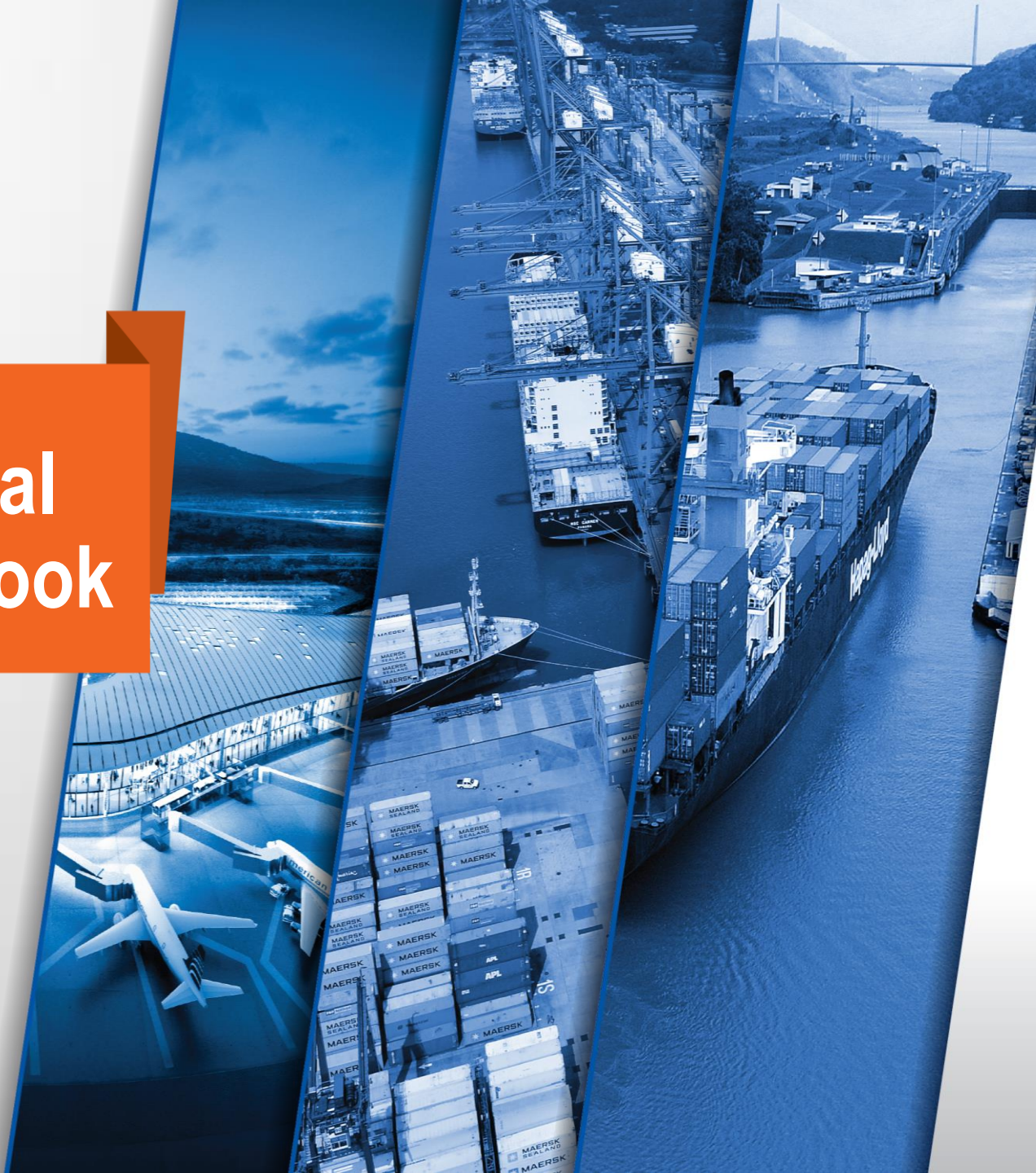


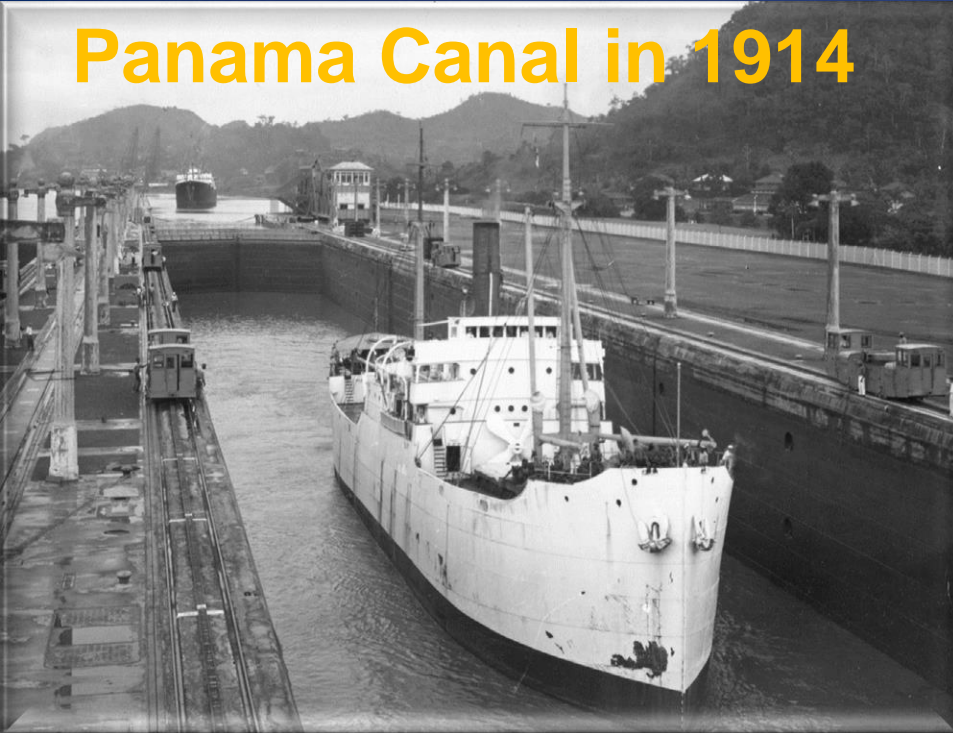
Panama Canal Update & Outlook



Marianele Dengo
Manager, Strategic Relations
Panama Canal Authority
AAPA Shifting International Trade Routes
January 29, 2015



Panama Canal in 1914



Panama Canal Today



The Panama Canal



- Gamechanger?
- Shifting International trade routes?

Canal Expansion Raises Expectations and Questions, New York Times, February 2012

Expanded Panama Canal sparks race to be ready for bigger cargo ships, Washington Post, January 2013

The Panama Canal Expansion Will Be a Supply Chain Game Changer, Inbound Logistics, October 2011

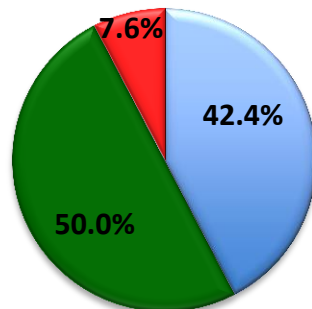
From TPM: Panama Canal Expansion No Game-Changer, Journal of Commerce, March 2014

A Game-Changer for LNG Shippers, Motley Fool, June 2014

Containership World Fleet (2014- 2018)

