5 feet NAVD 88

Material pumped to 3.0 to 3.5 feet

Orange County Navigation and Port District (completed)
Emergency dredging – 2010 (Post Hurricane Ike)
Material moved 4 miles from Sabine Neches Waterway to TPWD Lower
Neches WMA
Cooperators: OCNPD, USACE, DU





Pierce Marsh Wetland Restoration (current)

- Phased approach**
- Construction management**
- Post construction monitoring**
- Next phase Fall 2020**

Cooperators: GBF, USACE, GLO, NOAA, DU

Bessie Heights Marsh (current)

1930's



1990's



Over 5,000 acres of emergent marsh loss

DU completing engineering/design for TPWD on containment features/capacities

Magnetometer survey complete; over 3,600 anomalies detected!

Moving towards construction of containment features; future BU site

USACE, local petrochemical entities along Neches River

Planning for Beneficial Use of Dredged Material for Marsh Restoration on the Texas Coast - (current)

Worked with NRDA trustees to identify 8 priority sites



Completing E@D and permit applications

Cooperators: DU, NRDA/NOAA, TXDOT, Anchor QEA, Sarosdy Consulting

Successful implementation will rely on syncing with USACE on dredge cycles

Engineering and Design of 7 potential BU sites (in progress)
J.D. Murphree WMA (shown); Pierce Marsh, and Greens Lake
DU working with GLO on surveys, design, permitting
Material placement will rely on COE, private industry



Planning for Beneficial Use of Dredged Material for Marsh Restoration on the Texas Coast (pending)

Texas Coastwide Planning effort to identify and prioritize BU locations

Anticipated funding Spring 2021 (TCEQ/Dept. of Treasury)

Will engage agencies, ports, local stakeholders, etc.

Will tee-up projects for survey/design



Texas GLO Regions 3 and 4 BU Planning (pending)

DU CMP Proposal

Identification and engineering / design

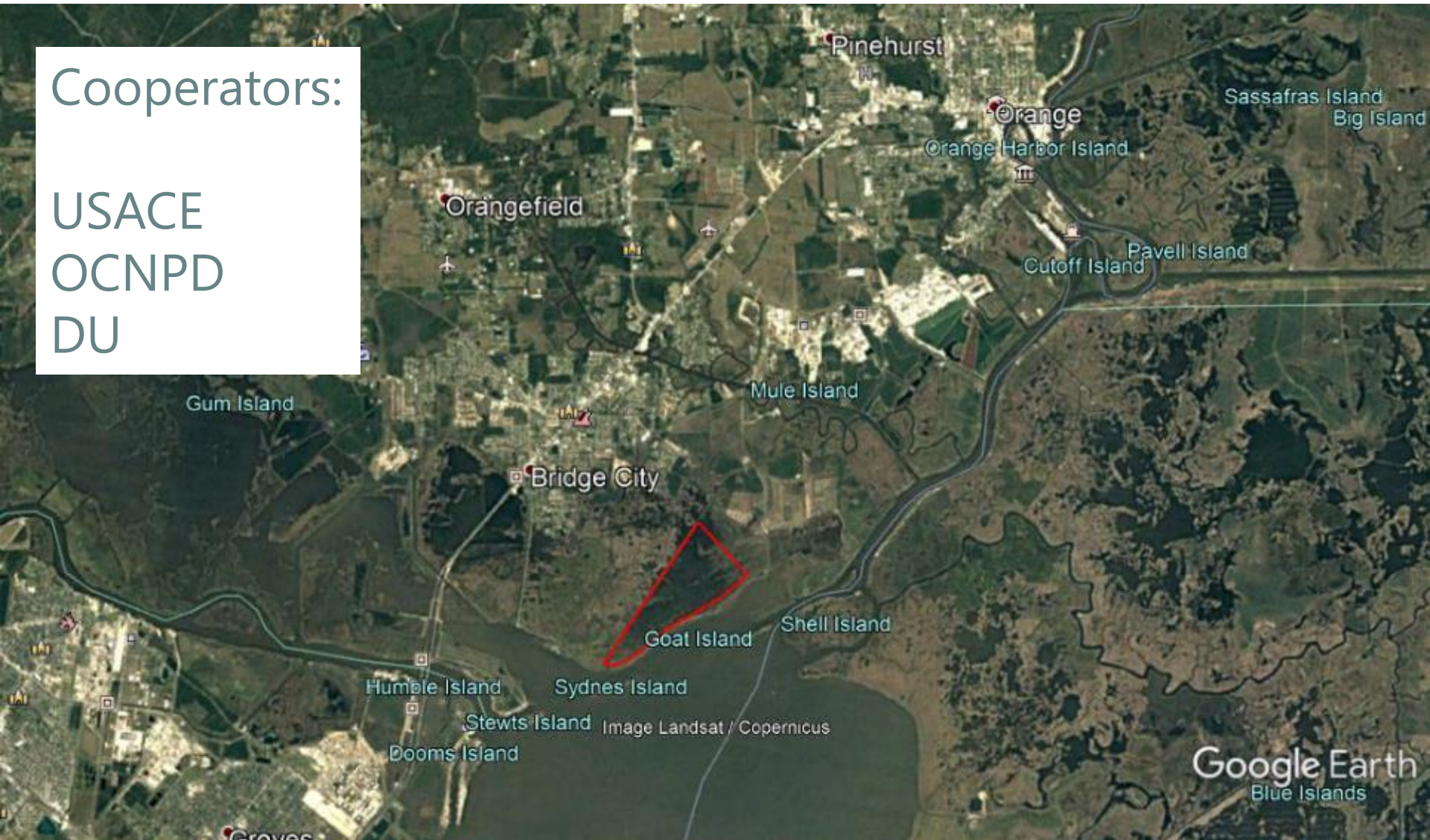
Will work with PCCA, Industry, agencies, stakeholders



