LAKE WORTH INLET PALM BEACH COUNTY, FLORIDA Integrated Feasibility Study and EIS Public Meeting May 9, 2013

# National Pilot Planning Project

Study authorized by House Resolution, 25 June 1998: "That the Secretary of the Army is requested to review the report...with a view of determining if the authorized project should be modified in any way at this time, With particular reference to widening the existing interior channel through Lake Worth Inlet."





# Why we are here

- USACE Navigation Mission: is to provide safe, reliable, and efficient waterborne transportation systems, stemming from commerce clause of the constitution.
- Method: USACE charged to adhere to 6 step planning process and identify National Economic Development Plan (NED)- the plan that maximizes net benefits while protecting or minimization of impacts to environment
- BCR: Benefit to Cost Ratio also needs to be greater than 1.0
- Benefits: In this case, monetary savings to the government and taxpayer as a result of reductions in transportation cost



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# National Economic Development Plan (NED)

- NED Plan: Deepen from 33 ft to 39 ft with widening
- Additional Features: Advance Maintenance and Settling Basin expansion
- BCR: 1.71
- Cost: \$100 million
- Construction estimated start: 2015



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# Bottom Line Upfront NED Plan



Existing Channel Measures NED Plan



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# **Existing Conditions**



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# **Environmental Impact Minimization**



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- Original Scope (yellow); NED Plan (blue)
- Seagrass Impact Minimization:
  - ► 59% less from original scope
- Hardbottom Impact Minimization:
  - 25% less from original scope



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# Mitigation

# Seagrass:

- Impacts: 4.5 acres; Mitigation: 8.25 to 11.25 acres
- Fill dredged hole to surrounding elevation

# Hardbottom:

- Impacts: 4.9 acres; Mitigation: 4.9 to 9.8 acres
- Create artificial habitat in artificial reef site using quarry rock, dredged rock, or other pre-fabricated substrate



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# Dredged Material Placement With Mitigation Sites

(and other beneficial use opportunities)

_	Quantity (cubic		
Item	yards)	Placement	Classification
Dredging Volumes			
(Federal)			
Entrance Channel	285,404	nearshore	Sand and Silty Sands
Entrance Channel	145,767	odmds	Rock, Interfingering Layers
Inner Harbor	910,129	odmds	Rock, Interfingering Layers
Inner Harbor	112,950	Seagrass Mitigation (dredged Hole)	Sand and Silty Sands
Advance Maintenance	172,700	nearshore	Sand and Silty Sands
Advance Maintenance	12,000	odmds	Rock, Interfingering Layers
Settling Basin	258,000	odmds	Rock, Interfingering Layers
(Non-Federal)			
Port of Palm Beach Slip 3	71,415	ODMDS	Rock, Interfingering Layers
TOTAL DREDGING QUANTITIES	1,968,365		



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# Recommended Advance Maintenance

- Historical Condition: O&M occurred up to 2 times/year
- Existing Condition: Advance Maintenance package (approved Dec. 2011, constructed March 2013) reduces frequency of dredging to 1 time/year
- Future with Project: This feasibility study will recommend further adv maintenance improvements to the <u>existing</u> project to reduce frequency of dredging to 1 time/2 years





# Main Commodity Trade Routes

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VESSEL TYPE	existing Typical Sailing Draft	POTENTIAL DESIGN DRAFT	existing Typical Loa	
TANKER	30 ft	41 ft	574 ft	
BULKER	30 ft	37.7 ft	612 ft	
CRUISE	20 ft	21 ft	673 ft	



Tanker (Petroleum & Molasses)



Bulker (Cement)



Cruise





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# **Commodity Forecast**

							CAGR	
	2017	2027	2037	2047	2057	2067	(2017-	Benefitting
							2067)	Commodity?
Sugar (Shipments)	790	790	790	790	790	790	0.00%	No
Molasses (Shipments)	265	265	265	265	265	265	0.00%	Yes
Liquid Petroleum Products (Receipts)	232	251	272	295	320	347	0.80%	Yes (only diesel)
Asphalt (Receipts)	76	95	119	149	186	186	1.81%	Yes
Cement & Concrete (Receipts)	97	122	154	194	244	308	2.35%	Yes
Containerized Cargo (Both Directions)	999	1,343	1,805	1,805	1,805	1,805	1.19%	No
Non-Containerized								Yes
General Cargo	122	135	148	163	179	197		(only for largest
(Both Directions)							0.96%	vessels)
Total	2,581	3,000	3,552	3,660	3,789	3,897	0.83%	

**Note:** Values shown in thousands of metric tons. Liquid Petroleum includes residual fuel oil and distillate fuel oil (diesel). Non-containerized general cargo includes break-bulk, project cargo, and Ro-Ro. The "Benefitting Commodity?" column displays whether or not the commodity movements will benefit from channel deepening.



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# **Economics – NED PLAN**

Without-Project Calls and With Project calls for Vessel Types that Benefit from Deepening

	Calls by Study Year		
Vessel Type	2017	2037	2067
Vessel calls			
without project	60	73	107
Vessel calls with			
project	35	42	64

VESSEL TYPE	EXISTING TYPICAL LOA	Potential Typical loa
TANKER	574 ft	656 ft
BULKER	612 ft	656 ft
CRUISE	673 ft	673 ft



Total Transportation Costs & Benefiting Vessel Calls



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#### Summary **NORTH JETTY REQUIRES SHEETPILE STABILIZATION** 450' MINIMUM INNER CHANI PEANUT th Marainal Whar ENTRANCE CHANNEL WIDTH: RANGES FROM 440' to 460' ain Marginal Wharf DEPTH: 39 DEPTH: 41' WIDTH: 150 EXTENSION MAIN TURNING NEARSHORE BASIN PLACEMENT LAKE WORTH arm Water Outflow

- NED Plan: Deepen 33 to 39 ft with widening (in blue); advance maintenance and settling basin expansion
- The plan allows vessels to load to full capacity, thus reducing the amount of vessel calls; transportation cost savings; more efficient navigation from safer maneuvering
- Reduced frequency of O&M intervals and more opportunity for beach placement
- Seagrass and hardbottom mitigation will be done



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# Public COMMENT Opportunities

- Comments Due: June 3, 2013
- Public comment cards can be submitted at this meeting, or you can submit comments by the following methods:
  - Email: <u>Angela.E.Dunn@usace.army.mil</u>
  - Mail: Ms. Angela Dunn

U.S. Army Corps of Engineers

P.O. Box 4970

Jacksonville, FL 32232-0019

► Web:

https://saj.usace.afpims.mil/Missions/CivilWorks/Navigation/ NavigationProjects/LakeWorthInletFeasibilityStudy.aspx



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# Thank you for your participation!



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