



American Association of Port Authorities

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Administrator
Panama Canal Authority
January 26, 2010



The Panama Canal 1914



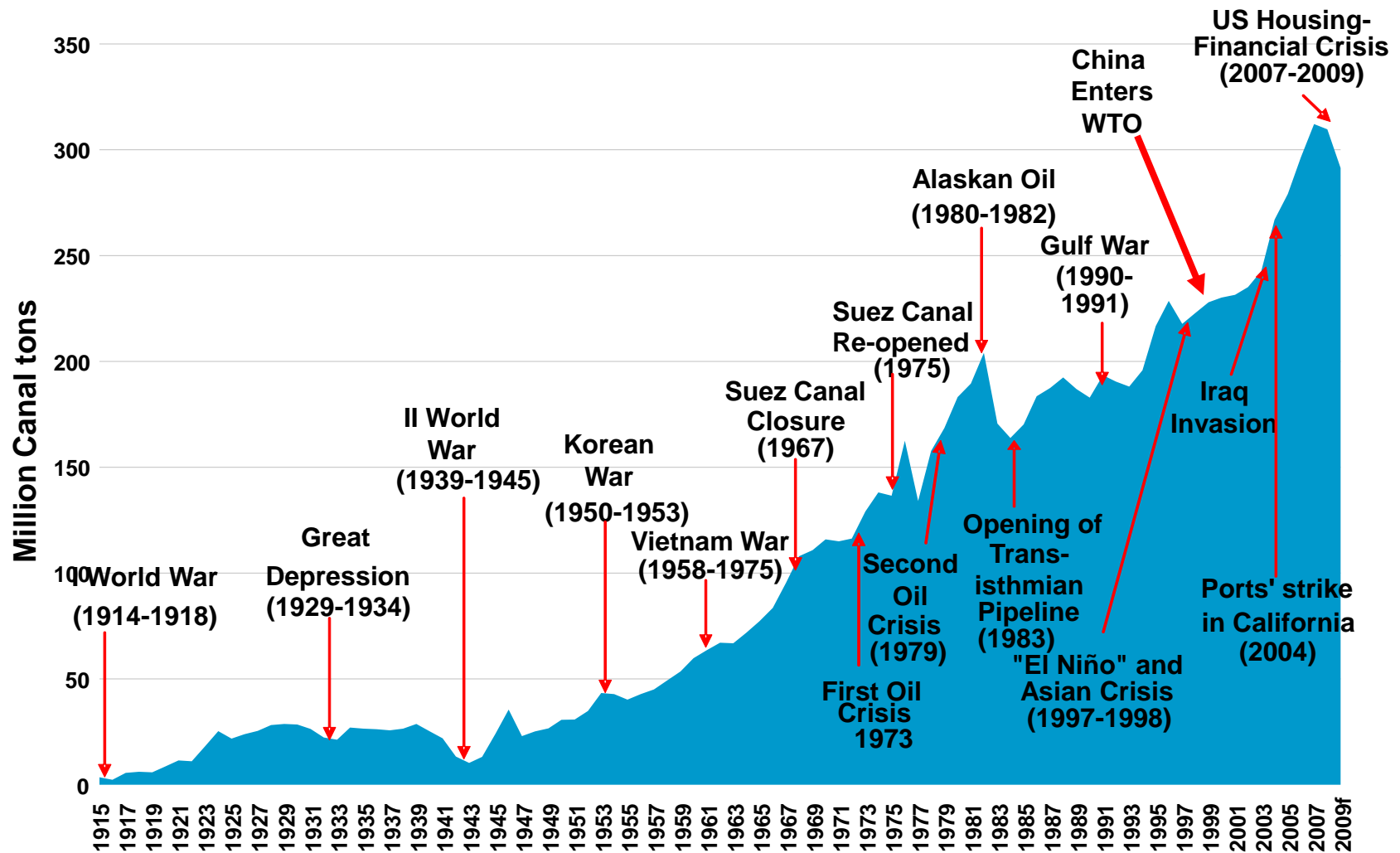
The Panama Canal Today



The Panama Canal 2014



Panama Canal Traffic and World Events

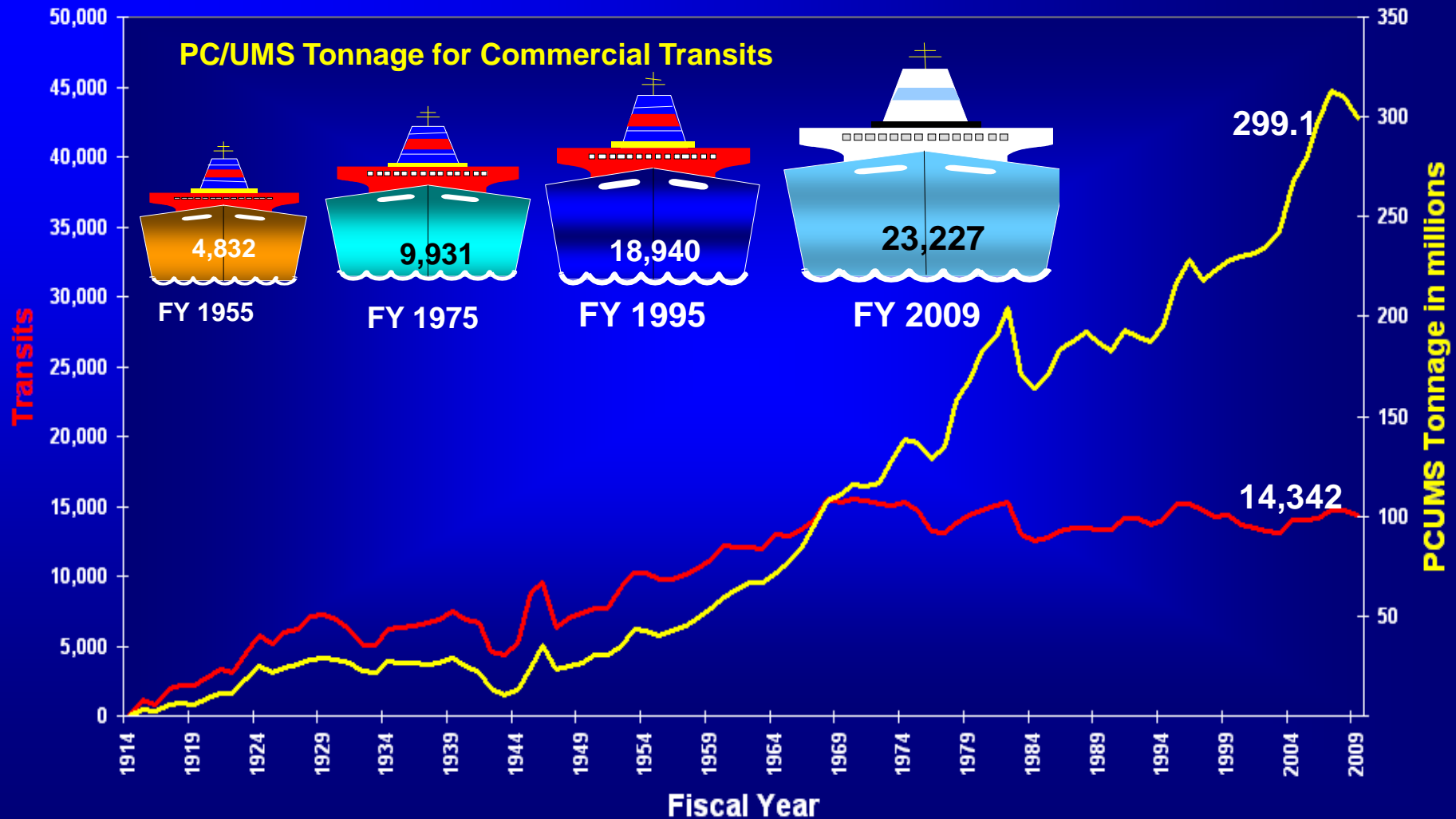


Source: Panama Canal Authority



Transits vs. PC/UMS Tonnage