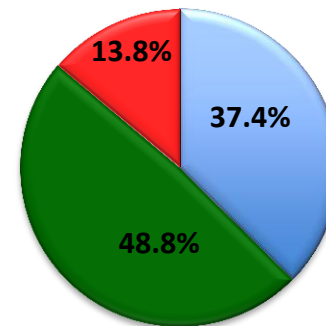
Vessel size	Existing fleet as of December 2014				Orderbook 2014-2018				Estimated Fleet in 2018				
	No. of vessels	%	Capacity (thousands of TEUs)	%	No. of vessels	%	Capacity (thousands of TEUs)	%	No. of vessels	%	Capacity thousands of TEUs)	%	
Feeder and Feedermax <1,000	1,044	20.4%	622	3.4%	17	3.7%	8	0.2%	1,061	19.0%	630	2.9%	
Handy >=1,000 <2,000	1,248	24.4%	1,751	9.6%	92	20.0%	134	4.0%	1,340	24.0%	1,885	8.8%	
Sub-Panamax >=2,000 <3,000	665	13.0%	1,689	9.3%	73	15.9%	173	5.2%	738	13.2%	1,862	8.6%	
Panamax >=3,000 <=5,100	867	16.9%	3,654	20.1%	7	1.5%	24	0.7%	874	15.7%	3,678	17.1%	
Neopanamax	< 6,000	376	7.3%	1,937	10.6%	34	7.4%	134	4.0%	410	7.3%	2,072	9.6%
	>=6,000 <7,000	234	4.6%	1,537	8.4%	5	1.1%	34	1.0%	239	4.3%	1,571	7.3%
	>=7,000 <8,000	44	0.9%	325	1.8%	0	0.0%	0	0.0%	44	0.8%	325	1.5%
	>=8,000 <9,000	275	5.4%	2,318	12.7%	30	6.5%	263	7.9%	305	5.5%	2,581	12.0%
	>=9,000 <10,000	118	2.3%	1,105	6.1%	67	14.6%	620	18.7%	185	3.3%	1,725	8.0%
	>=10,000 <11,000	44	0.9%	448	2.5%	27	5.9%	272	8.2%	71	1.3%	720	3.3%
	>=11,000 <12,000	18	0.4%	204	1.1%	6	1.3%	66	2.0%	24	0.4%	270	1.3%
>=12,000 <=13,299	95	1.9%	1,240	6.8%	0	0.0%	0	0.0%	95	1.7%	1,240	5.8%	
Subtotal Neopanamax	1,204	23.5%	9,114	50.0%	169	36.8%	1,389	41.8%	1,373	24.6%	10,503	48.8%	
Post Panamax*	>=13,300 <15,000	67	1.3%	926	5.1%	59	12.9%	832	25.0%	126	2.3%	1,757	8.2%
	>=15,000 <16,000	10	0.2%	156	0.9%	4	0.9%	64	1.9%	14	0.3%	220	1.0%
	>=16,000 <17,000	3	0.1%	48	0.3%	3	0.7%	48	1.4%	6	0.1%	96	0.4%
	>=17,000 <18,000	0	0.0%	0	0.0%	3	0.7%	54	1.6%	3	0.1%	54	0.2%
	>=18,000 <19,000	13	0.3%	238	1.3%	19	4.1%	351	10.6%	32	0.6%	588	2.7%
	>=19,000 <20,000	1	0.0%	19	0.1%	13	2.8%	248	7.5%	14	0.3%	267	1.2%
>= 20,000	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	
Subtotal Post Panamax	94	1.8%	1,387	7.6%	101	22.0%	1,596	48.0%	195	3.5%	2,982	13.8%	
Total	5,122	100%	18,217	100%	459	100%	3,322	100%	5,581	100%	21,539	100%	
% Less than Panamax		57.7%		22.3%		39.7%		9.5%		56.2%		20.3%	
% Panamax		16.9%		20.1%		1.5%		0.7%		15.7%		17.1%	
% Neopanamax		23.5%		50.0%		36.8%		41.8%		24.6%		48.8%	
% Post panamax		1.8%		7.6%		22.0%		48.0%		3.5%		13.8%	

Existing Capacity 2014



■ Panamax or Less ■ Neo Panamax ■ Post Panamax

Estimated Capacity in 2018



■ Panamax or Less ■ Neo Panamax ■ Post Panamax

- **Panama Canal's Growth Prompts U.S. Ports to Expand, New York Times, August 2012**
- **As Panama Canal Expands, West Coast Ports Scramble to Keep Big Cargo Vessels, New York Times, June 2014**
- **Port Cities Prep for Wider Panama Canal, Wall Street Journal, July 2014**
- **Miami is betting big that expansion of Panama Canal will bring in megaships, Miami Herald, September 2014**
- **Diversions from West Coast expected after Panama Canal expansion, Journal of Commerce, November 2014**



Corpus Christi, 2011



Houston, 2014



Georgia, 2013



Jaxport, 2011



South Carolina, 2014



Miami, 2014

President Obama's «We Can't Wait» Initiative

“One way to help American businesses grow and hire is to modernize our infrastructure,” said President Obama. “That’s why in March I asked my Administration to identify important projects across the country where Federal review could be expedited. Today’s commitment to move these port projects forward faster will help drive job growth and strengthen the economy.”

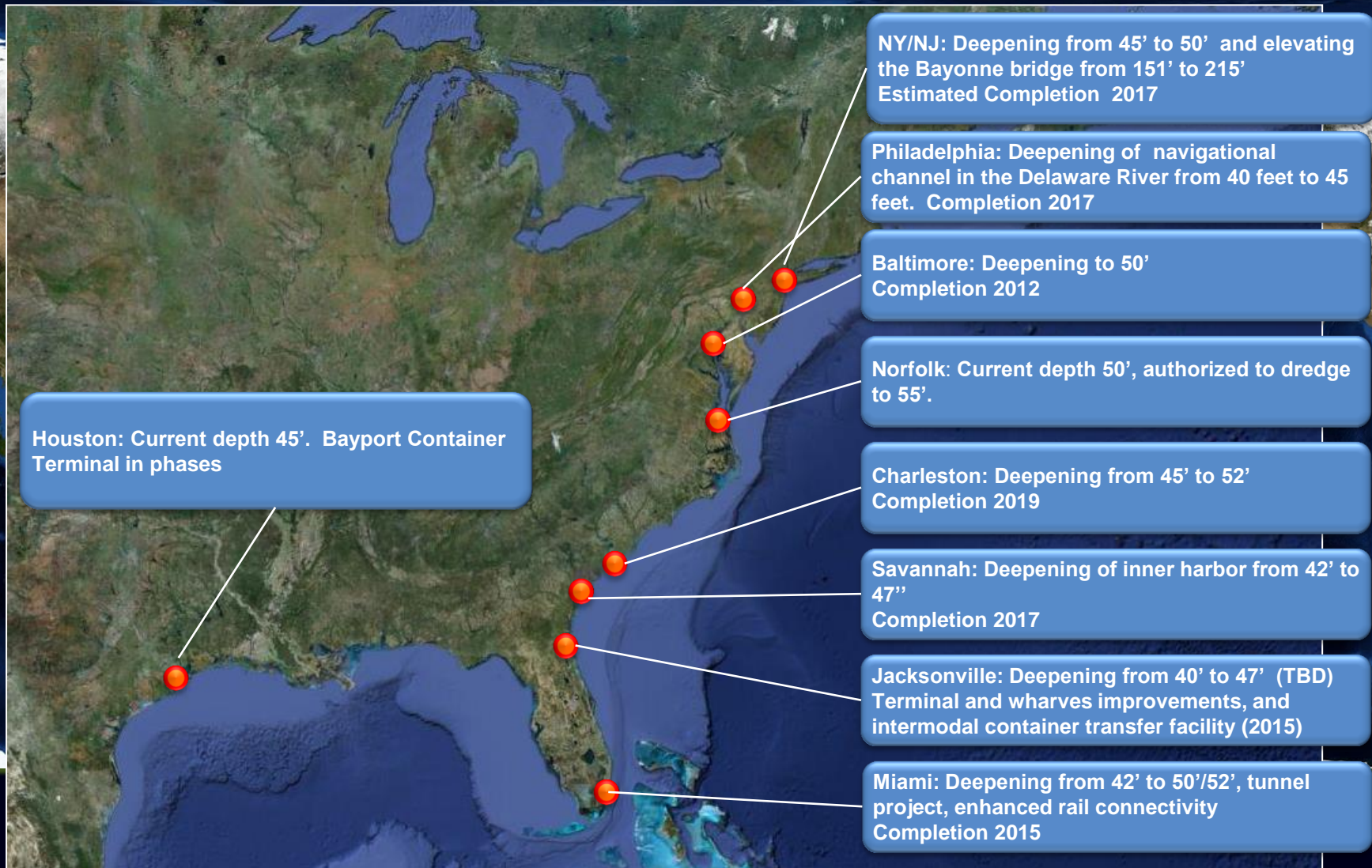
July 19, 2012

President Obama's «We Can't Wait» Initiative

Will expedite infrastructure projects in 5 major East Coast Ports:

- Port of New York/New Jersey
- Port of Savannah
- Port of Charleston
- Port of Miami
- Port of Jacksonville

Main U.S. East and Gulf Coast Ports with Infrastructure Projects in Preparation for the Expansion



Changes in world trade 2006 - 2014

- Global recession 2008 -2009
- Drop in U.S. consumption of manufactured products, especially household goods.
- Europe trade primarily affected
- Long term growth prospects slower than expected

Global Outlook

Economist Intelligence Unit

January 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Real GDP growth (%)											
World	4.1	3.9	1.3	-2.3	4.0	2.6	2.1	2.1	2.3	2.8	2.8
US	2.7	1.9	-0.3	-2.8	2.5	1.6	2.3	2.2	2.4	3.4	2.5
Japan	2.0	2.3	-1.1	-5.5	4.7	-0.4	1.7	1.6	0.1	1.1	2.0
Eurozone	3.2	2.9	0.2	-4.4	2.0	1.7	-0.7	-0.4	0.8	1.1	1.4
China	12.7	14.2	9.6	9.2	10.4	9.3	7.7	7.7	7.3	7.2	6.7
World Trade Growth (%)											
Goods	9.1	7.1	2.7	-11.7	14.0	6.8	2.7	2.7	3.4	5.1	5.3

