

Waterway Modernization Project

August 12, 2014





Dock Strengthening &
Berth Deepening

East Waterway
Deepening -51' to -55' MLLW

West Waterway
Deepening -51' to -55' MLLW

T-5

T-18

T-46

T-30

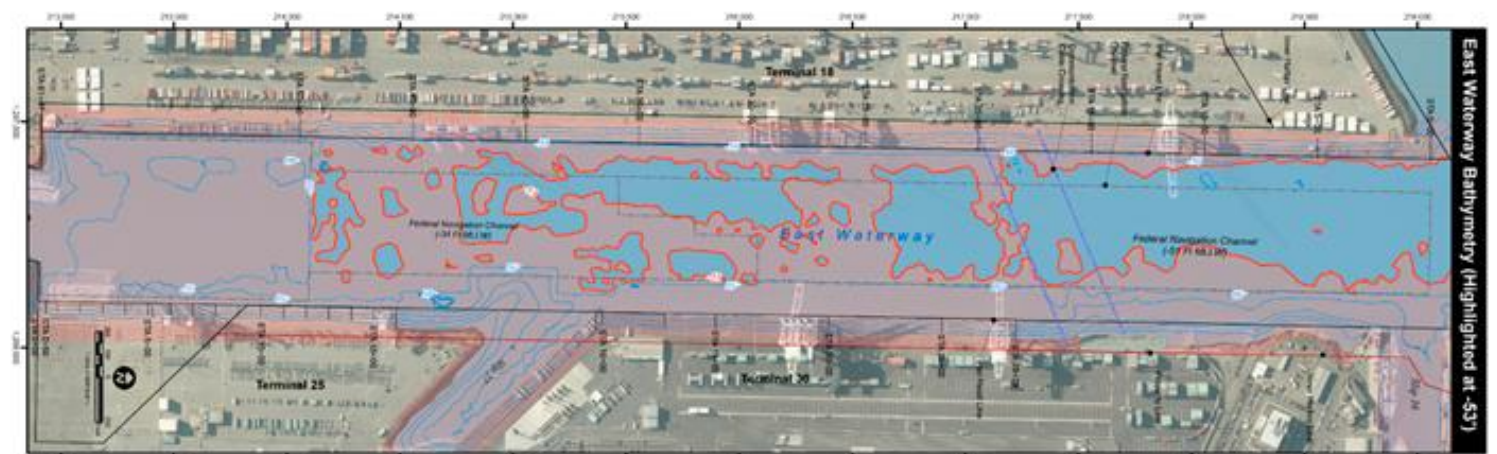
Power Upgrades

East Waterway Bathymetry

EWB Bathymetry
Highlighted at -51'



EWB Bathymetry
Highlighted at -53'