FY 1914 – FY 2009



Investment Program

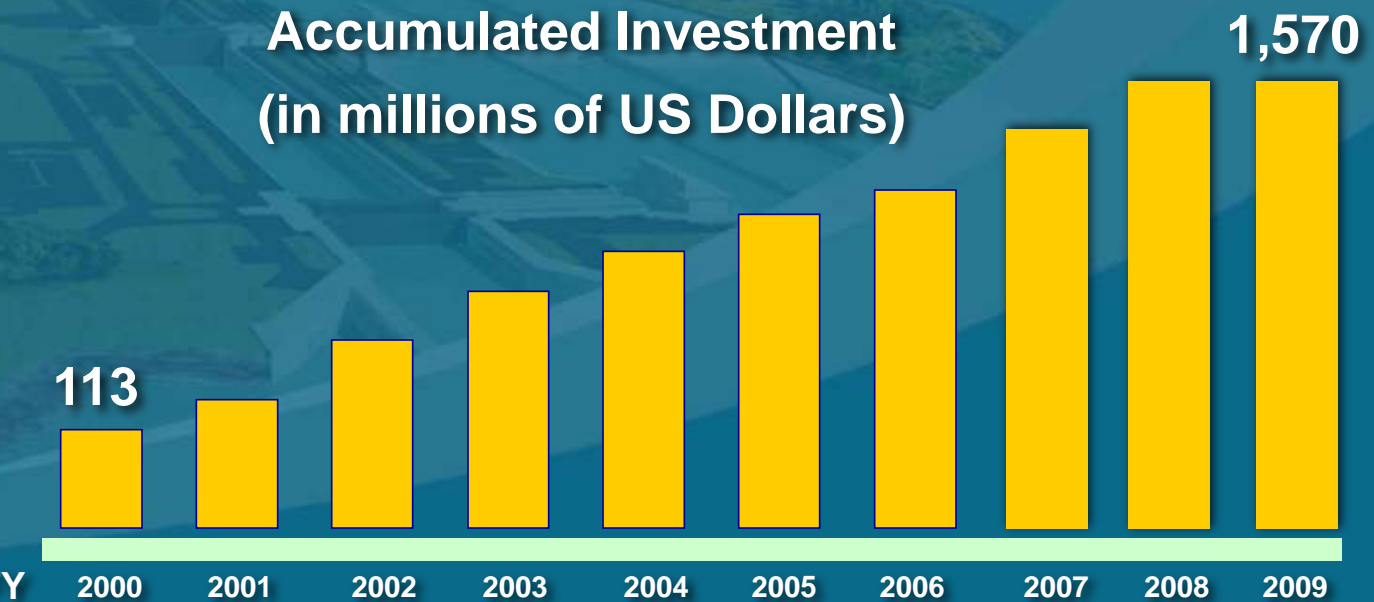
Dredging



Locomotives



Hydraulic Systems



Technology



Rail System

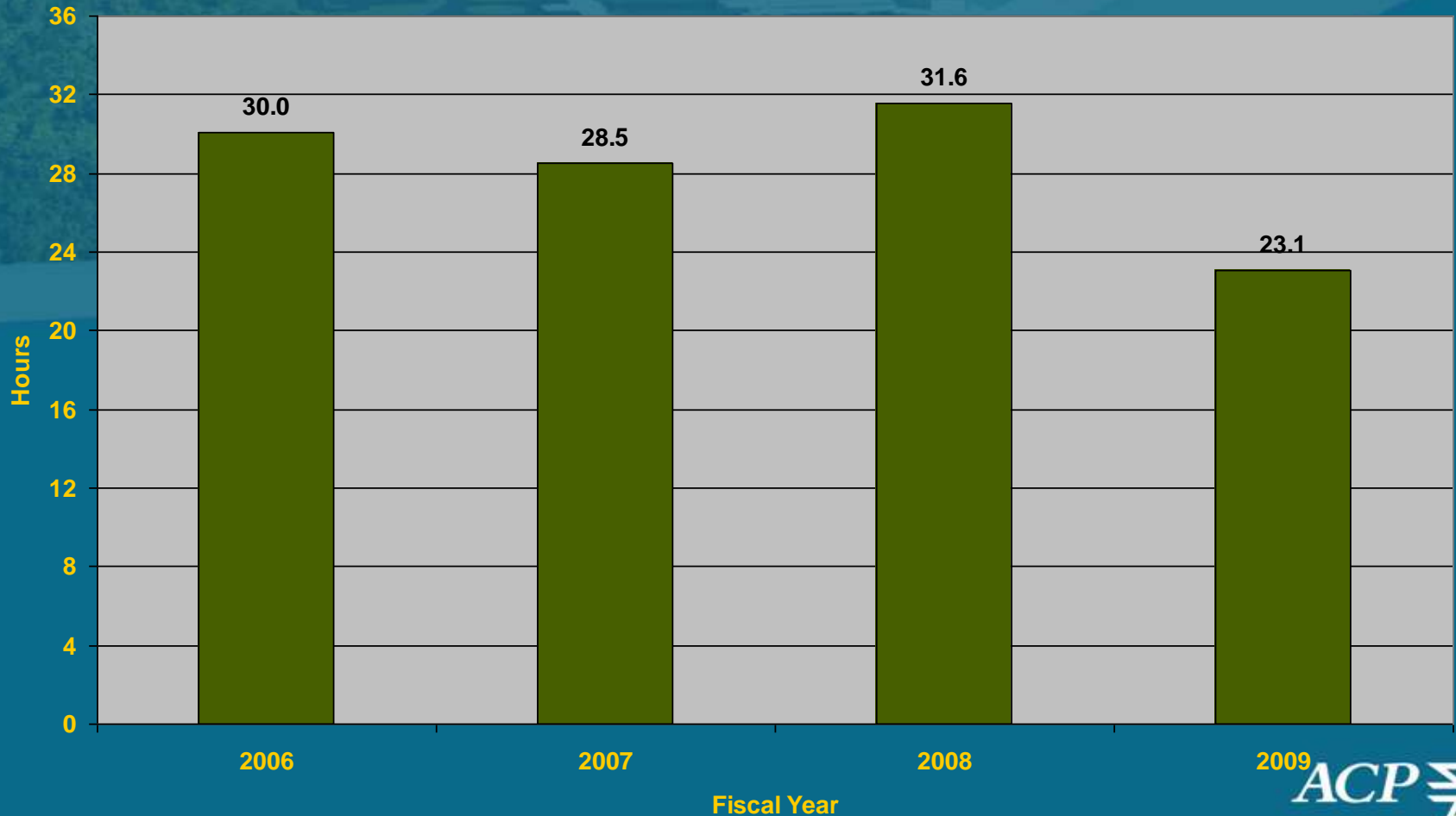


Tugboats



Average Canal Waters Time by Fiscal Year Global

Average Canal Waters Time by Fiscal Year
Global



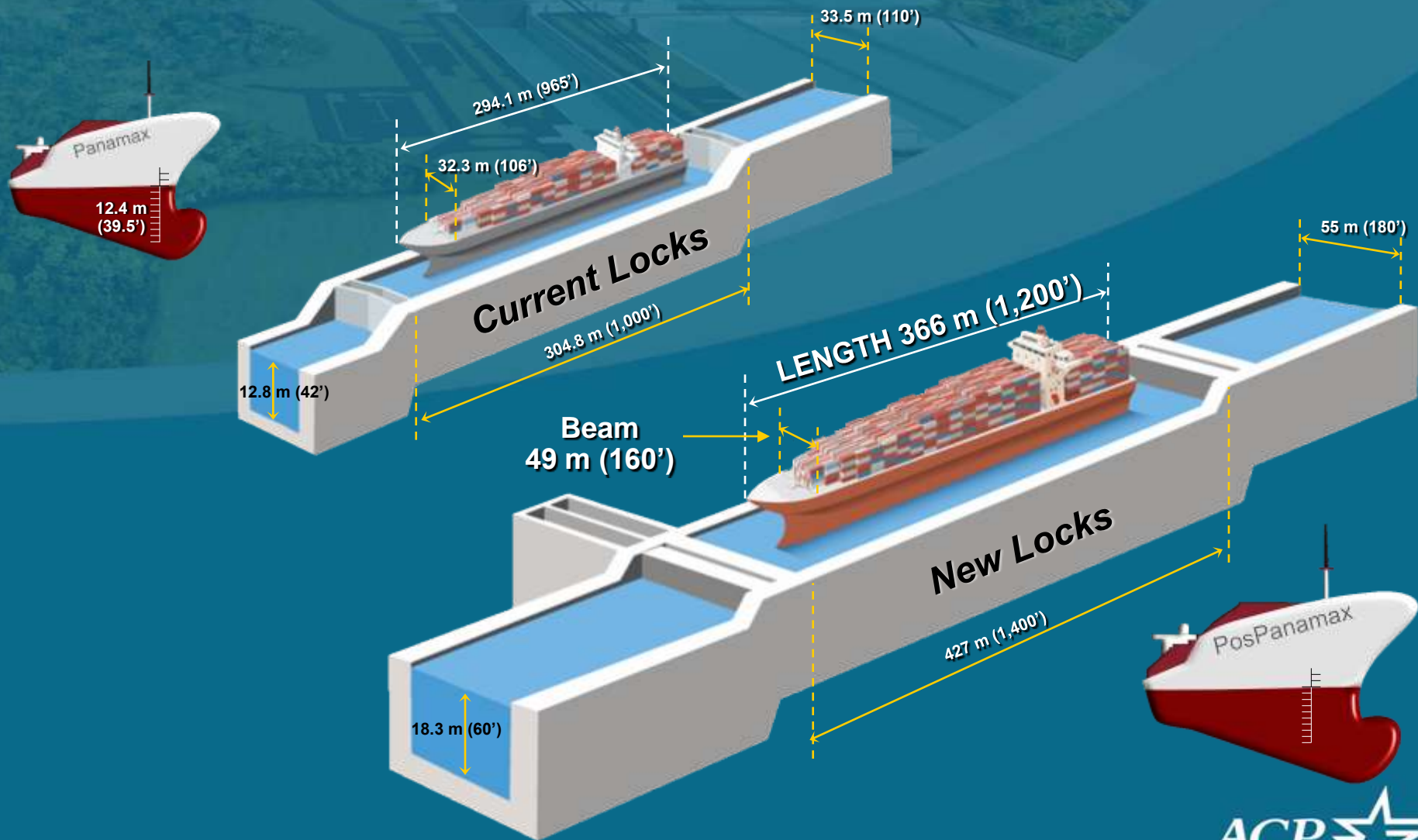
Expansion Program Update

Expansion Program Components



