



#### PANAMA CANAL EXPANSION

## THE CATALYST















Capacity

#### PRIME LOCAL CONDITIONS

## INFRASTRUCTURE











#### 200 Distribution Centers within 5 hours

# 5 Hours 4 Hours N 1 2 Hours

#### 20+ Savannah-Area Import Distribution Centers

	Sq. Ft.	Sq. M
Academy Sports	1,000,000	92,903
Advance Auto Parts	380,000	35,303
Bass Pro Shops	600,000	55,742
Best Buy	748,000	69,491
Citi Trends Fashion	155,000	14,400
Dollar Tree	800,000	74,322
Farmer's Furniture	250,000	23,226
Fred's	600,000	55,742
Hugo Boss	165,000	15,329
Icon H&F	600,000	55,742
Ikea	1,700,000	157,935
Kmart-Sears	2,200,000	204,387
Kohl's	600,000	55,742
Lowe's	1,250,000	116,129
Midwest Air Technologies	150,000	13,935
Noritake	105,000	9,754
Oneida	500,000	46,452
Paper Tigers	115,000	10,684
Pier One Imports	783,000	72,743
Target	2,100,000	195,096
The Home Depot	1,400,000	130,064
Tire Rack	250,000	23,226
Wal-Mart	3,300,000	306,580

Note: This list is not intended to be definitive of Georgia's extensive list of port-dependent DC's



Atlantic Ocean

**Dredge Containment** 

Downtown Savannah

Savannah National Wildlife Refuge



List of major retail import distribution centers, the largest concentration along the East Coast 1 IKEA7 Icon H&F2 Target8 The Home Depot3 Heineken9 Lowe's4 Whirlpool10 Dollar Tree5 Electrolux11 Pier 1 Imports6 Wal-Mart

### PORT GROWTH

#### RANKING by TEU



Top 10 U.S. Ports by TEUs 2014



TOP 10 U.S. PORTS	Q1-Q3 2014 by TEUs	% Change Q1-Q3 2013		
Los Angeles, CA	3,213,907	9%		
Long Beach, CA	2,643,583	3%		
Newark, NJ/New York, NY	2,201,287	12%		
Savannah, GA	992,271	16%		
Norfolk, VA	726,103	9%		
Oakland, CA	610,147	3%		
Tacoma, WA	609,006	12%		
Houston, TX	572,619	12%		
Charleston, SC	555,759	13%		
Seattle, WA	347,657	-23%		
Other	2,015,651	4%		
TOTAL	13,662,459	6%		

#### -www.Forbes.com

#### **EXPANSION PROJECT**

## SAVANNAH HARBOR



-Army Corps of Engineers

## SHEP FIGURES



\$706 million cost, payback in net benefits in only 3 years.

\$174 million/yr more to United States

Supports 352,146 full- and part-time jobs (8.3% of Georgia's total employment)

No significant local economic gain other than maintaining \$1.1 million in local taxes

TEU increase 2.9 million/yr in 2013 to 6.5 million/yr by 2030

Largest benefit comes with estimated annual transportation cost savings of \$213 million/yr, due to local infrastructure advantages

#### ECOLOGICAL IMPACT

## DREDGE NEGATIVES

#### Dangerously low dissolved oxygen levels = dead fish

#### 14 million cubic yards of sediment = 5.5 Great Pyramids

Shortnose sturgeon (Acipenser brevirostrum)



#### Saltwater Intrusion into Savannah National Wildlife Refuge













#### **BENEFICIAL REUSE STRATEGIES**

## DREDGE POSITIVES



#### Habitat Restoration and Development:

Using dredged material to build and restore wildlife habitat, especially wetlands or other waterbased habitat (e.g., nesting islands and offshore reefs).



#### **Beach Nourishment:**

Using dredged material (primarily sandy material) to restore beaches subject to erosion



#### Parks and Recreation:

Using dredged material as the foundation for parks and recreational facilities; for example, waterside parks providing such amenities as swimming, picnicking, camping, or boating.



#### Agri/Aquaculture:

Using dredged material to replace eroded topsoil, elevate the soil surface, or improve the physical and chemical characteristics of soils. Also creating new fishery habitats.



#### Infill

bi

### using dredged material to support commercial or industrial activities (including brownfields redevelopment), primarily near waterways; for example, expanding or raising the height of the land base, or providing bank stabilization.



#### **Construction Material**

Using sediment as a base material for brick to be used for infrastructure, paths, building construction, etc.



### SHEP MITIGATION PROPOSALS



#### **#1 WATER IMPOUNDMENT**

Water Impoundment, and pipeline to Abercorn Creek for extreme levels of chloride after SHEP.

Closure of McCoy's cut with rock diversion and sheet pile walls. This will attempt to prevent saltwater

at south end of island to for removal of tide gate habitat

2 Sets of 6 Speece Cones for Dissolved Oxygen Compensation, upriver and downriver locations/

Fish Bypass needed due to dead zone created by

Civil War Ironclad CSS Georgia being exhumed for

SHEP #6 CSS GEORGIA

### **NEW PROPOSALS**



#### SALT HARVESTING

The former rice fields of the National Wildlife Refuge will be retrofitted for salt harvesting to prevent further saline intrusion into the wetlands.





#### **BRICK PRODUCTION**

A study proved that high quality brick can be made from Savannah River dredge.





#### HUTCHINSON AS THE HUB

The underutilized Island, orignally a dredge containment area itself, becomes the core of all dredge-related operations.



#### CSS GEORGIA MEMORIAL

Civil War Ironclad being recovered from river's bottom is restored and displayed in a walk of relics.





#### McQUEEN'S TRAIL

Final connection made to former rails to trails project





#### **SPOILS TRAIL**

The DMCF's can become a natural extension of the SNWR, as it will no longer be needed to house dredge.







### THE POST-DREDGE AGE EXPLORING BENEFICIAL REUSE OF DREDGE MATERIAL

#### SALT HARVESTING SAVANNAH NATIONAL WILDLIFE REFUGE











#### SPOILS TRAIL FORMER CONTAINMENT AREAS















#### DREDGE BRICKWORKS SAVANNAH RIVER LANDINGS











Dredge House X 1 = 120 cubic yards

X 40 (1 street)= 4,800 cubic yards

X 7,000 (Hutchinson + River Landings)= 800,000 cubic yards



## HUTCHINSON ISLAND











#### CSS GA MEMORIAL RAISED LOOKOUT POINT









## MCQUEEN'S ISLAND TO DOWNTOWN











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#### DREDGEMOMETER

Makes dredge measuring a "SMAPT" (Strategic Mapping Action Plan Transposed)