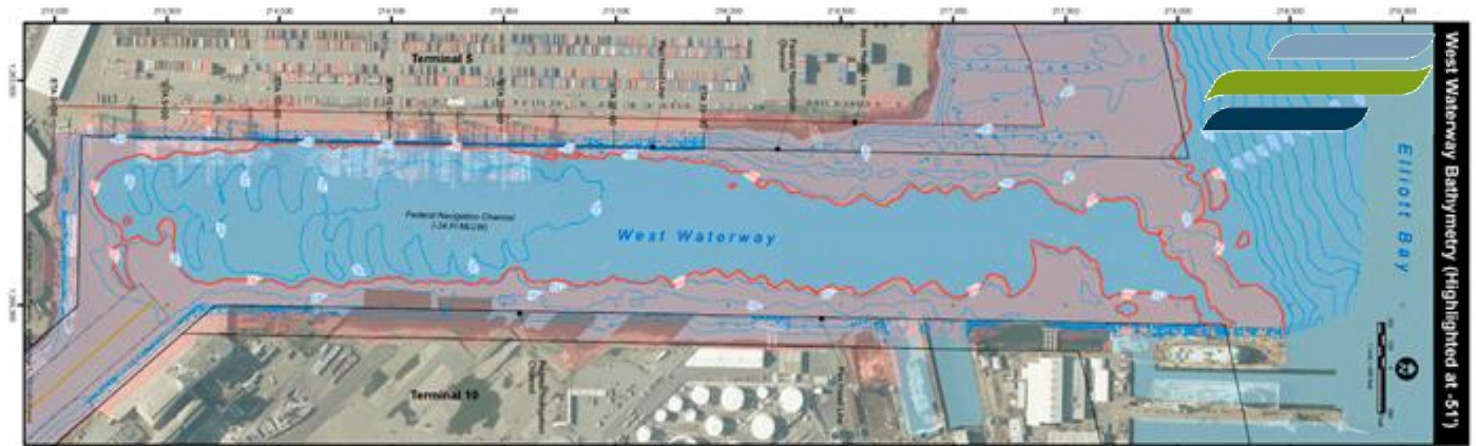


EWB Bathymetry
Highlighted at -55'

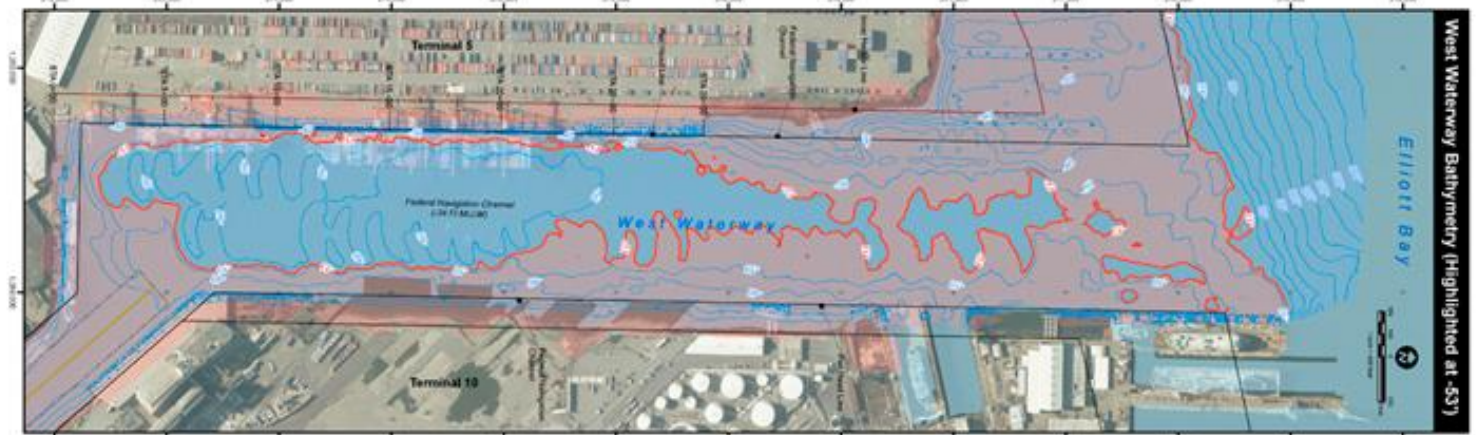


West Waterway Bathymetry

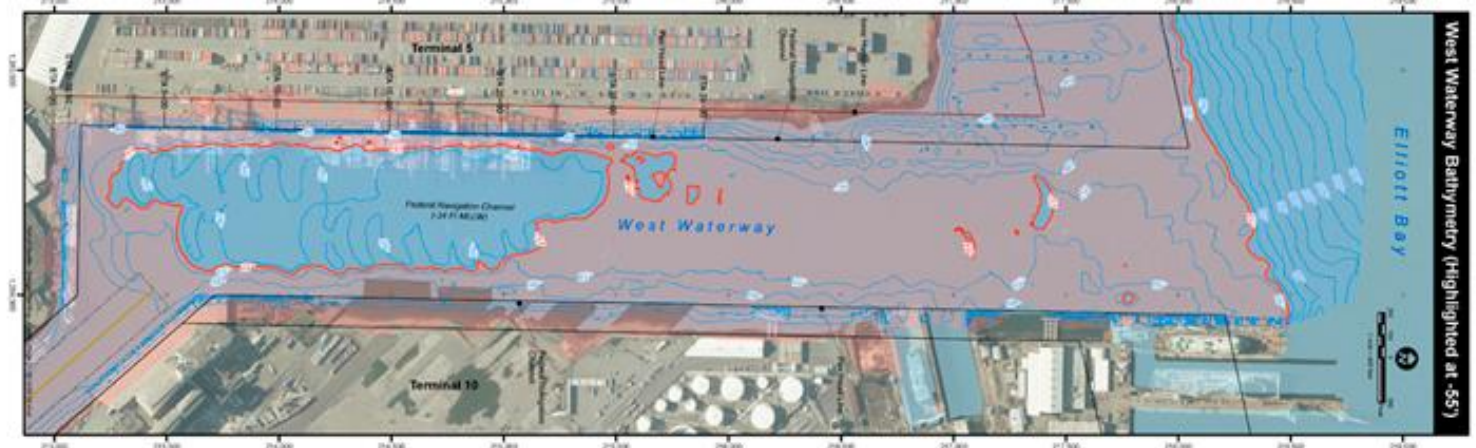
WWW
Bathymetry
Highlighted to -51'