Dimension of Locks and New-Panamax vessels

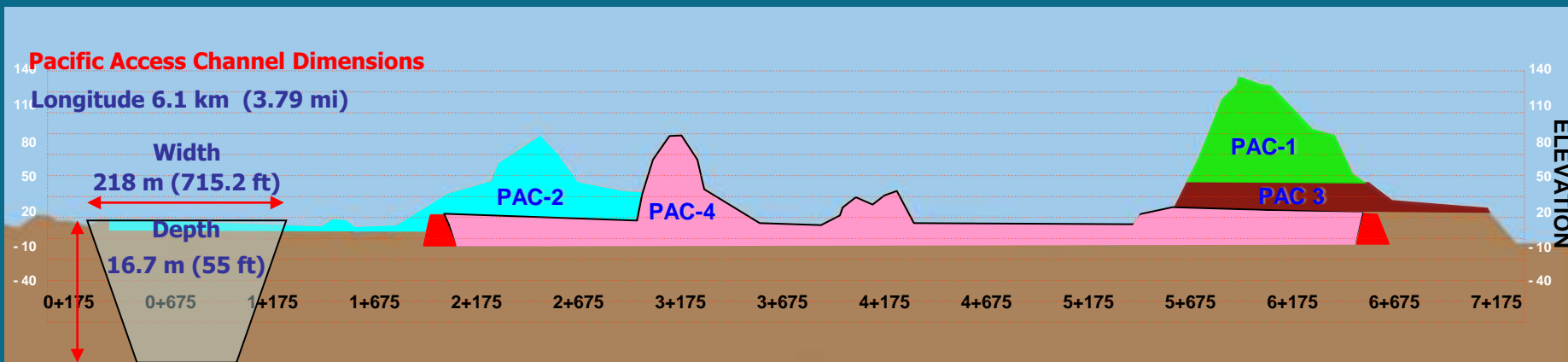
Existing Locks Max Vessel: 4,400 TEU's



New Locks Max Vessel: 12,600 TEU's

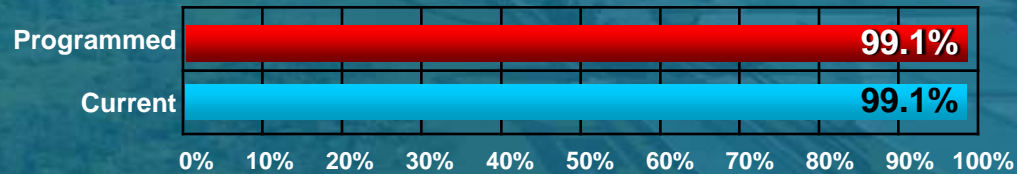
Pacific Access Channel

PAC 1	Excavation of 7.3 Mm ³	Cleaning of 146 hectares of MEC	Relocation of 3.5 km of Borinquen Road	
PAC 2	Excavation of 7.4 Mm ³		Relocation of 1.3 km of Borinquen Road	Deviation of 3.5 km of Cocoli River
