



Introduction to the Channel Portfolio Tool

<https://cpt.usace.army.mil>

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Non-disclosure forms required for software access

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US Army Corps
of Engineers



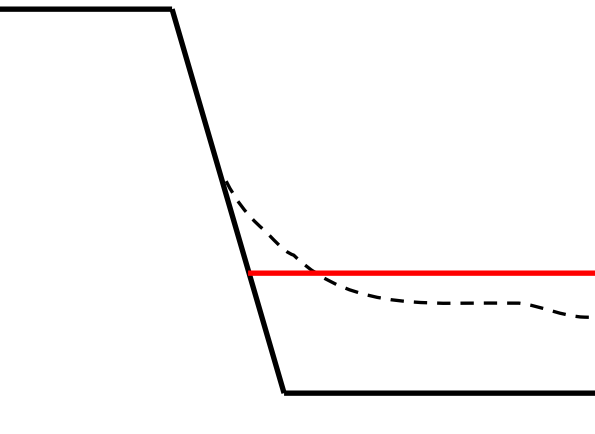
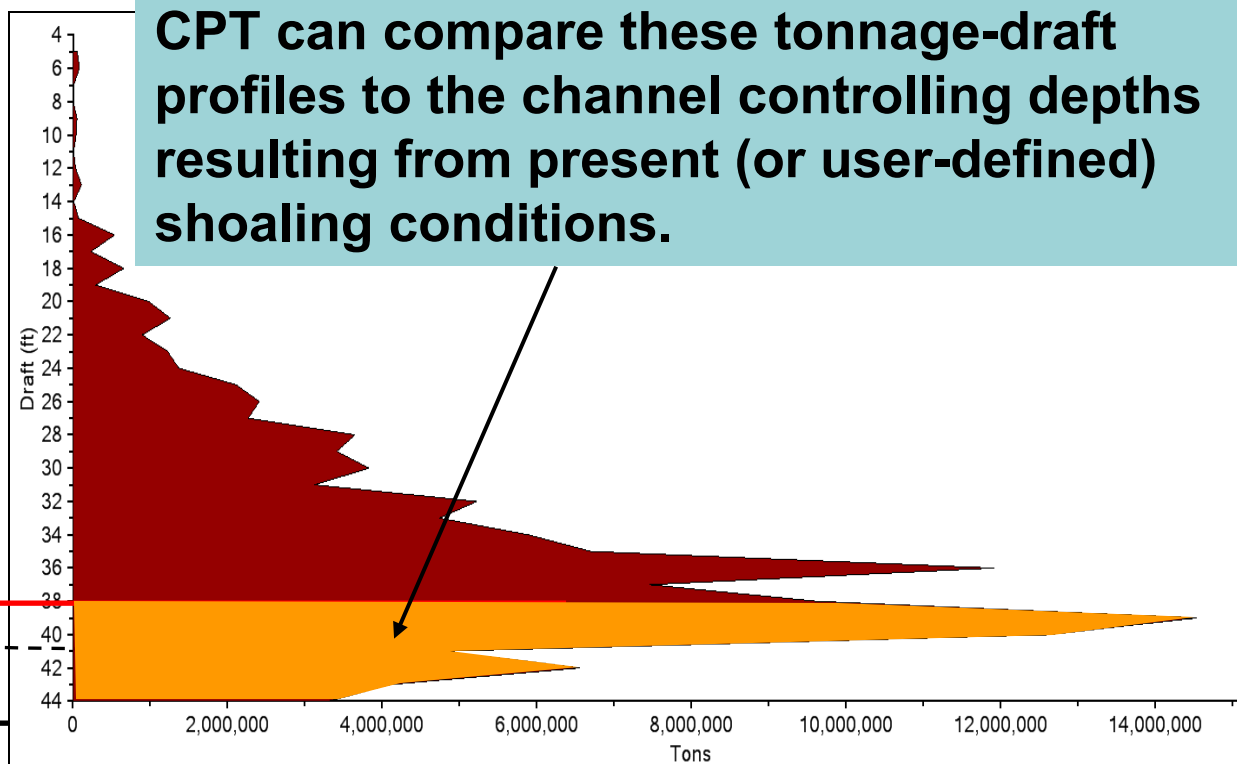


Channel Portfolio Tool

CPT can generate depth-utilization profiles showing the distribution of cargo across the range of depths for single, or multiple, navigation channels.



