TAYLOR ENGINEERING, INC.

Jacksonville Port Authority Dredging Challenges: Successful Management of Dredged Material Management Area Capacity Issues, Jacksonville, Florida

WEDA
Dredging Summit & Expo 2014

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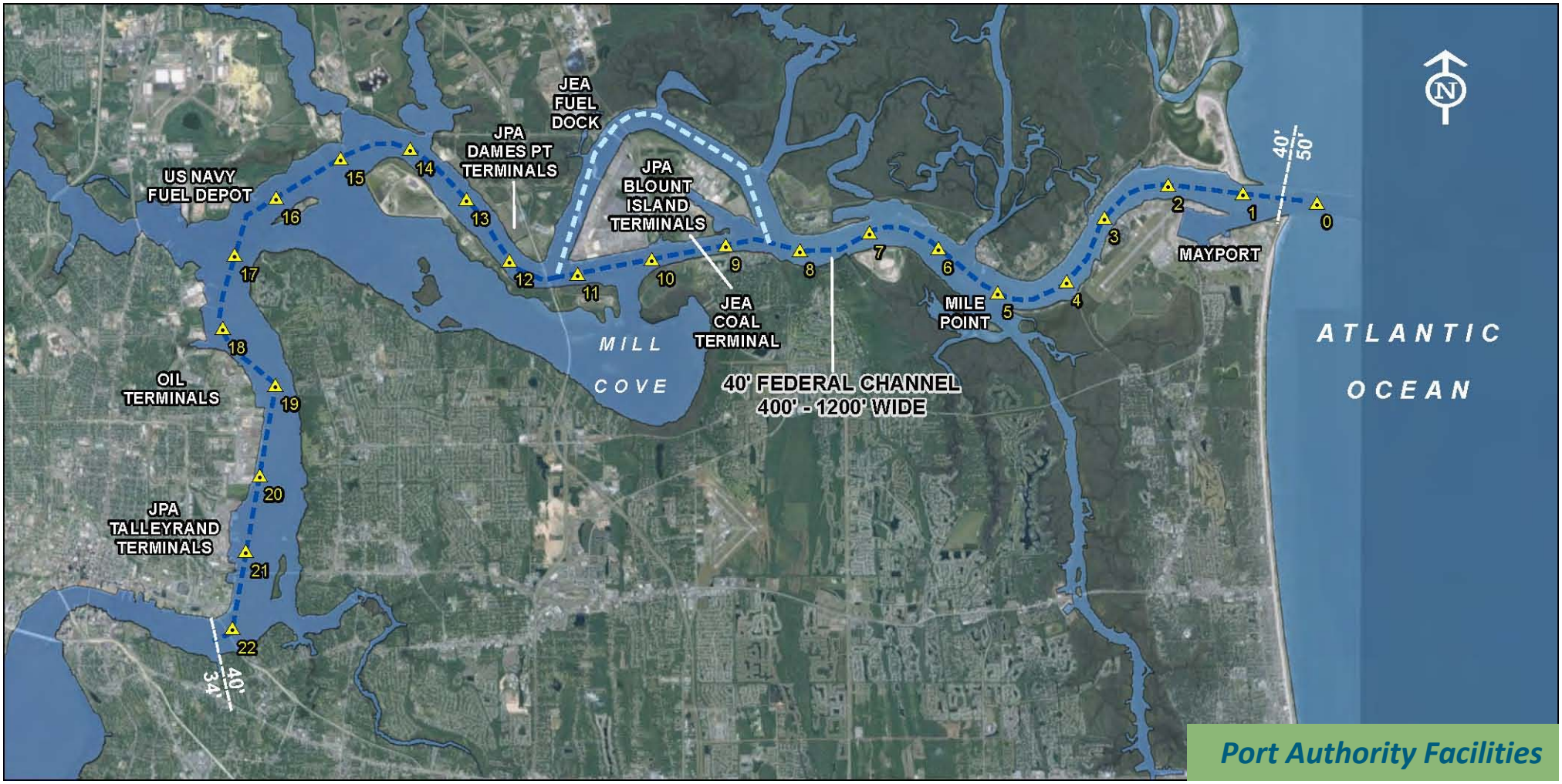
Presentation Outline