PAC 3	Excavation of 8.0 Mm ³	Cleaning of 190 hectares of the remaining T6 area		
PAC 4	Excavation of 26.2 Mm ³	Cleaning of 80 hectares of MEC	15,367 Ton Met of piling	Construction of Borinquen Dam Length 2.3 km Ridge 30 m Base 150 m Height 26 m
TOTAL	48.9 Mm³	416 hectares		



Projects Underway

Pacific Access Channel - PAC 1



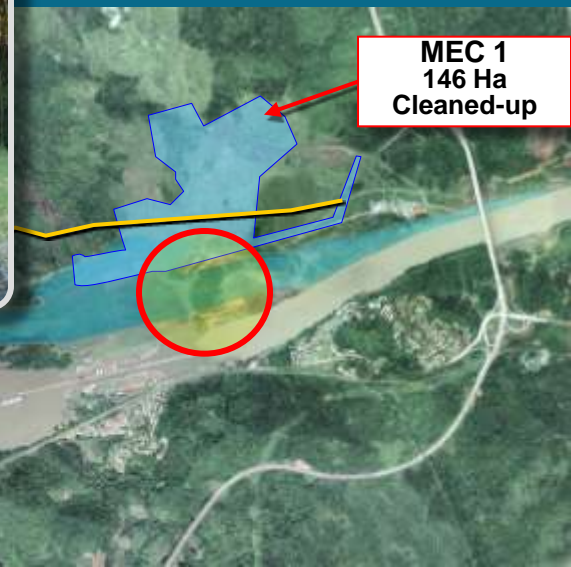
7.3 Mm³ excavated

Project Scope:

7.3 Mm³ of earth removal,
Cleanup of 146 ha of UXO disposal area
Relocation of 3.5 km of Borinquen Road

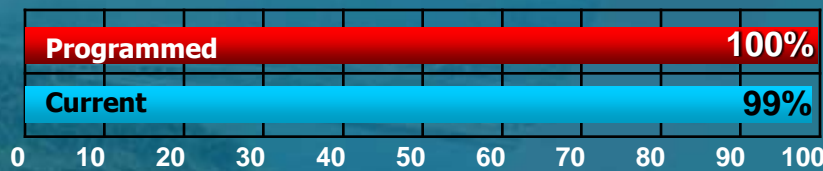
Awarded : July 17, 2007

Amount: \$40,431,196.00



Projects Underway

Pacific Access Channel - PAC 2 7.4 Mm³ excavated



Project Scope : Excavation of 7.4 Mm³
Relocation of 1.3 km of Borinquen Road
Deviation of 3.5 km of Cocolí River.
Awarded: November 27, 2007



Projects Underway

Pacific Access Channel - PAC 2
Borinquen Road - Phase II,
100% completed



Borinquen Road - Phase III,
80% completed by ACP



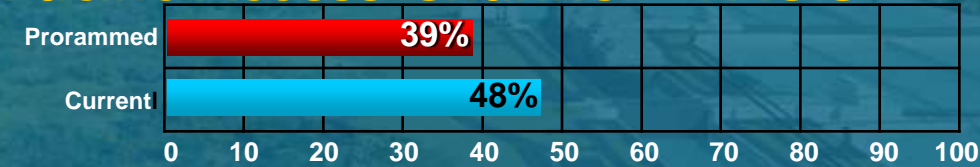
End of Cocoli River Deviation



December 29, 2009

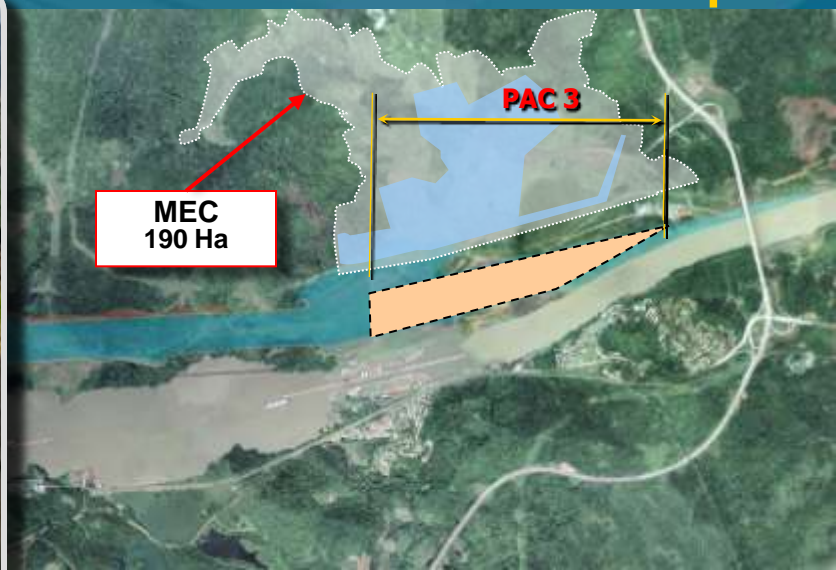
Projects Underway

Pacific Access Channel - PAC 3



Awarded: December 16, 2008
Company: Constructora MECO, S.A.
Scope: 8.0 Mm³

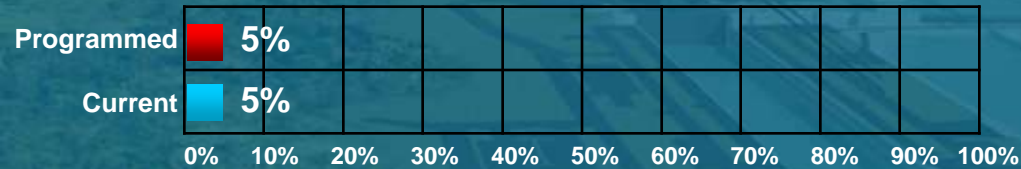
Clearing 190 ha of UXO area
3.35 Mm³ excavated
190 hectares cleaned-up