WWW
Bathymetry
Highlighted to -53'

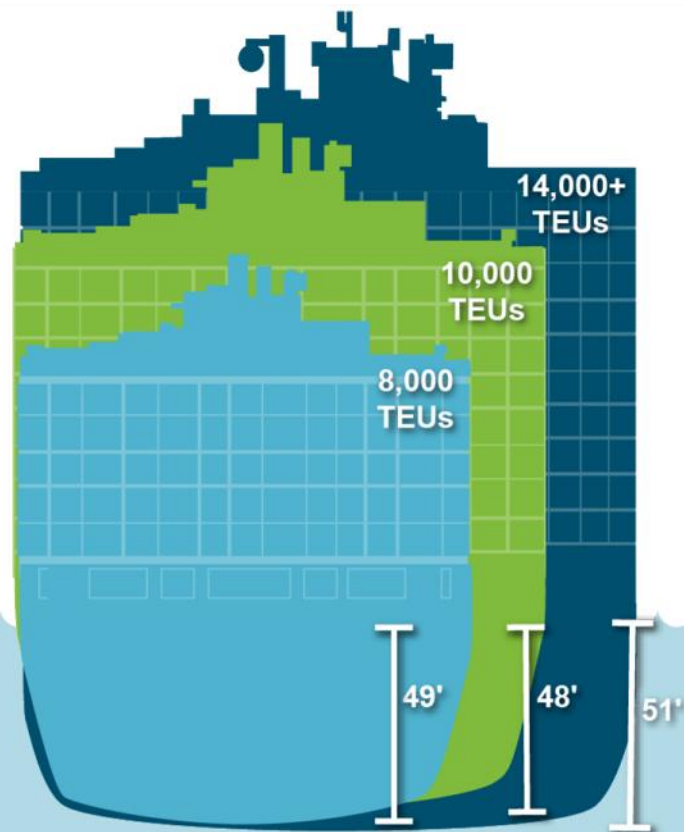


WWW
Bathymetry
Highlighted to -55'