CPT can compare these tonnage-draft profiles to the channel controlling depths resulting from present (or user-defined) shoaling conditions.



Project RankingDetail - Traffic

Group by: ☐ Draft ☐ System ☐ Vessel Type ☒ Traffic

Order Grid By: ☐ Trips ☒ Tons ☐ Dollars

Update

Export to ExcelExport to PDF

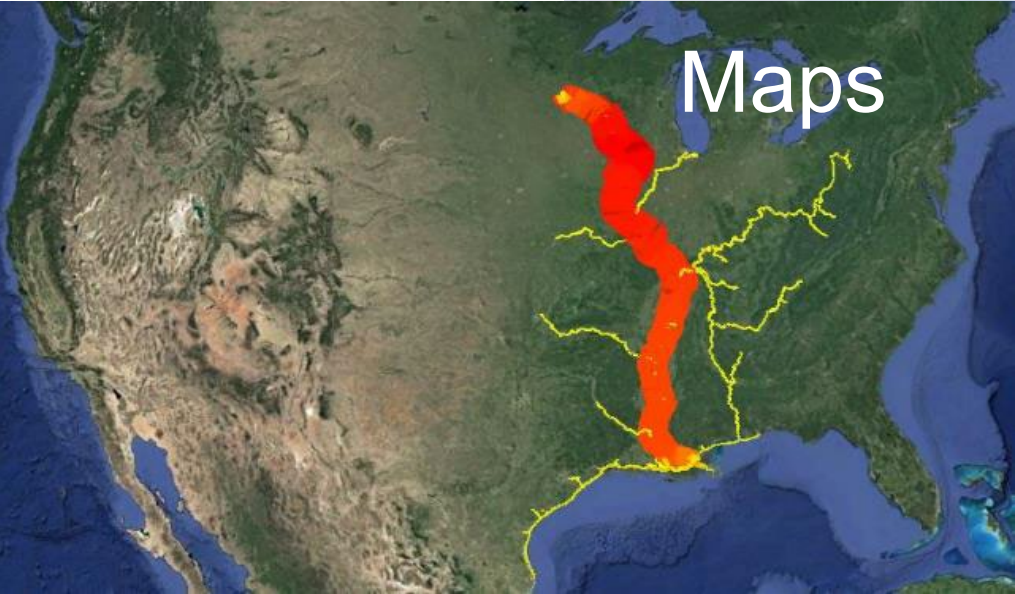
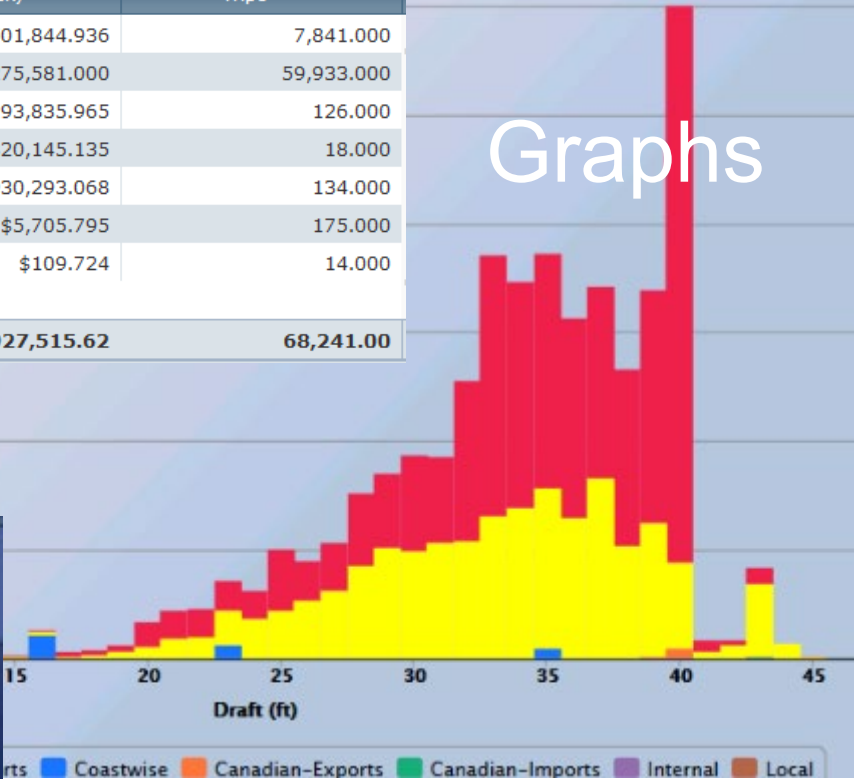
Drag a column header and drop it here to group by that column