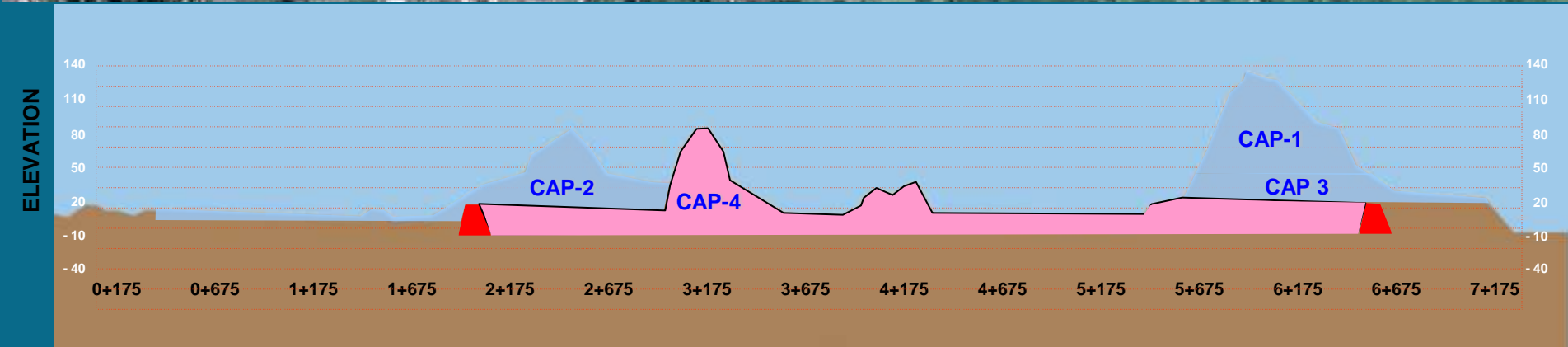
3+675

Projects Underway

Pacific Access Channel - PAC 4 26.2 M m³ of dry excavation



- Scope: 26.2 Mm³
- Receipt of proposals: 22-DEC-09
- Awarded: 7-JAN-10
- Ending date: 1,288 days as of the order to Proceed (estimated 1-AUG-13)



Borinquen Dam



Canal Expansion Dredging Components

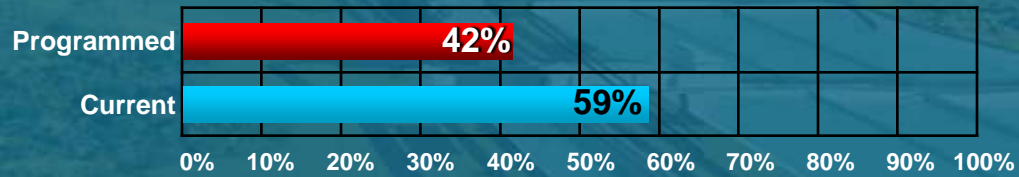
Dredging

- Pacific entrance deepening and widening (9.1 Mm³)
- Gatun Lake & Culebra Cut dredging (30 Mm³)
- Atlantic entrance deepening & widening (15.8 Mm³)

Total Volume: 54.9 Mm³

Projects Underway

Pacific entrance deepening and widening (8.7 M m³)



5.03 Mm³ dredged



Awarded: April 1, 2008

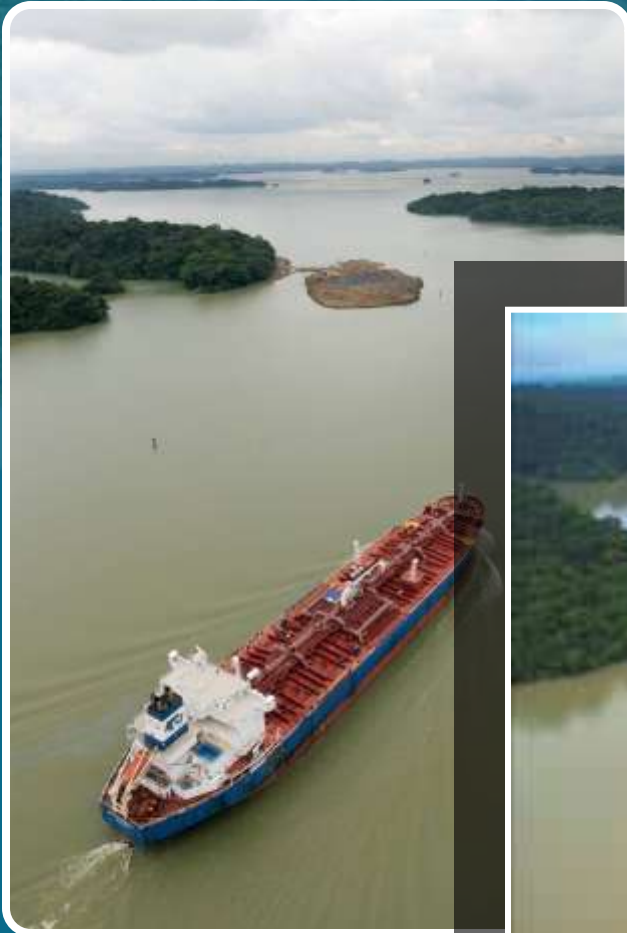
Company: Dredging International

Amount: \$177.5 M

Dredging Amount: 8.7 Mm³



De Lesseps Island



300,000 lb = 136 Me

Projects Underway

Atlantic entrance deepening & widening

Volume	15.6 M m ³
Awarded to:	Jan de Nul NV
Date of award:	September 25, 2009
Awarded amount:	\$89,617,317
Option: Additional 60 cm in depth	\$16,411,600
End of project:	May 2013

Width: 225m (740') ▶

•Widening: of 198 m to 225 m (navigational Channel)

Turnaround area for PostPanamax

•Canal width to 218 m (Approach channel - North)