IHS Global Insight

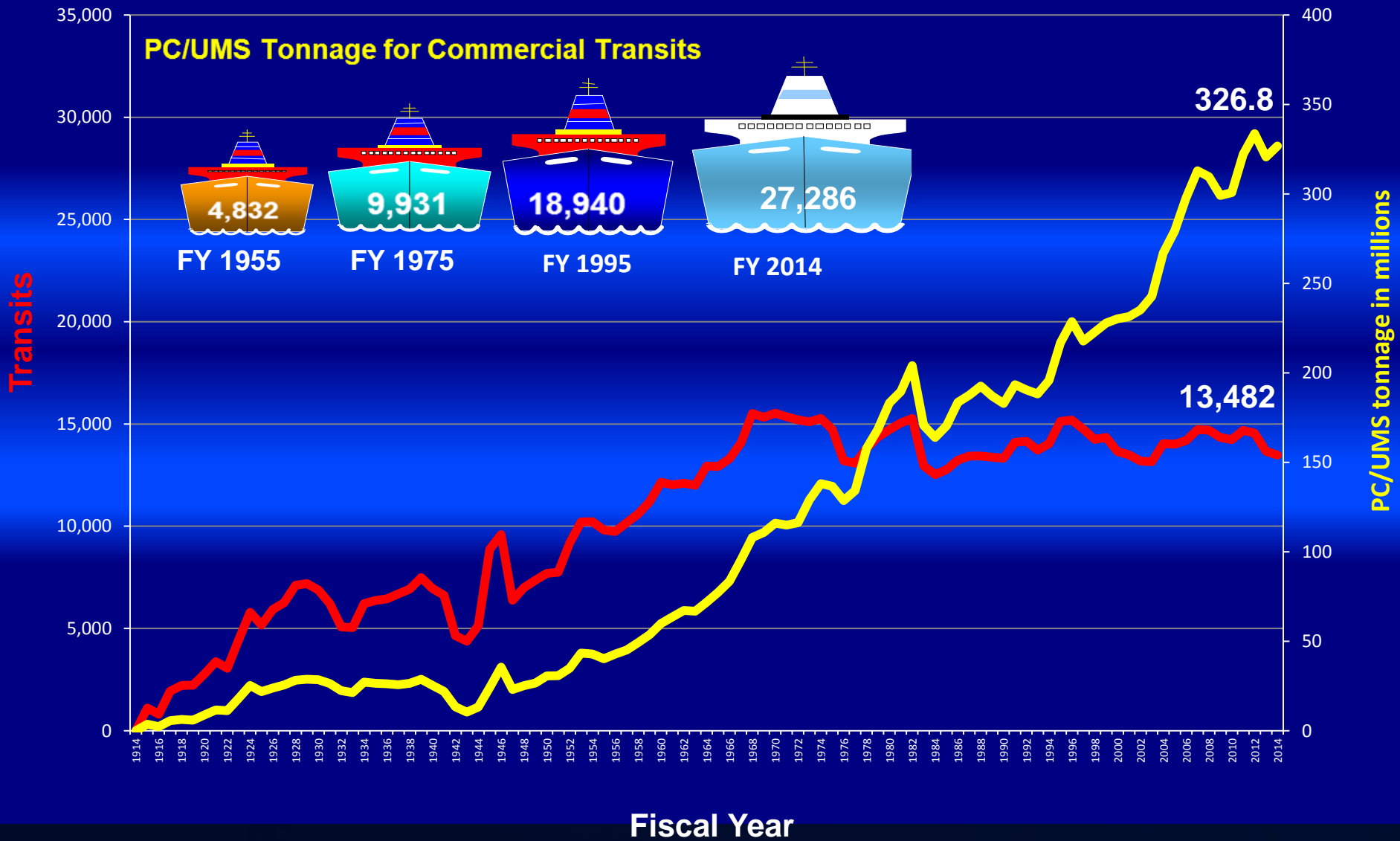
January 2015

United States:	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Real GDP growth (% change)	2.7	1.8	-0.3	-2.8	2.5	1.6	2.3	2.2	2.4	3.1	2.7
Consumer prices (% change)	3.2	2.9	3.8	-0.3	1.6	3.1	2.1	1.5	1.6	0.1	2.3
Unemployment rate (%)	4.6	4.6	5.8	9.3	9.6	8.9	8.1	7.4	6.2	5.5	5.3
Total Industrial production (% change)	2.2	2.5	-3.4	-11.3	5.7	3.3	3.8	2.9	4.3	3.4	3.7
Light vehicle sales (Million units)	16.5	16.1	13.2	10.4	11.6	12.7	14.4	15.5	16.4	16.9	17.2
Housing starts (Million units)	1.8	1.3	0.9	0.6	0.6	0.6	0.8	0.9	1.0	1.2	1.3
Total Consumption (% change)	3.8	2.8	-2.5	-3.1	3.5	3.2	2.9	3.5	3.5	4.3	3.9
World Trade Growth (%)	12.49	10.27	2.68	-12.49	16.33	6.54	2.57	1.67	4.50	4.80	4.80

Changes in world trade 2006 - 2014

- Price of fuel
- Slow steaming
- Delivery of larger ships
- Excess fleet

Transits vs PC/UMS Tonnage FY 1914 – FY 2014



Main Routes - FY 2014



Total: 224.9 M (long tons)

Asia – East/Gulf Coast US

 86.2M

West Coast South America - East Coast US

 33.4M

West Coast South America - Europe

 12.6M

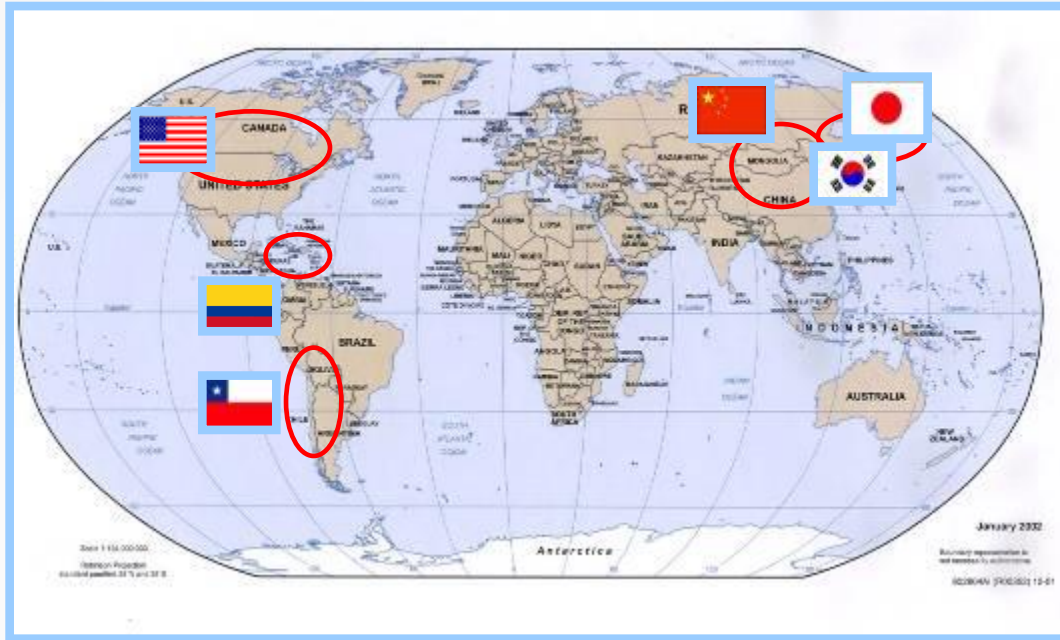
West Coast Central America – East Coast US

 12.0M

South America Intercoastal

 10.9M

The Panama Canal Trade and Main Users



Total Cargo Movement FY 2014

USERS	FY 2013*	FY 2014*	2014 (%)
United States	136.5	154.1	68.5
China	46.4	51.5	22.8
Chile	29.0	29.5	13.1
Japan	20.0	21.7	9.5
Colombia	17.5	19.2	9.6
South Korea	16.8	19.1	8.5