Year	Traffic	Tons (x1k)	Dollars (x1k)	Trips
2015	Coastwise	18,681.567	\$6,501,844.936	7,841.000
2015	Local	3,096.747	\$2,275,581.000	59,933.000
2015	Overseas-Imports	714.041	\$1,193,835.965	126.000
2015	Canadian-Imports	620.247	\$20,145.135	18.000
2015	Overseas-Exports	279.199	\$1,930,293.068	134.000
2015	Internal	214.220	\$5,705.795	175.000
2015	Canadian-Exports	0.010	\$109.724	14.000
		23,606.03	\$11,927,515.62	68,241.00

Tables

CPT
Products

Graphs



CPT DATA SOURCE





Waterborne Commerce Data

- The Corps' Waterborne Commerce Statistics Center (WCSC) collects and collates data from several sources concerning commercial use of US waterways.
 - ▶ Dock-level, origin-to-destination routing (Corps-use-only)
 - ▶ Includes tons, commodity types, vessel counts, drafts
 - ▶ Aggregated data already published at project level

CPT provides querying power for this rich data set

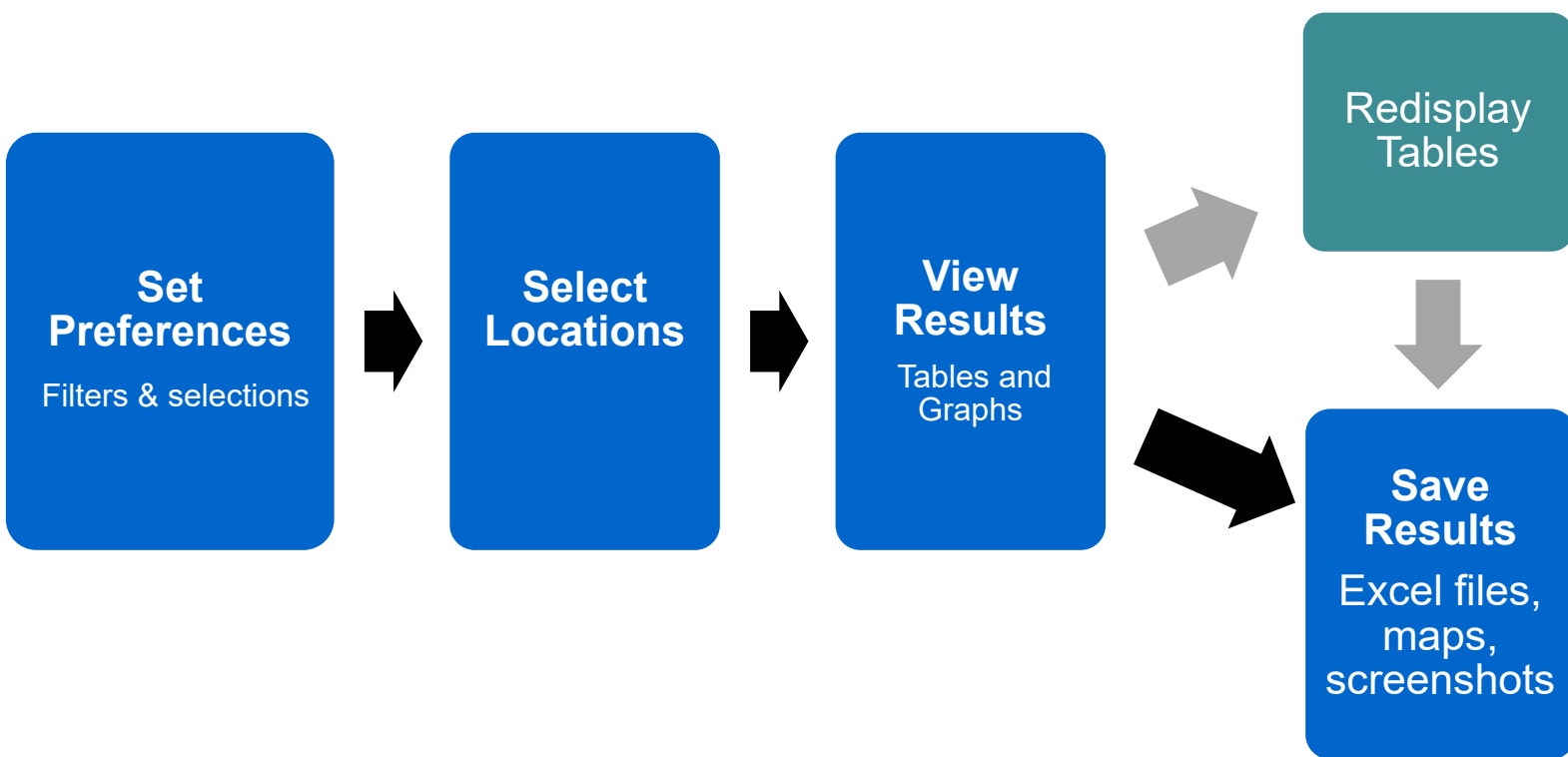


CPT Routing Network

- National Waterway Network
 - ▶ Multiple development partners
- Master Docks Plus
 - ▶ Over 40,000 ports, waterway facilities, and navigational points of interest
- CPT uses this for origin-to-destination routing along the network path.
 - ▶ Tonnage is assigned to reaches between OD pairs
 - ▶ Does not show actual vessel track