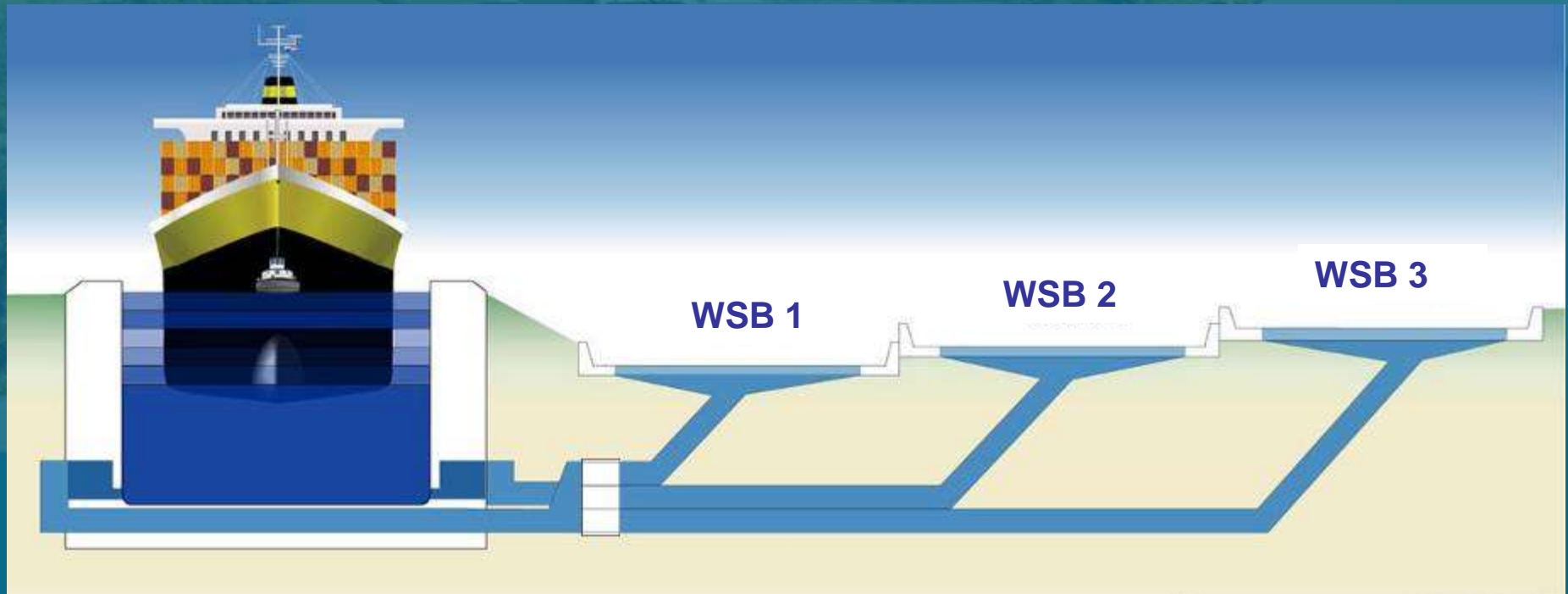
Design and Construction of the Locks



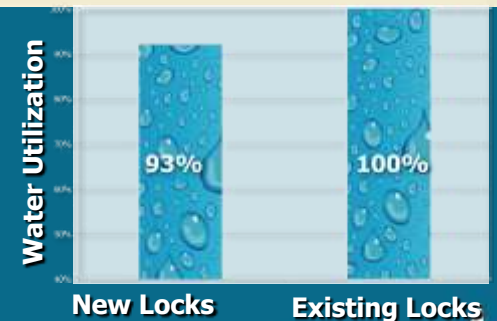
Atlantic	Pacific
Excavation: 15.6 Mm ³	Excavation: 22 Mm ³
Dredging: 9.2 Mm ³	Dredging: 861 Km ³
Concrete: 2.5 Mm ³	Concrete: 2.3 Mm ³
Total length: 2.2 km	Total length: 2.7 km
Reinforcing steel: 123,000 T	Reinforcing steel: 170,000 T
Gates and valves steel: 30,000 T	Gates and valves steel: 37,000 T

<u>Lock Chamber</u>		<u>Vessel size</u>	
Length:	427 m	LOA:	366 m
Width:	55 m	Beam:	49 m
Depth:	18.3 m	Draft:	15.2 m

Post Panamax Locks Operation



With the water saving basins
the new locks will use **7% less**
water than the existing locks



Clearing Atlantic Locks Area



Clearing Atlantic Locks Area



Clearing Pacific Locks Area



Pacific Locks Area



Impact of the Panama Canal Expansion

Trade route cross-roads



A major advantage for developing relay traffic, as it provides the possibility of linkages between multiple services on both east-west and north-south routes.



WORLD MAIN LOGISTICS HUBS



Panama is the main logistical, transportation and transshipment hub of the Americas.



U.S. Ports Main Channel Depths

Depths at Mean Low Water (MLW)

U.S. East Coast	MLW
Boston	40'
New York / New Jersey	45'
Philadelphia	40'
Baltimore	50'
Norfolk	50'
Wilmington	38'
Charleston	45'
Savannah	42'
Jacksonville	40'
Tampa	43'
Miami	42'

U.S. East Coast	MLW
Everglades	44'
Manatee	40'
U.S. Gulf	
Houston	45'
New Orleans	45'
U.S. West Coast	
LA / Long Beach	50'
Oakland	50'
Portland	40'
Seattle / Tacoma	50'



Port Authorities Expansion Projects

Location	Project	Estimated Completion
Georgia Ports Authority	Deepening of the Savannah River Channel from 42' to 48'.	2014
Port of Miami	Deepening draft from 42' to 50' and the construction of Port of Miami Tunnel Project to expedite delivery of goods.	2014
Philadelphia Regional Port Authority	Dredging the main shipping channel of the Delaware River from 40' to 45'.	Within 5 – 7 years
Port Authority of New York & New Jersey	Harbor deepening project to 50'; \$10 million approved to analyze alternatives for Bayonne Bridge (height: 151').	Harbor deepening to be completed in phases from 2010 to 2014.
Port of Houston Authority	The Bayport Container & Cruise Terminal project (Phase 1 is completed); future capacity of 2.3M TEU.	All phases completed in 15-20 years
Broward County's Port Everglades Department	Inauguration of Cruise Terminal 18 for megaships.	Nov. 2009