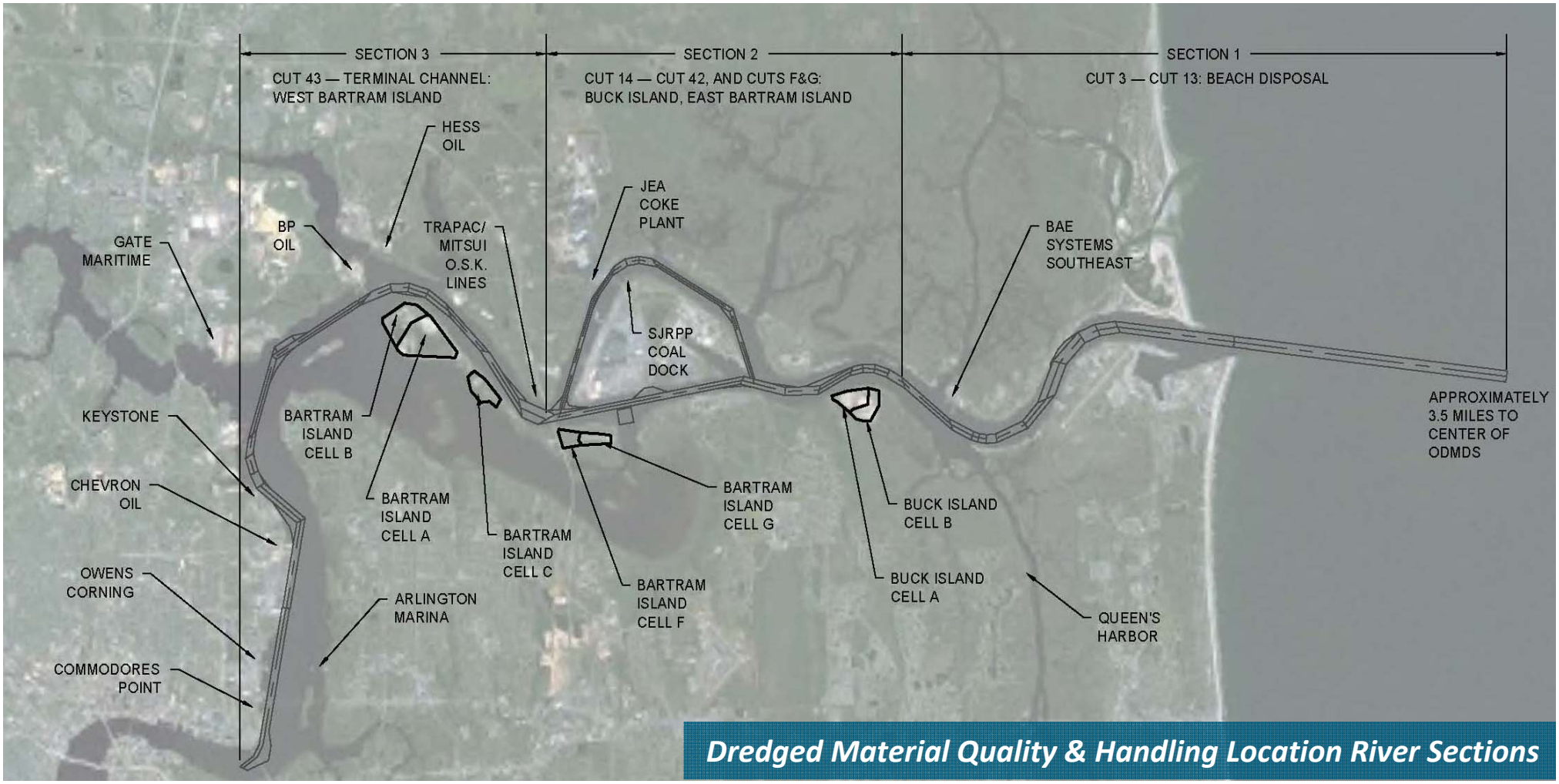
- Jacksonville Port Authority (JPA)
- Project Location
- Project Issues
- Federal and Non-Federal Responsibilities
- Average Annual Dredging Needs
- Dredged Material Management Area (DMMA) Inventory - 2011
- Potential Dredged Material Management Area Regulatory Concerns
- Dredged Material Management Plan (DMMP)
- Plan Alternatives
- Dredged Material Management Area Inventory - 2014
- Conclusions and Updates