 - ▶ Additional routing on extended network in harbors



CPT Workflow



Non-disclosure Reminders

- Don't disclose anything that could be identified back to a single vessel or company
- Rule of thumb: less than 3, not to see
- Non-disclosure agreements must be re-signed at the start of every calendar year.



Set Preferences

Filters & selections

Select Locations

View Results

Tables and Graphs



Channel Portfolio Tool

<https://cpt.usace.army.mil>

Welcome: Marin Kress (marinkre)

Query Saver

Preferences

Locations

Reports ▾

Admin ▾

CSMART

Home

Profile

Log Off

Help

Continue

Filters and Selections

Network ▾

Network: ☒ Custom ☐ Ombil

Docked: ☐ Docked ☒ Transit (Docked + Thru)

Flow Docked: ☐ Docked ☒ Transit (Docked + Thru)

Channel Conditions ▾

System ▾

Direction ▾

Commodity Year ▾

Vessel Type ▾

Traffic ▾

Commodity Draft ▾

Commodity ▾

Budget Years ▾

Type Fund ▾

Grid, Charting, and GIS Calculation/Display

Commodity Details ▾

Group By: ☐ Draft ☐ System ☐ Vessel Type ☒ Traffic

Order Grid By: ☐ Trips ☒ Tons ☐ Dollars

Order Chart By: ☐ Trips ☐ Tons ☐ Dollars ☒ Chart Dependent

Year Rollup: ☐ Details By Year ☐ Years Summed ☒ Years Averaged

Top N
Locations:

Top N
Commodities:

Show Columns: ☐ Ton Miles ☐ Dollar Miles ☐ System Ton Miles ☐ System Dollar Miles