Port Authorities Expansion Projects

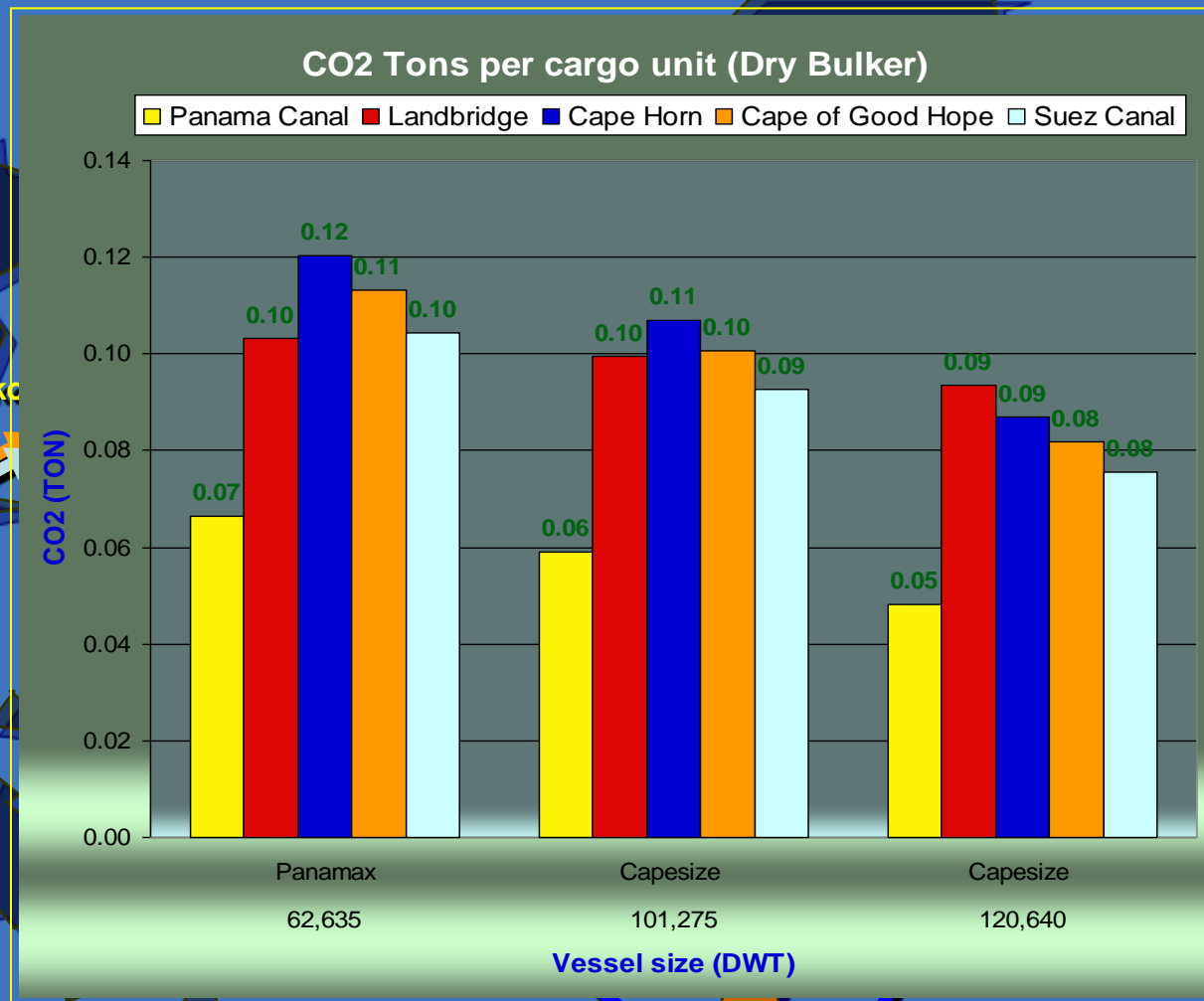
Location	Project	Estimated Completion
Port of Palm Beach	Development of logistics center for storage and distribution of cargo to the South Florida region.	
Jacksonville Port Authority	Development of container terminals by MOL (already in use) and Hanjin with total additional capacity of 1.5M TEU	2011 - 2012
Maryland Port Administration	Construction of the new 50-foot berth at Baltimore's Seagirt Marine Terminal.	2012
Manatee County Port Authority	The 788 acre Logistics Port Manatee (LPM) multimodal logistic park (Port Manatee's first container terminal); directly served by CSX railroad.	2011

Components of the Green Route Concept

- The CO₂ emission reduction in the planet as a result of the Panama Canal route
- The actions taken by ACP: Environmental management in operations and Canal Watershed sustainability programs
- Become carbon neutral



CO₂ emissions by TM (dry bulk carrier) Yokohama, Japan- Louisiana, USA Route Comparison of the Landbridge, Cape Horn, Cape of Good Hope, Suez Canal, and the Panama Canal Routes



Panama Canal

Good Hope

Suez Canal

Landbridge

16,734 nm

15,737 nm

Port Development in Panama

Manzanillo International Terminal (MIT)



Colon Container Terminal



Panama Ports Company – Cristobal



Panama Ports Company Balboa



1996: 235 Thousand TEUs
2009: 4.23 Million TEUs
2015: 7.4 Million TEUs

Source: Panama Maritime Authority

Colon Free Zone



Transisthmian Pipeline



Fiber Optic Duct



Panama – Colon Highway



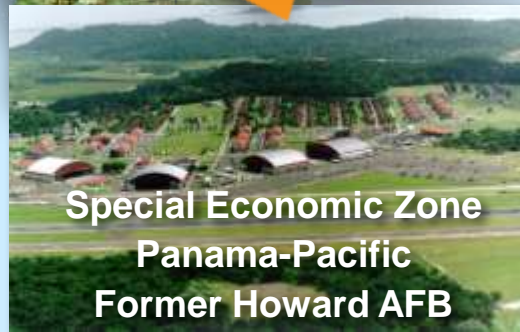
Tocumen International Airport



Transisthmian railroad



Special Economic Zone
Panama-Pacific
Former Howard AFB



Banking Center



International Ports Connected through the Panama Canal every Week



Source: ACP and ComPairData, 2007

Panama: the main transportation and logistics hub of the Americas





Thank you