Vessels Continue to Get Larger

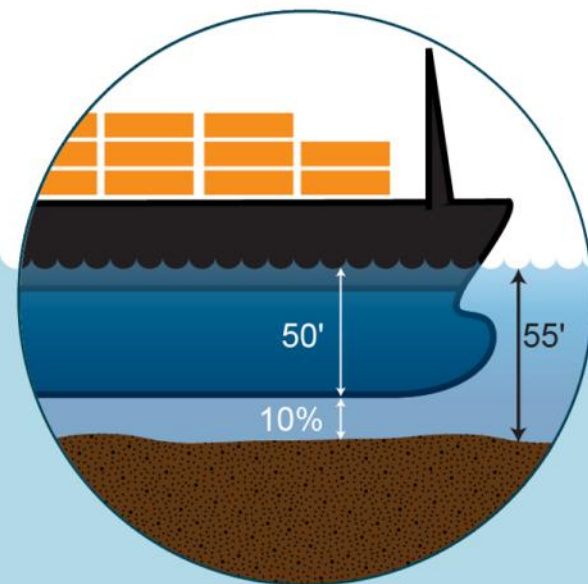


└ Post-Panamax: 136' ┐

└ Hanjin Spain: 150' ┐

└ MSC Beatrice: 168' ┐

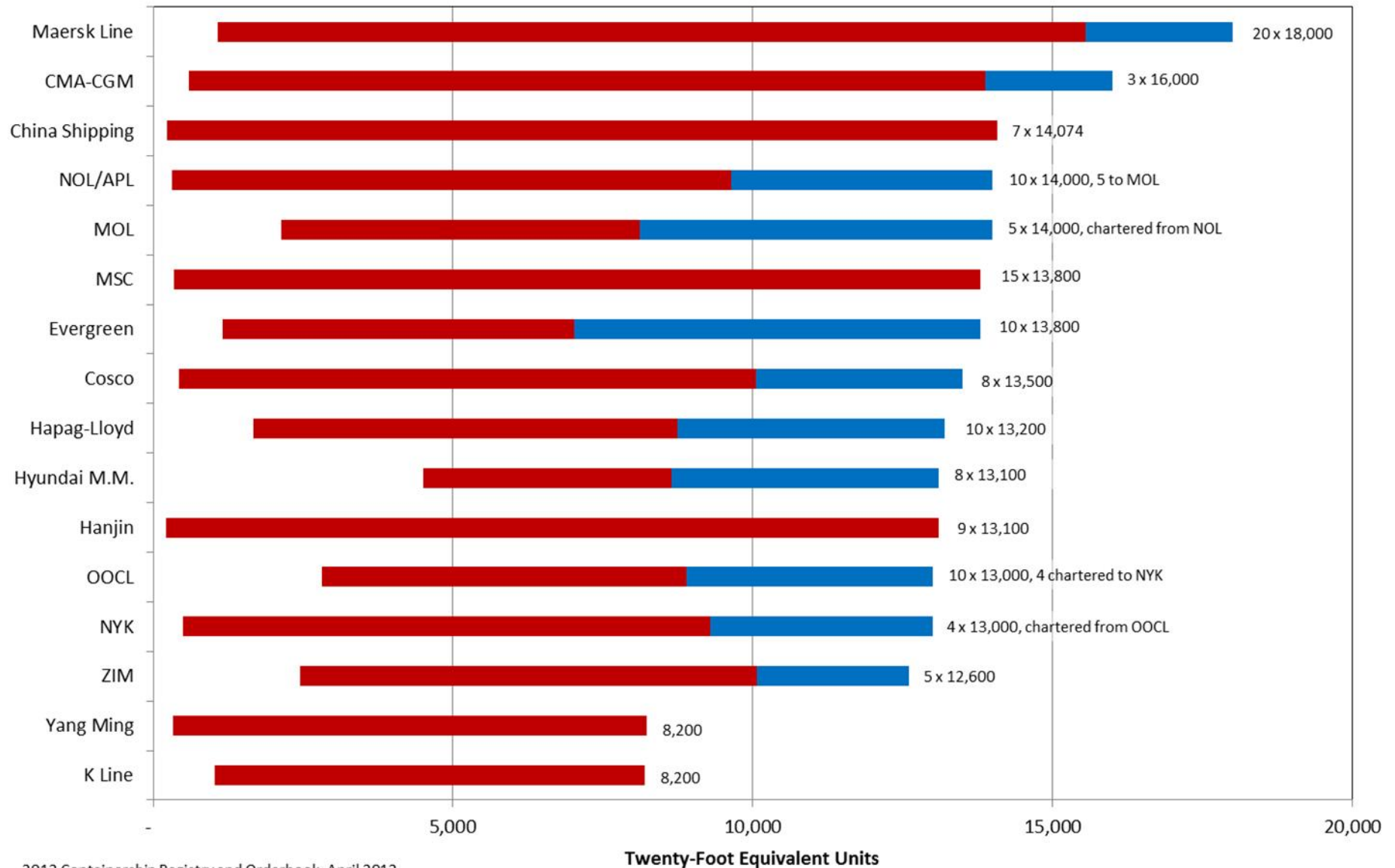
Pilotage navigation guideline:
10% of draft below keel