Work Package Details ▾

Budget Details ▾

X-Axis ▾

Y-Axis ▾

GIS ▾

Set Preferences

Filters & selections



Select Locations



View Results

Tables and Graphs



Channel Portfolio Tool

Welcome: Mar

Query Saver

Preferences

Locations

Reports ▾

Admin ▾

CSMART









Home

Profile

Export Entire Custom Network KML

Continue

Locations

- ☐  Lakes and Rivers
- ☐  Mississippi Valley
- ☐  North Atlantic
- ☐  Northwestern
- ☐  Pacific Ocean
- ☐  South Atlantic
- ☐  South Pacific
- ☐  Southwestern

Start at Division level
Click on the + to expand menu
Can select down to the
individual reach

Continue



Set Preferences

Filters & selections

Select Locations

View Results

Tables and Graphs

Rankings

Compare any group of reaches or projects

Reach - Click Tab Below for Desired Analysis

Rankings

Rollup

Flow

Work Package

Reach - Click Tab Below for Desired Analysis

Rankings

Rollup

Flow

Work Package

Order Grid By: ☐ Trips ☒ Tons ☐ Dollars

Update

Reach Ranking - Click Reach Row in Grid for Details

Export to Excel

Export to PDF

Export to Google Earth

Drag a column header and drop it here to group by that column

Group	Name	Tons (x1k)	Dollars (x1k)	Trips
Wilmington Harbor	WILMINGTON HARBOR, NC (MILE 00 TO MILE 16) (485833)	6,394.618	\$10,669,640.411	2,312.000
Vicksburg, MS	Vicksburg, Ms (23240004)	32.791	\$6,198.941	33.000
Port Orford	Port Orford, OR - Approach (853700)	0.000	\$0.000	104.000



Set Preferences

Filters & selections

Select Locations

View Results

Tables and Graphs



Rollup – provides tonnage, dollar, and trip totals for selected reaches *without double counting tonnage that passed through multiple locations.*

Reach - Click Tab Below for Desired Analysis

Rankings

Rollup

Flow

Work Package

Reach Rollup - Traffic

Group by: ☒ Draft ☐ System ☐ Vessel Type ☒ Traffic

Order Grid By: ☐ Trips ☒ Tons ☐ Dollars

Update

Export to Excel

Export to PDF

Drag a column header and drop it here to group by that column

Year	Draft (ft)	Traffic	Tons (x1k)	Dollars (x1k)	Trips
2014	28	Overseas-Imports	392.562	\$363,206.851	55.000
2014	35	Overseas-Exports	378.606	\$316,206.329	24.000
2014	36	Overseas-Imports	340.354	\$752,475.779	33.000
2014	41	Overseas-Imports	292.537	\$77,755.470	7.000
2014	37	Overseas-Exports	272.534	\$637,567.006	31.000
2014	30	Overseas-Imports	259.987	\$388,869.738	50.000
2014	34	Overseas-Imports	252.781	\$847,116.973	38.000
2014	38	Overseas-Imports	248.625	\$292,243.319	15.000
Rollup tab shows totals below the table →			6,504.18	\$10,749,222.03	21,846.00

Flow → From “Origin-Destination”

- Reported shipment information provides only ORIGIN and DESTINATION points (OD pairs)
- CPT uses a routing algorithm to find the shortest path between the OD pairs along the waterway network.
- CPT then ‘credits’ that shipment to whatever reaches fall along the shortest path. This informs the ROLLUP and FLOW results.



Set Preferences

Filters & selections

Select Locations

View Results

Tables and Graphs

Flow – shows tonnage that moved between selected location and other locations in the network

Project - Click Tab Below for Desired Analysis

Rankings Rollup Flow

Order Grid By: ☐ Trips ☒ Tons ☐ Dollars

Project Flow - Click Project Row in Grid for Details

Flow tab for Buttermilk Channel project, 2015

Drag a column header and drop it here to group by that column

Group	Name	Tons (x1k)	Dollars (x1k)	Trips
New York	Buttermilk Channel	23,606.031	\$11,927,515.623	68,241.000
New York	New York Harbor	23,601.628	\$11,927,473.883	68,215.000
New York	East River	22,406.712	\$7,597,518.961	67,266.000
Atlantic Ocean	Atlantic Ocean	20,561.250	\$9,732,711.801	8,666.000
New York	New York and New Jersey Channels	19,246.967	\$8,123,074.992	15,881.000
New England	Block Island Sound, RI	8,471.896	\$3,006,267.027	2,061.000
New England	New Haven Harbor	5,983.675	\$2,178,750.619	1,734.000