Jacksonville Port Authority Facilities



Port Authority Facilities

Dredging Reaches and DMMA Locations



Dredged Material Quality & Handling Location River Sections

Project Issues

- Critical shortage of available dredged material management handling and disposal facilities
- Dredge material permitting challenges
  - Increased environmental awareness and regulation
  - Formal review requirements and regulatory agency consultation
- Potential environmental concerns
  - Timucuan National Ecological and Historic Preserve
  - Nassau River-St. Johns River Marshes Aquatic Preserve
    - ✓ Wetland impacts and endangered species
    - ✓ Open water impacts and water quality

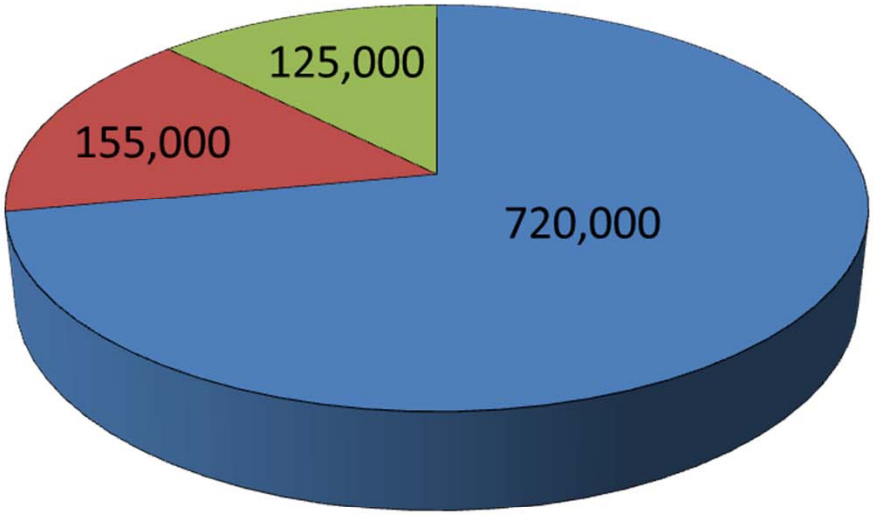
Federal and Non-Federal Responsibilities

- U.S. Army Corps of Engineers (USACE) (Federal Government)
  - Jacksonville Harbor Federal Project Maintenance
    - ✓ Work with local sponsor to carry out maintenance responsibilities
    - ✓ Ocean entrance upstream to downtown Jacksonville
- Jacksonville Port Authority (Local Sponsor)
  - Work with USACE
  - Dredge JPA's berths
- Other commercial users
  - Dredge their own facilities

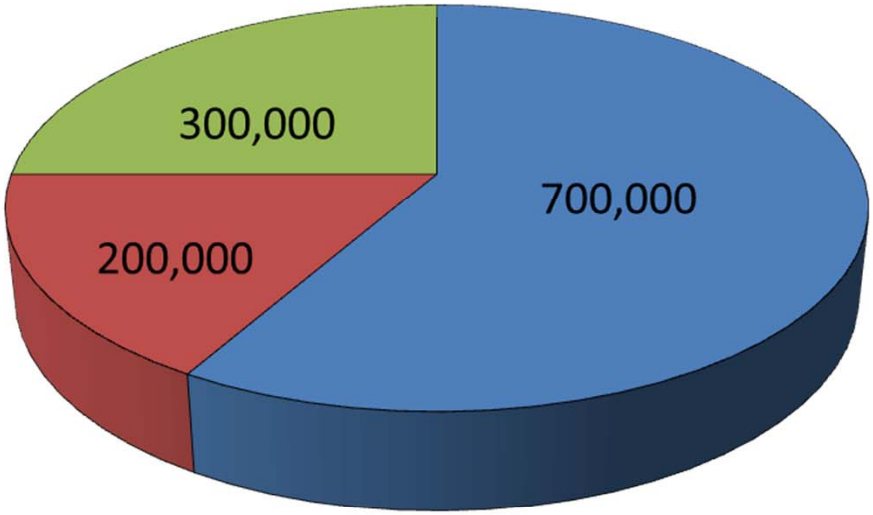
Dames Point Cruise Terminal

Average Annual Dredging Needs

Jacksonville Harbor Federal Project
(1,025,000 cubic yards per year)



JPA and Commercial Users
(1,200,000 cubic yards per year)



Sandy Sediments Sands, Silts, & Clays Silts & Clays

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DMMA Inventory (February 2011)