Section 1122 WRDA 2016 Project
HICKORY COVE MARSH RESTORATION

Cooperators:

USACE
OCNPD
DU

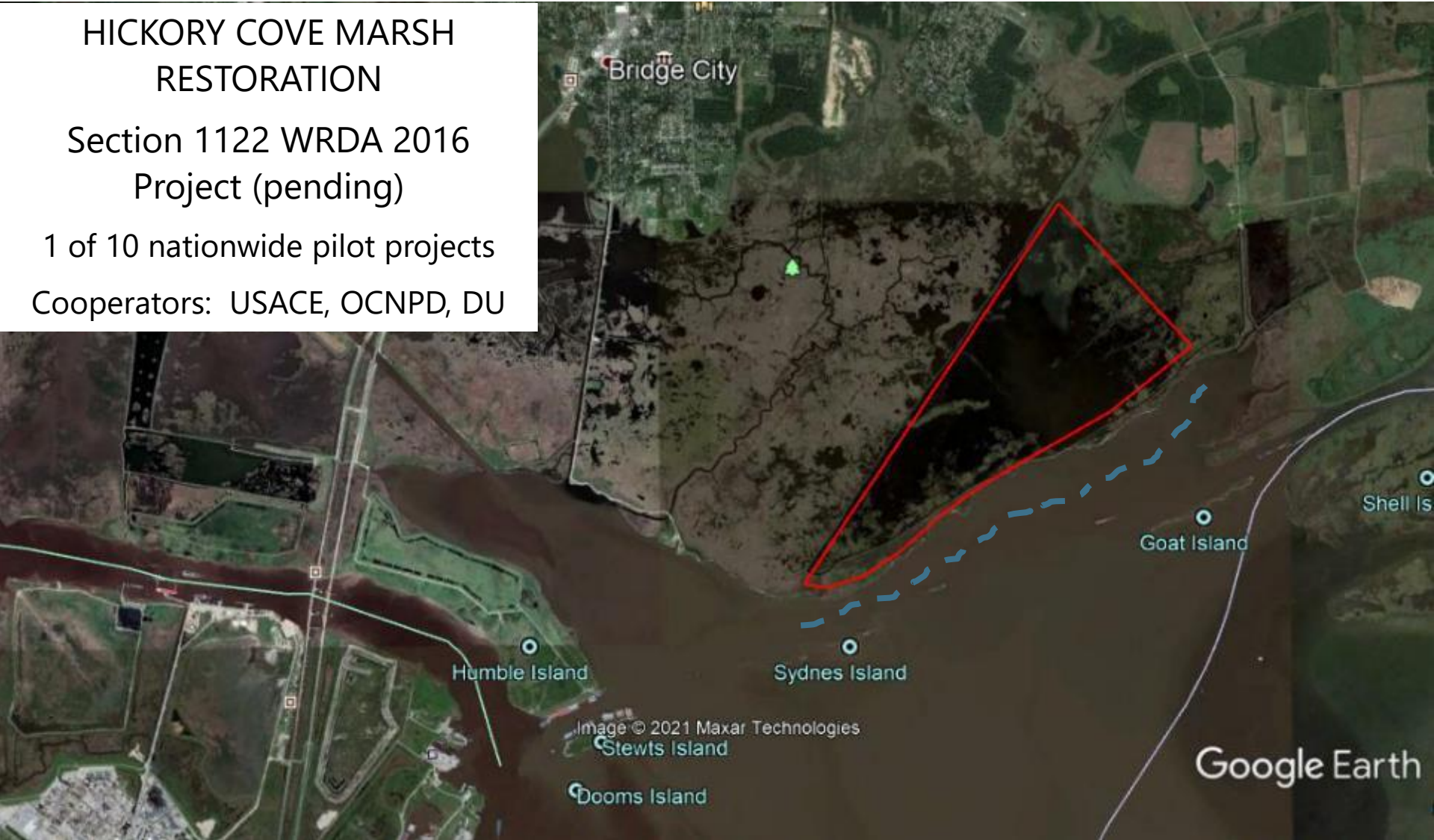


HICKORY COVE MARSH RESTORATION

Section 1122 WRDA 2016
Project (pending)

1 of 10 nationwide pilot projects

Cooperators: USACE, OCNPD, DU



1,200 acre marsh restoration and living shoreline project.

Up to 1.5 million cubic yards of maintenance dredged material from the Sabine – Neches Waterway

Will utilize existing waterfowl management unit on private lands

Construction of offshore breakwater will provide additional BU capacity



Questions/Discussion