1 2 3 4 5 6 7 8 10 Page 1 of 8

Axis Controls

Flow Project vs. Average Yearly Tons for AllShipments

Flow Project vs. Average Yearly Dollars for AllShipments

Flow Project vs. Average Yearly Trips for AllShipments

Set Preferences

Filters & selections

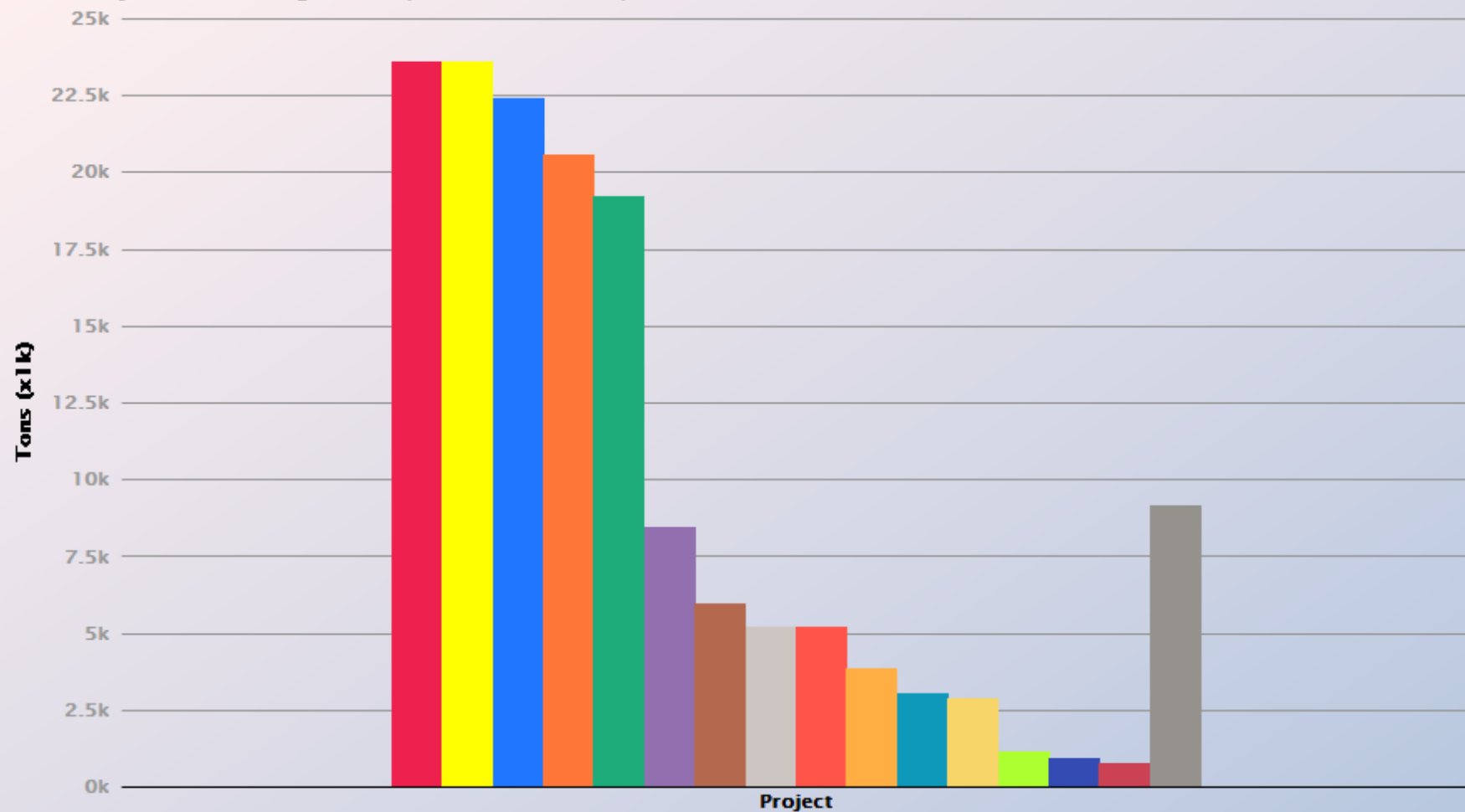
Select Locations

View Results

Tables and Graphs

Flow Project vs. Average Yearly Tons for AllShipments

Flow Project vs. Average Yearly Tons for AllShipments



Buttermilk Channel New York Harbor East River Atlantic Ocean New York and New Jersey Channels Block Island Sound, RI
New Haven Harbor Deepwater (Buzzards Bay, MA) Cape Cod Canal Boston Harbor Non-Project (Narragansett Bay)
Providence River and Harbor Bridgeport Harbor Newtown Creek Port Jefferson Harbor Other Project (61)

Summary: 3 Key Abilities of CPT

- Rankings – compare across reaches, projects, Districts, or Division
- Rollup – add up data across multiple locations without double-counting tonnage
--“consolidated statement of commerce”
- Flow – insights into where cargo flows to/from based on origin-destination data routing



**ANY QUESTIONS AT THIS
POINT?**

Next Topic –
Preferences Page Settings



What data do you want to see?

Traffic direction

Year(s)

Vessel type

Commodity

Filters and Selections

Network

Network:	<input checked="" type="radio"/> Custom <input type="radio"/> Ombil
Docked:	<input type="radio"/> Docked <input checked="" type="radio"/> Transit (Docked + Thru)
Flow Docked:	<input type="radio"/> Docked <input checked="" type="radio"/> Transit (Docked + Thru)

Channel Conditions

System

Direction

Commodity Year

Vessel Type

Shipment:	<input checked="" type="radio"/> All <input type="radio"/> Containerized <input type="radio"/> Non-Containerized
Vessel Type:	<input type="radio"/> All <input checked="" type="radio"/> Selected

Dry Cargo Barge	▲