Vessel Capacity Range for Major Ocean Carriers



■ Existing Fleet ■ Orderbook 2012 -2015



Top Import & Exports in 2013



Imports

Furniture, Fixtures	71,870
Wearing Apparel	22,876
Games and Toys	20,388
Auto Parts	19,564
Plastic Ware	15,645
Miscellaneous	14,857
Footwear	14,598
Hardware	11,006
Ceramic Ware	9,206
Tires, Tubes	7,465

Exports

Animal Feed, Hay, Brewer Grain	80,723
Paper	60,047
Logs, Lumber, Wood	31,558
Vegetables	31,039
Fruit	14,730
Miscellaneous	14,156
Soybeans	13,412
Frozen Fish	10,273
Pulps	9,864
Fiber	9,743

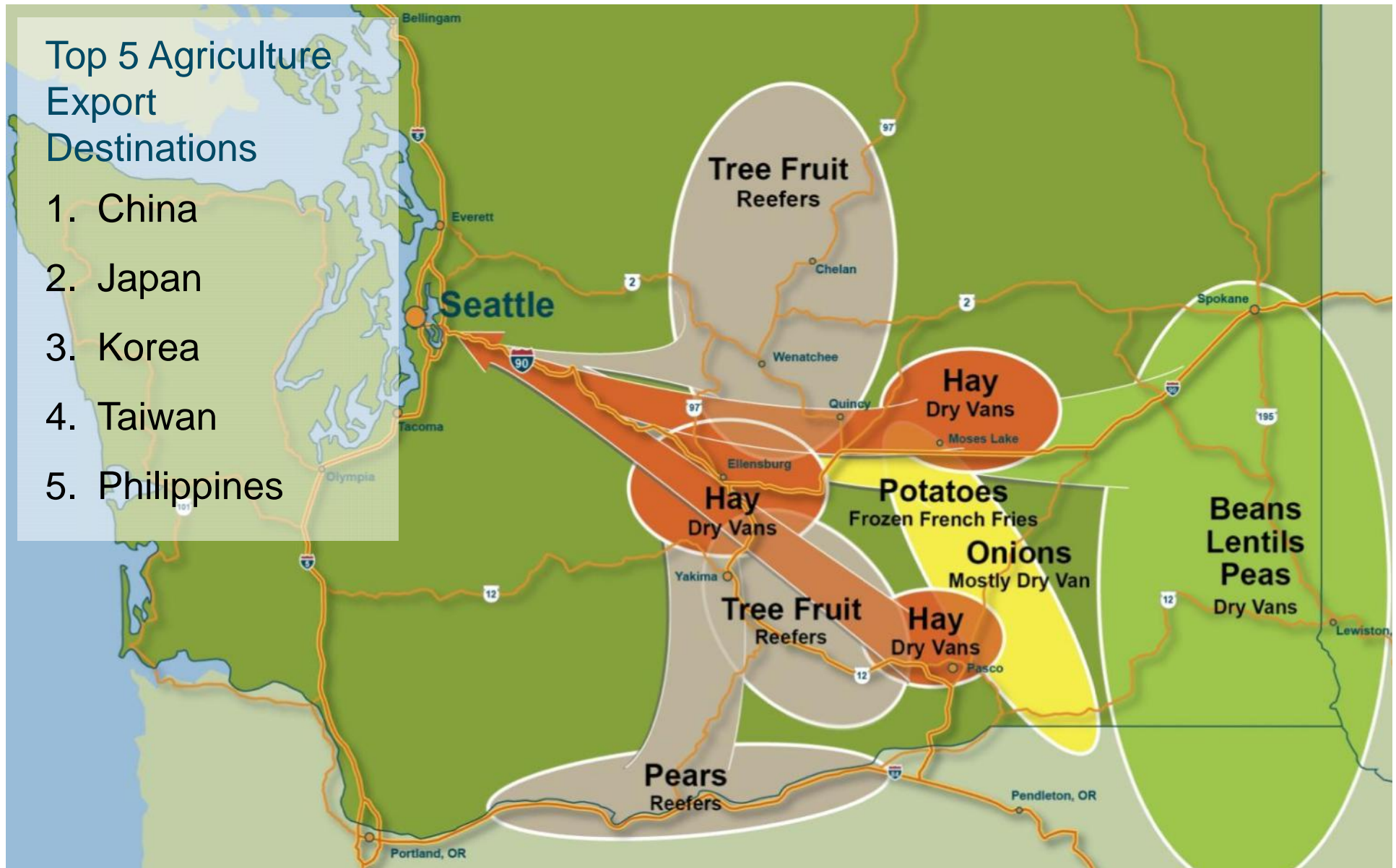
2013 PIERs Data in TEU's via Seattle