* Measured in Million of Long Tons

Total Cargo Movements
224.9 Million Long Tons

69% of Canal cargo traffic
originates in or is destined
to the United States



Panama Canal Expansion Update

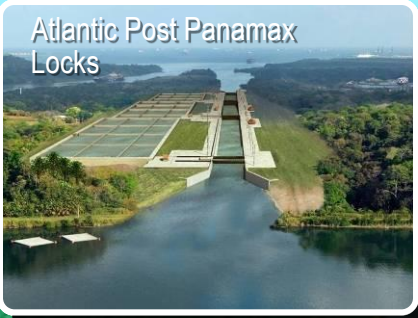
The Panama Canal Adding a third lane of traffic



Expansion Program Components

Atlantic Ocean

Atlantic Post Panamax Locks



Increase the Maximum Operating Level of Gatún Lake



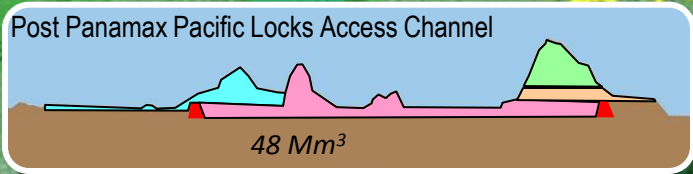
Deepening & widening of the Gatún lake & Culebra Cut navigational channels



Pacific Post Panamax Locks



Post Panamax Pacific Locks Access Channel



15.8 Mm³

Deep wide Atlantic



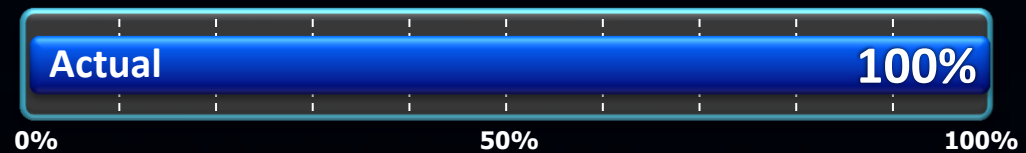
Pacific Ocean

Deepening and widening of the Pacific entrance (8.7 M m³)

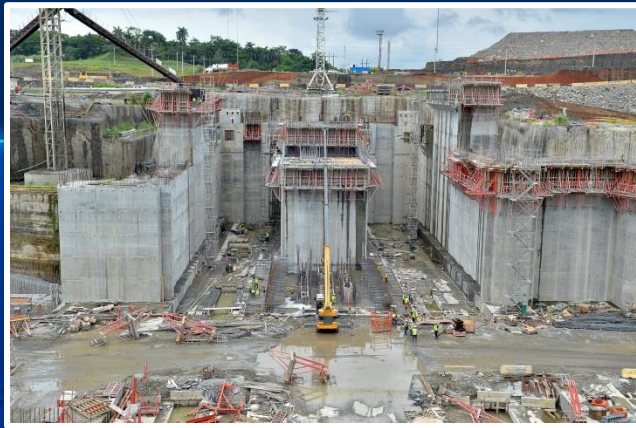


- Scope of Contract: 8.6 M m³
- Award: April 1, 2008
- Amount: B/. 177,500,676.78
- Company: Dredging International
- Amendment No. 12 : February 10, 2012
 - Expansion Program deliverable: Dec 31, 2012
 - Termination of Contract: June 30, 2013

8.6 M m³ dredged



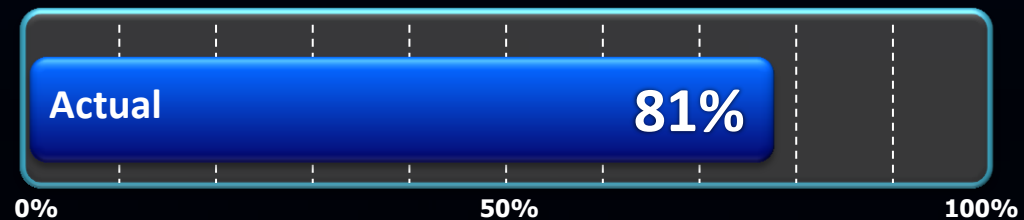
Locks Design and Construction



- Scope of Contract: Design and Construction of Locks
- Award: July 15, 2009
- Order to Proceed: August 25, 2009
- Initial Amount + options: B/. 3,158,600,059
- Consortium: Grupo Unidos por el Canal S.A.
 - Sacyr Vallehermoso – Impregilo –
 - Jan De Nul - CUSA
- Conclusion of the contract: October 21, 2014

Volume excavated and dredged:

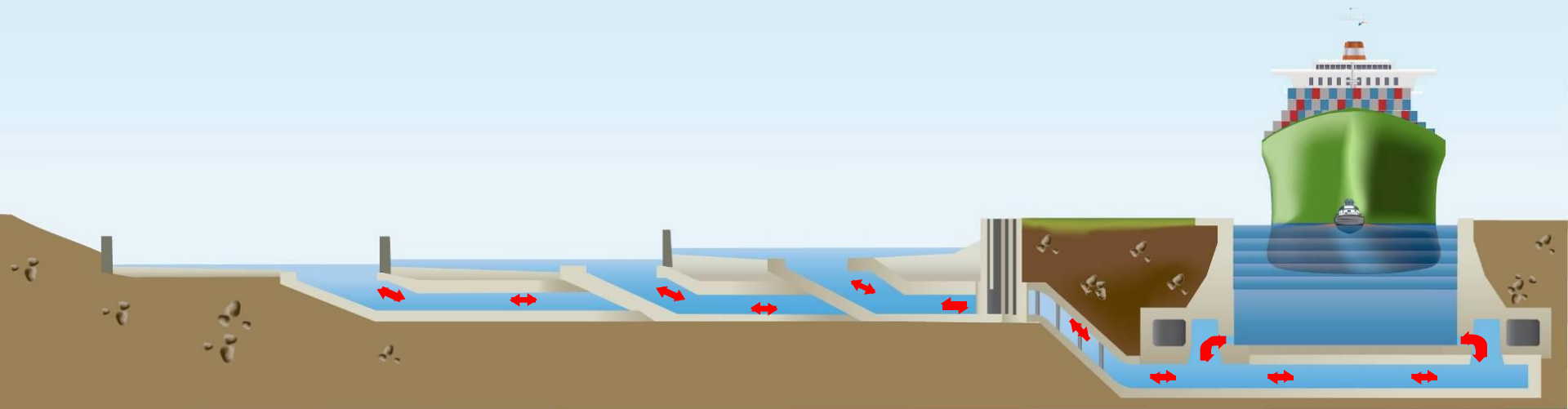
42.1 M m³ / 48.7 M m³



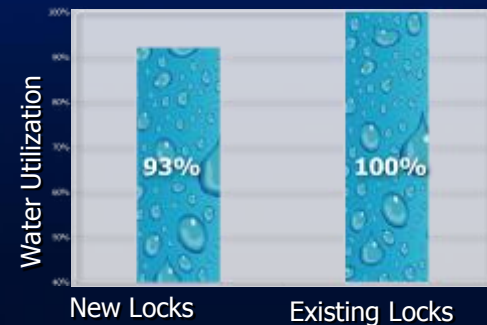
Locks Design and Construction



PostPanamax Locks Operation GUPC's Proposal



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



1939 Excavations – Pacific Site



1939 Excavations - Atlantic

2014



Locks – Atlantic Site



Locks – Atlantic Site



Gates Transport and Installation Atlantic Site

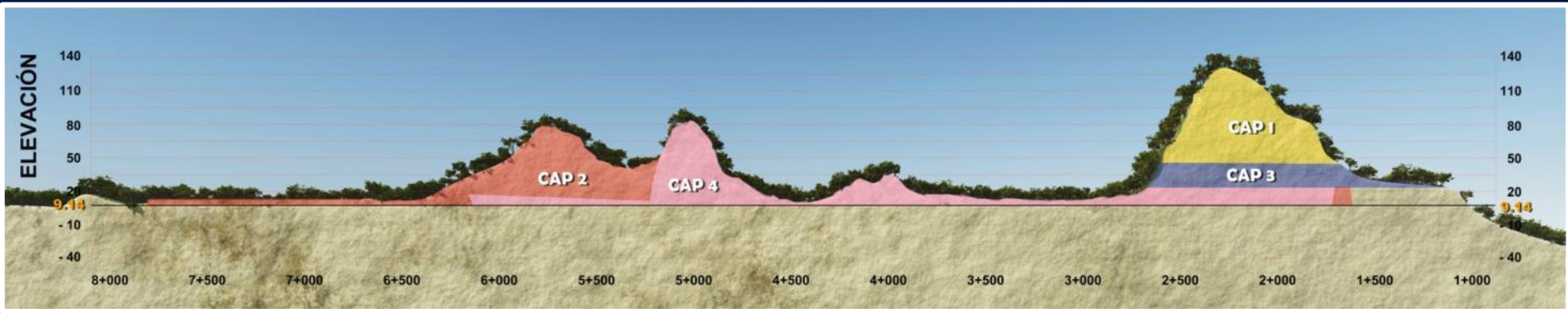
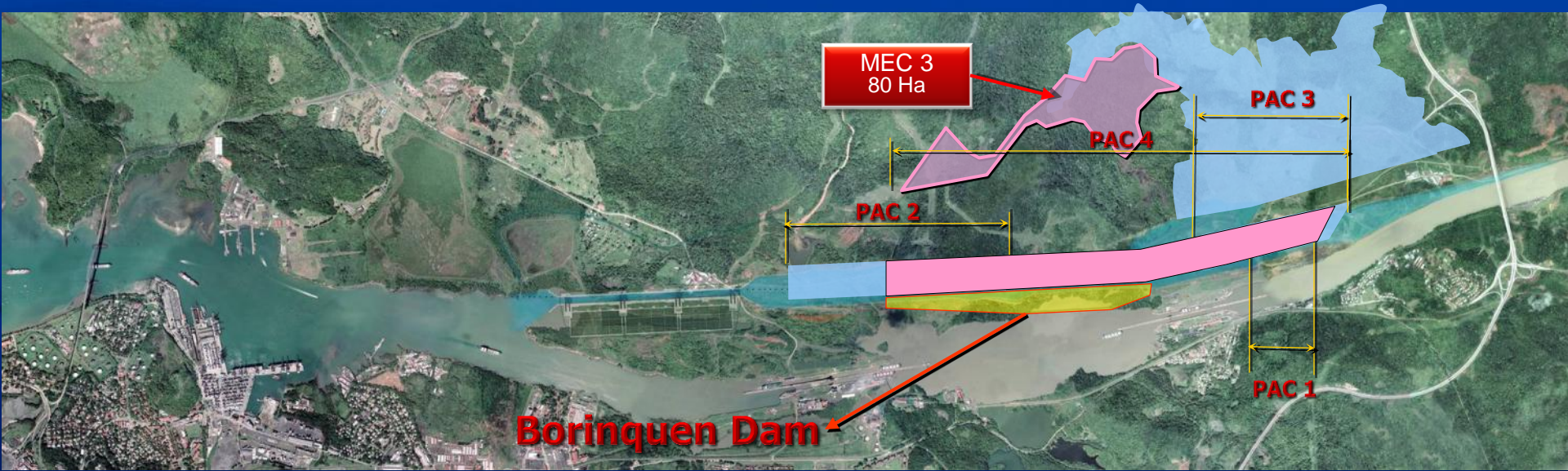


Gates Unloading
Dock Area

Gates Transport and Installation – Pacific site



Pacific Access Channel



Pacific Access Channel



PAC-1



CONCLUDED
25-Jan-2010

PAC-2



CONCLUDED
25-Feb-2010

PAC-3



CONCLUDED
15-May-2011

PAC-4



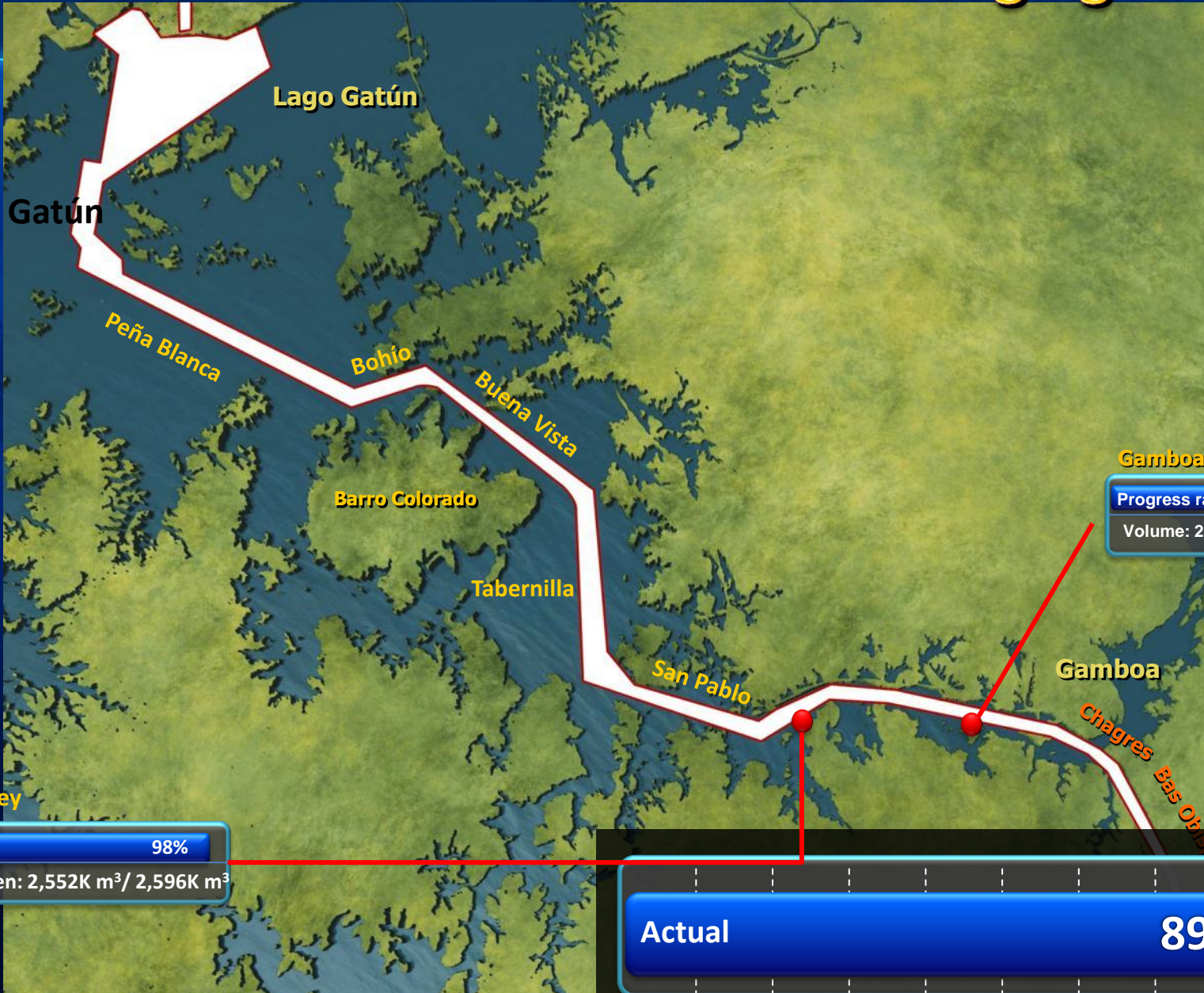
UNDER EXECUTION

- PAC : last award contract 7-Jan-10
- Company: Consortium ICA-FCC-MECO
- Amount of award: B/. 267,798,795.99
- Order to proceed: 22-Ene-10
- Start date: 27-Apr-10
- Estimated completion date: 31-Oct-13

43.9 M m³ excavated / 49 M m³



Gatun Lake and Gaillard Cut Dredging Areas



Progress rate: 81%
Volume: 2,835 Km³ / 3,521K m³

Actual 98%
Volumen: 2,552K m³ / 2,596K m³

Actual 89%

24.9 M m³ dredged / 26.5 M m³

0% 50% 100%

Dredging Areas in Gatun Lake and the Culebra Cut

R.H. Christensen Dredger



Quibian I Dredger



Cornelius Dredger



Alberto Aleman Zubieta

Mindi Dredger



Atlantic Entrance Deepening & Widening

17.38 M m³ dredged and excavated / 17.66 M m³



Award: September 25, 2009

Amount: B/. 144,236,596.44

Company: Jan De Nul NV

Conclusion of contract: April 25, 2013

Actual

100%

0%

50%

100%



Raising the Maximum Operating Level of Gatun Lake

Extension of Gatun Spillway gates



Prototype testing of hydraulic cylinders for gates

Bid for the acquisition of 32 hydraulic cylinders.