DMMA	Cell	Capacity (February 2011)
Buck Island	A*	No capacity
	B*	No capacity
Bartram Island	A	≈ 600,000 cubic yards
	B	≈ 200,000 cubic yards
	C	≈ 200,000 cubic yards
	F	≈ 300,000 cubic yards
	G**	≈ 600,000 cubic yards
Jacksonville Harbor Ocean Dredged Material Disposal Site (ODMDS)	—	≈ 6,000,000 cubic yards

*Unavailable – ongoing repairs to dikes and weirs
**Unavailable

Potential DMMA Regulatory Concerns

- State and federal permitting requirements eliminated
  - DMMA footprint will not extend into open water
  - DMMA footprint will not extend into wetlands

Buck Island DMMA

- New DMMA development
  - Consultation with regulatory agencies to establish permitting requirements
  - Formal review

Dredged Material Management Plan (DMMP)

- JPA and Taylor Engineering's long-term Dredged Material Management Plan (20 years)
  - Considers USACE's and JPA's dredging and facility management duties
  - Describes the remaining DMMA capacities available to JPA
  - Discusses DMMA construction constraints
  - Addresses identified alternatives to provide required handling capacities

Mitsui O.S.K. Lines Berth

DMMP Considerations

- Anticipated sources, rough quantities, and sediment characterization of dredged material
- Available capacity of existing DMMAs
- Capacity expansion alternatives and anticipated time required to construct alternatives


Western Bartram Island DMMA

- ODMDS use
- Potential acquisition of new DMMA property
  - Potential acquisition phasing
  - Permitting, design, and construction

Plan Alternatives

- Taylor Engineering developed seven alternatives to provide the required dredged material handling capacities
  - October 2010 through the end of September 2014
  - Beyond (20 years)
- Alternative considerations
  - Economic factors
  - Permitting
  - Preliminary design phase issues related to regulatory standards

Plan Alternatives (Continued)

Alternative	Description
#1	Maintain current plan – constrained
#2	Design and construct offsite DMMA and eliminate raising dikes at Bartram Island Cell B
#3	Utilize ODMDS disposal and eliminate raising dikes at Bartram Island Cell B
#4	Design and construct Bartram Island open water DMMA and eliminate raising dikes at Bartram Island Cell B
#5	Design and construct an expanded offsite DMMA and eliminate raising dikes at Bartram Island Cell B
#6	Raise Bartram Island Cell A, design and construct offsite DMMA , utilize ODMDS disposal, and eliminate raising dikes at Bartram Island Cell B
#7	Plan and build road access (bridge) to Bartram Island, raise Bartram Island Cell A, utilize ODMDS disposal, transfer material from Bartram Island Cell A to Cell B, and eliminate raising dikes at Bartram Island Cell B

DMMP Conclusions

- Ongoing process, which requires addressing decisions that are consistent with the DMMP
- JPA adopted the least-cost environmentally acceptable alternative
- The DMMP will continue to serve as a decision document to support future actions to provide adequate dredge material handling capacity

St. Johns Harbor

Plan Alternatives Updates

Alternative	Cell	Activity
Bartram Island	A	Undergoing Exterior Dike Extension from 37 feet to 57 feet
	F	Removed 600,000 cubic yards of dredged material
	C	Removed 300,000 cubic yards of dredged material from Mitsui O.S.K. Lines (MOL) berth
Buck Island	A & B	Contracted offloading for major roadway projects
Future DMMAs	--	Forster DMMA creation as part of Public-Private Partnerships

Existing DMMA Inventory (March 2014)

DMMA	Cell	Capacity (February 2011)	Capacity (March 2014)
Buck Island	A*	No capacity	≈ 1,200,000 cubic yards
	B*	No capacity	≈ 300,000 cubic yards
Bartram Island	A**	≈ 600,000 cubic yards	≈ 4,500,000 cubic yards
	B**	≈ 200,000 cubic yards	≈ 2,200,000 cubic yards
	C	≈ 200,000 cubic yards	≈ 600,000 cubic yards
	F	≈ 300,000 cubic yards	≈ 400,000 cubic yards
	G	≈ 600,000 cubic yards	No capacity
Jacksonville Harbor Ocean Dredged Material Disposal Site (ODMDS)	—	≈ 6,000,000 cubic yards	≈ 6,000,000 cubic yards

*Off-Loading Operations by FDOT Contractor currently in progress.
**Final Capacity To Be Determined Upon Completion of Dike Raising

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