PNW Agriculture Exports Through Seattle



Top 5 Agriculture Export Destinations

1. China
2. Japan
3. Korea
4. Taiwan
5. Philippines



Seattle is an Export Gateway



Loaded to TEU Capacity

- 9.3 MT per TEU
- \$38,934 Value per TEU

Loaded to Deadweight Capacity

- 14.3 MT per TEU
- \$15,748 Value per TEU

Import cargo is generally lighter weight and ships depart Asia at **TEU capacity**

Imports

PNW export cargo is heavy and ships depart Seattle at **deadweight capacity**

Exports

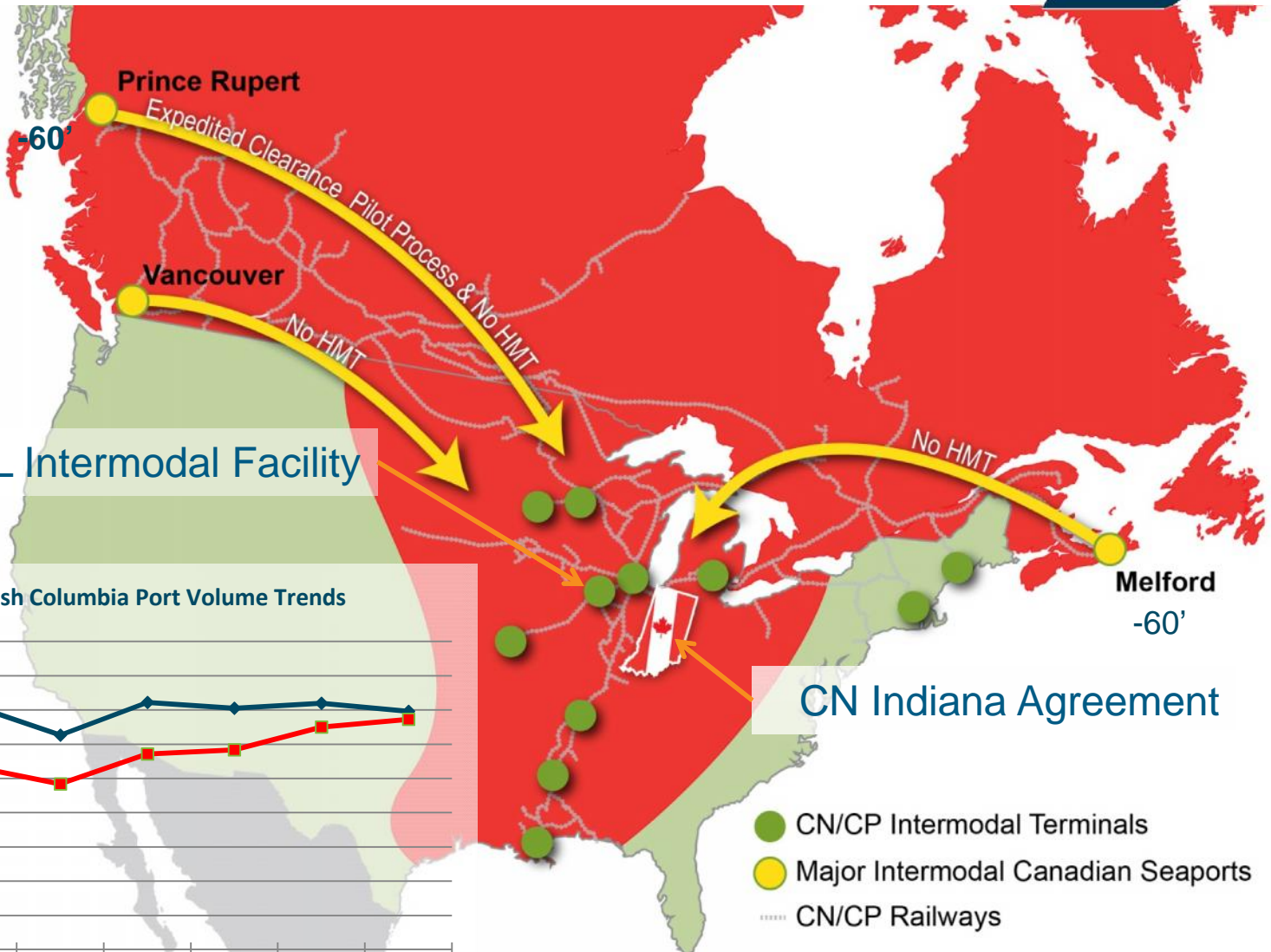
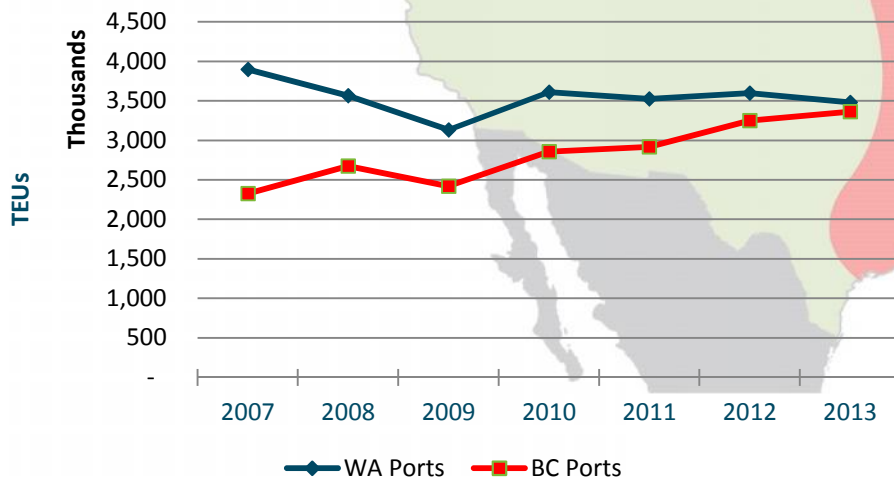
Canadian Threat to US Ports