- 12 modified and installed gates
- 2 fabricated gates installed
- 2 modified gates in spare



Actual

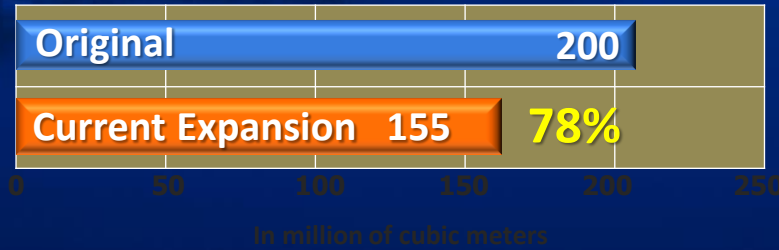
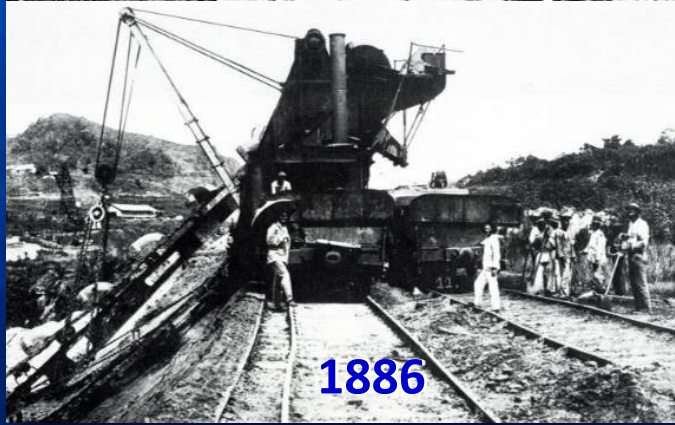
94%

0%

50%

100%

Volumes of Excavation and Dredging



Volume of concrete for the construction of the locks





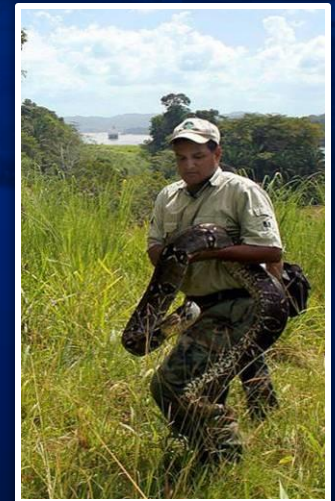
CANAL DE PANAMÁ

Social and Environmental Aspects



Environmental and Social Monitoring and Control

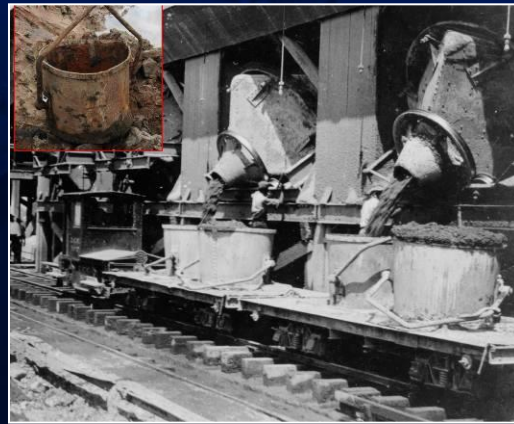
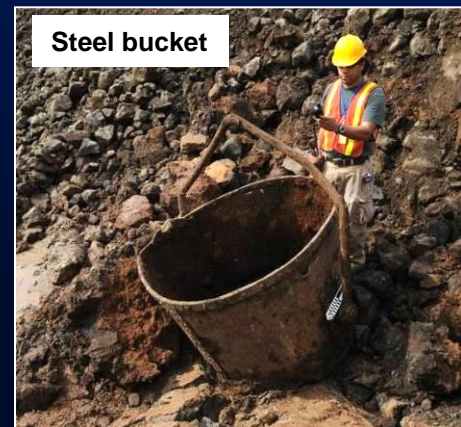
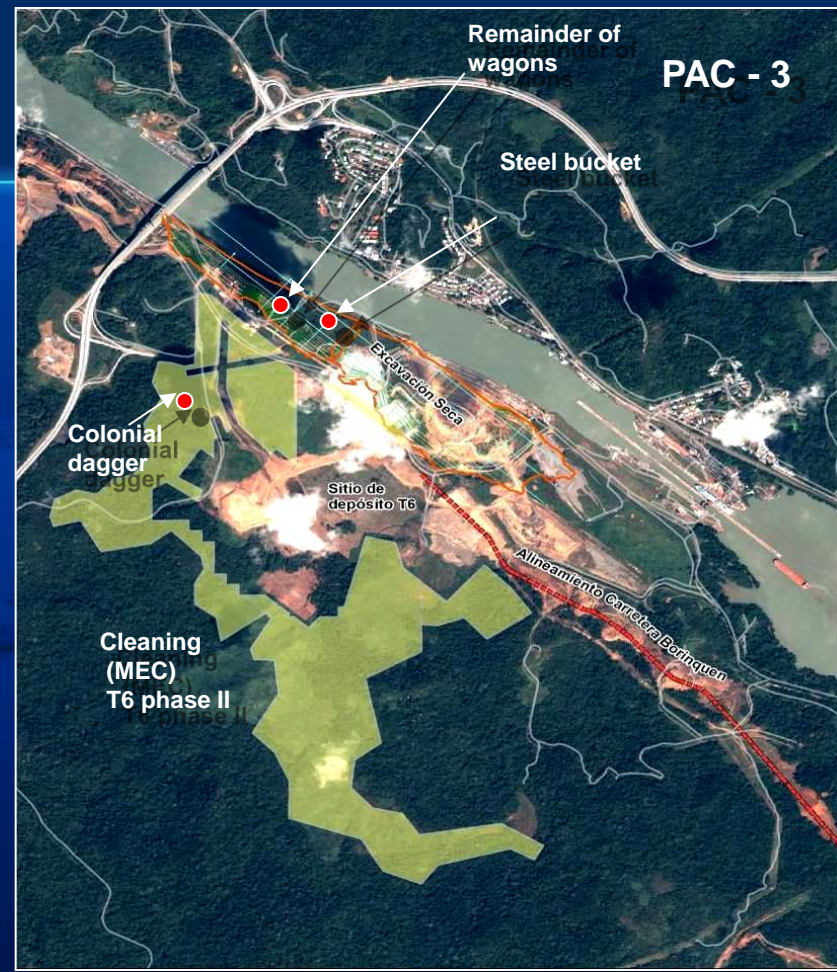
- ☆ Environmental Impact Assessment
- ☆ Ecological Compensation paid to ANAM
- ☆ Wildlife Rescue Plan
- ☆ Archeological Rescue
- ☆ Paleontological Resources Studies
- ☆ Reforestation
- ☆ Monitoring Air and Water Quality
- ☆ Monitoring Noise and Vibrations
- ☆ Meetings with communities according to project advance
- ☆ Report and inspection by independent consultant
- ☆ Inspections by ANAM





Archeological

- Archeological surveys
- Archaeological rescue
- Requirement contract in place
- Dagger from the colonial era:
 - Found in the PAC-3 project area
 - Commonly-used weapon during the years 1590 through 1610
 - The restoration process took 3 months
 - Actually part of the Interoceanic Canal Museum's exhibition



Expansion Program Communication

(January 2008 – December 2014)



COMMUNICATION CAMPAIGN	
Number of visitors - PAC 0	33
Number of visitors - PAC 1	81
Number of visitors - PAC 2	96
Number of visitors - PAC 3	163
Number of visitors - PAC 4	281
Number of visitors - Atlantic (Locks and Dredging)	226
Number of visitors - Cerro Cocolí Lookout Point	1797
Speeches and Presentations	1154

MEDIA CARE	
International Media Care	1715
Local Media Care	198

PUBLIC CARE	
Calls: 800-0714	905
Emails: ampliacion@pancanal.com	516

Expansion Program Observation Center– Atlantic	
Visitors (since September 3, 2012)	171,605

Expansion Program Progress Communication

2012
2011
2010
2009
2008

Autoridad del Canal de Panamá
Informe Trimestral XXIV
Avance de los Contratos del Programa de Ampliación
30 de septiembre de 2012

CANAL DE PANAMÁ

EL FARO
AVANCES DE LA AMPLIACIÓN
La obra cumple cinco años de ejecución

INFORME AL PAÍS

TU CANAL, AL DÍA
Vea las Programaciones por TV

Canal de Panamá: La maravilla eres tú - Windows Internet Explorer
http://micanaldepanama.com/

Inicio NOSOTROS AMPLIACIÓN PROVEEDORES EDUCACIÓN

Canal de Panamá
La maravilla eres tú.

Conoce de cerca la Ampliación

EN VIVO

Videos
Lo Último
Canal de Fotos

Esclusas del Atlántico | Canal de Panamá - Windows Internet Explorer
http://micanaldepanama.com/ampliacion-del-canal-de-panama/camaras-web-de-ampliacion/esclusas-del-atlantico/

Esclusas del Atlántico

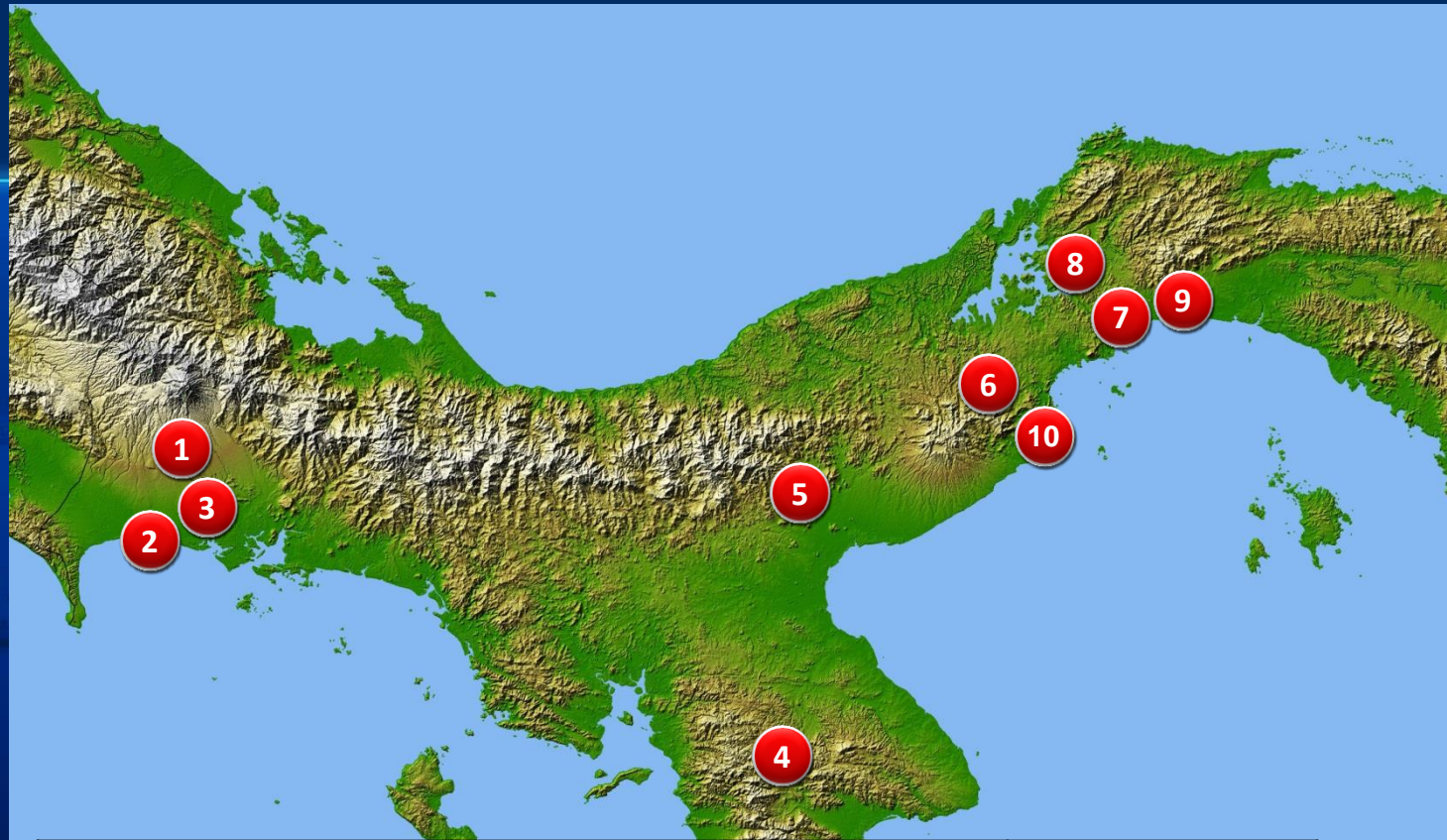
Home > Ampliación del Canal de Panamá > Cámaras Web de Ampliación > Esclusas del Atlántico

Cauce de Acceso al Pacífico (vista al este) Cauce de Acceso al Pacífico (vista al oeste) Esclusas del Atlántico Esclusas del Pacífico

AREA VIEWS | PANORAMIC VIEW

Zoom: 122%

October 2012



Project	Site/protected area	Has	Comment
1 LAKE DREDGING	Volcan Baru NP	30	UNDER EXECUTION
3 LOCKS	Mangrove - Chiriqui Viejo	50	UNDER EXECUTION
2 PAC 3 AND PAC 4	Forestry Research Center	100	UNDER EXECUTION
4 PAC 4	Montuoso F.R.	50	UNDER EXECUTION
5 PAC 2 AND PAC 3	Omar Torrijos NP	150	UNDER EXECUTION
6 PAC 2	Campana NP	30	CONCLUDED
7 PAC 1	Camino De Cruces NP	115	CONCLUDED
8 PAC 3	Chagres NP	40	UNDER EXECUTION
9 LOCKS	Tapagra H.P.Z.	61	UNDER EXECUTION
10 PAC 4	Chame	59	UNDER EXECUTION
TOTAL		685	

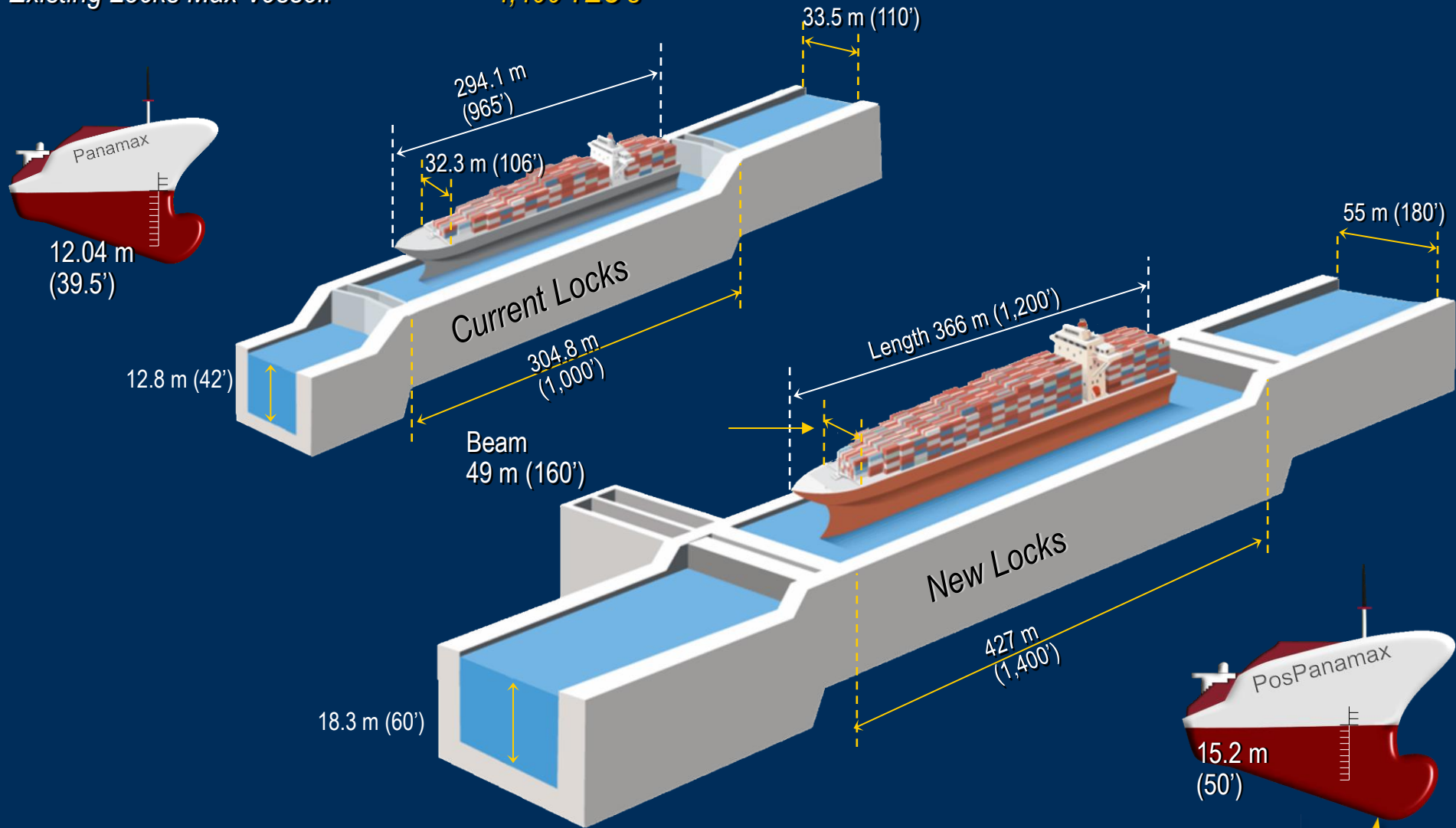


Panama Canal Expansion Impact

Dimensions of Locks and Vessels

Existing Locks Max Vessel:

4,400 TEU's



New Locks Max Vessel Size:

13,000 – 14,000 TEU's

BENEFITS FROM TRANSPORTATION COST SAVINGS

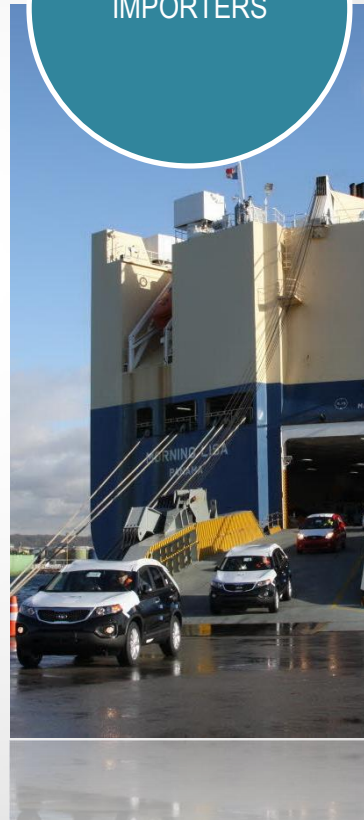
EXPORTERS



SHIPPING LINES



IMPORTERS



CONSUMERS



Economies of scale; efficiencies in the supply chain; connectivity

Neopanamax Vessels for New Markets at the Expanded Canal



Container Vessels

13,000 to 14,000 TEU

New volumes from:

- Latin America

Market Recovery from:

- West Coast United States

- Suez Canal



Dry Bulk

Up to 170,000 DWT

- Coal from Colombia

- Metallurgical coal from Vancouver

- Iron Ore from Brazil in Minicapesize (85,000-120,000 DWT)



Liquid Bulk

Up to 150,000 DWT

- Tankers

- Petroleum Products



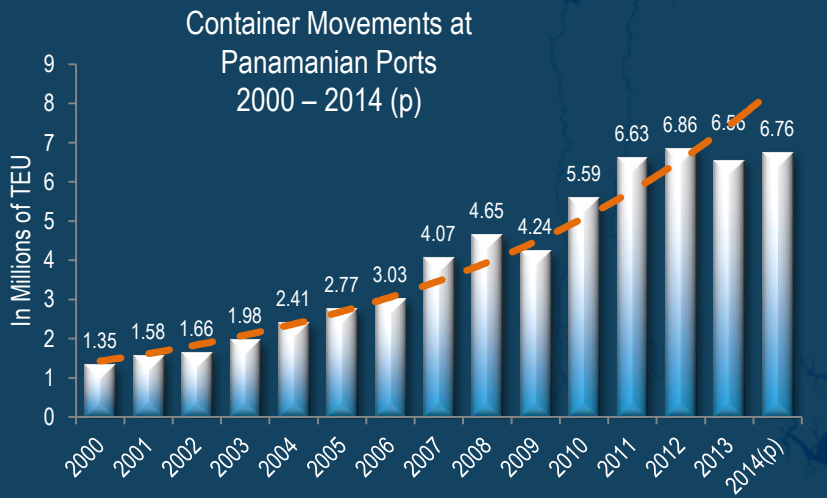
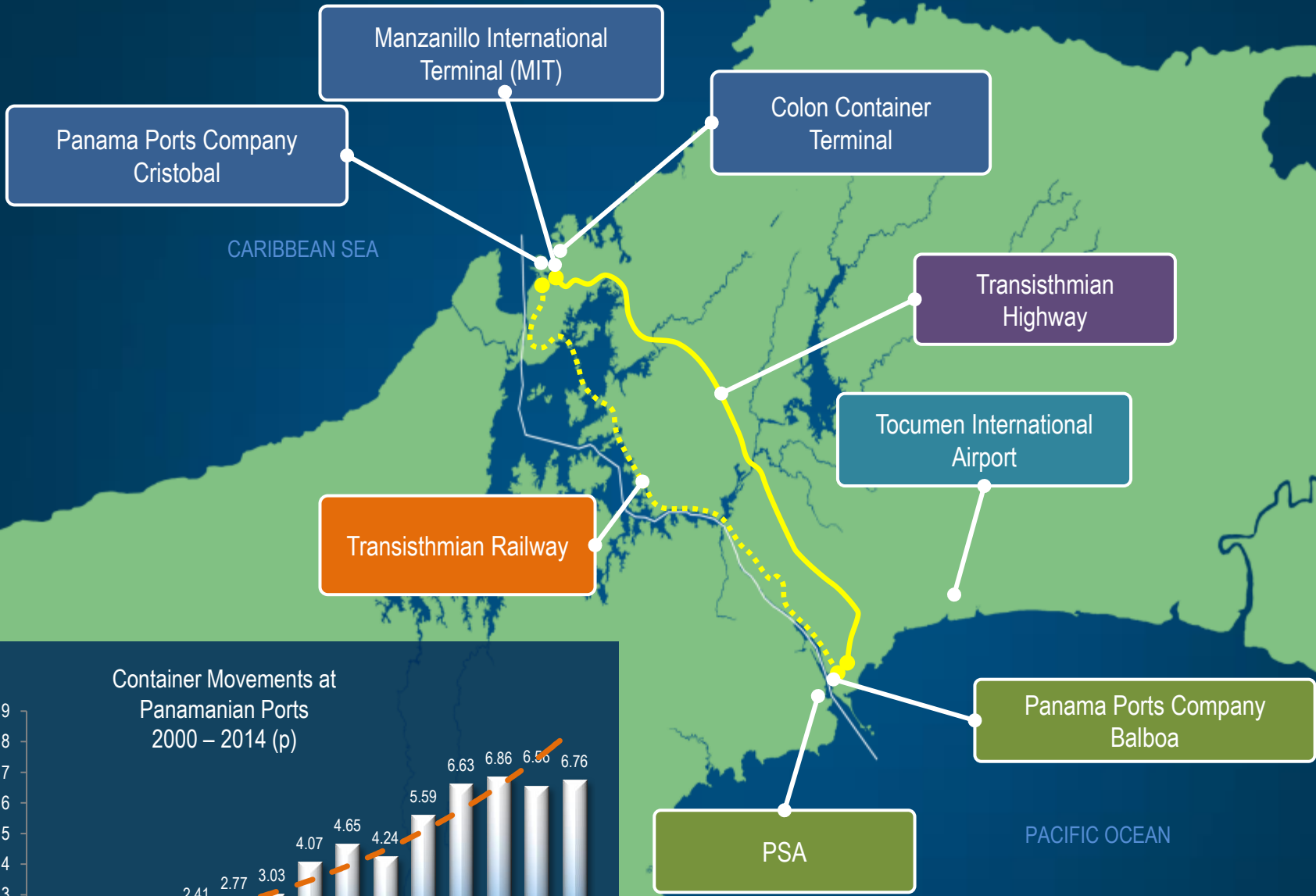
LNG/LPG

- LNG Up to 177,000m³ and VLGC

PANAMA AT A GLANCE



GDP growth rate – last 10 years	7.5%
GDP (P) 2013 (billions of dollars)	\$42.6
GDP per capita - 2013 (P)(in US\$)	\$10,032
Population (million)	3.8
Unemployment Rate (%)	4.0
Inflation Rate 2013 (%)	4.1



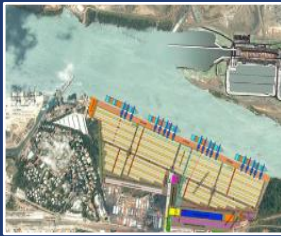
PANAMA: 50 MILES OCEAN TO OCEAN



Panama Canal Diversification Strategy

There is a close relationship between the Canal and other maritime and logistic activities that have proven to add value to the users of Panama as a Trade Route.

Our diversification strategy focuses on related activities that are profitable and enhance the Canal's core business.



Corozal Container Terminal



Ro-Ro Terminal



Logistics Park Services



Container Berge Services



Bunkering



LNG Terminal



Top-Off



Vessel Repairs

The Panama Canal: It's all about connectivity and value added services



Manzanillo Logistic Park
Total: 16.9Has
898,787ft² warehouses
(83,500m²)

CARIBBEAN SEA

Colon Free Zone
Total: 1,064.58Has
63,507,071ft² warehouses
(5,900,000m²)

**ACP Master Plan for
Logistics Park Development**
Total: 257.76Has
16,647,469ft² warehouses
(1,546,602m²)

Panama Pacific Special
Economic Zone
Total: 88Has
3,982,647ft² warehouses
(370,000m²)

PACIFIC OCEAN

PANAMA: 50 MILES OCEAN TO OCEAN



REGIONAL LOCATION

The Panama Canal Service Promise

Economies of Scale

Connectivity

Sustainability

Reliability





Thank you !



CANAL DE PANAMÁ