Gateways & Corridors Initiative

CN Joliet, IL Intermodal Facility

Washington and British Columbia Port Volume Trends



Looking Ahead



Steps	3 x 3 x 3	Traditional Corps Process
1. Congress pass WRDA bill or Energy & Water budget	2014	2014
2. Complete Recon Study	2014	2014
3. Complete Feasibility Study	2017	???



Estimated Cost/Benefits

	East Waterway- 51-Foot Project	West Waterway- 51-Foot Project	Total Project (East + West Waterway)
Estimated Construction Costs (includes estimated costs for dredging plus one-foot overdepth, disposal, and mitigation, Jun 2014 price level)	\$2,854,000	\$92,289,000	\$95,143,000
Interest During Construction (IDC)	\$148,000	\$4,791,000	\$4,939,000
Present Worth Financial Costs (Estimated Construction + IDC)	\$3,002,000	\$97,080,000	\$100,082,000
Average Annual Costs			
Interest and Amortization (50 years, 3.5% discount rate)	\$128,000	\$4,138,000	\$4,266,000
Increased Annual Operations and Maintenance (O&M)	\$1,020,000	\$1,061,000	\$2,081,000
Total Average Annual Costs	\$1,148,000	\$5,199,000	\$6,347,000
Present Worth Average Annual Benefits	\$27,259,000	\$26,190,000	\$53,449,000
Net Average Annual Benefits	\$26,111,000	\$20,991,000	\$47,102,000



Terminal 91

Terminal 86

Pier 66

Terminal 46

East Waterway

West Waterway

Terminal 30

Terminal 18

Terminal 5

Thank you!