Liquid Barge	
Other (Cranes, etc.)	▼
Rafted Logs	

Traffic

Commodity Draft

Commodity

Product X



What data do you want to see?

Traffic direction

Year(s)

Vessel type

Commodity

How do you want to see your results?

Draft increments or summed across all

Years averaged, summed, or details

How many bars on the graphs

Map colors and line thickness

Filters and Selections

Network

Network:	<input checked="" type="radio"/> Custom <input type="radio"/> Ombil
Docked:	<input type="radio"/> Docked <input checked="" type="radio"/> Transit (Docked + Thru)
Flow Docked:	<input type="radio"/> Docked <input checked="" type="radio"/> Transit (Docked + Thru)

Channel Conditions

System

Direction

Commodity Year

Vessel Type

Shipment:	<input checked="" type="radio"/> All <input type="radio"/> Containerized <input type="radio"/> Non-Containerized
Vessel Type:	<input type="radio"/> All <input checked="" type="radio"/> Selected

Dry Cargo Barge
Liquid Barge
Other (Cranes, etc.)
Rafted Logs

Traffic

Commodity Draft

Commodity

Grid, Charting, and GIS Calculation/Display

Commodity Details

Group By:	<input type="checkbox"/> Draft <input type="checkbox"/> System <input type="checkbox"/> Vessel Type <input checked="" type="checkbox"/> Traffic
Order Grid By:	<input type="radio"/> Trips <input checked="" type="radio"/> Tons <input type="radio"/> Dollars
Order Chart By:	<input type="radio"/> Trips <input type="radio"/> Tons <input type="radio"/> Dollars <input checked="" type="radio"/> Chart Dependent
Year Rollup:	<input type="radio"/> Details By Year <input type="radio"/> Years Summed <input checked="" type="radio"/> Years Averaged
Top N Locations:	15
Top N Commodities:	5
Show Columns:	<input type="checkbox"/> Ton Miles <input type="checkbox"/> Dollar Miles <input type="checkbox"/> System Ton Miles <input type="checkbox"/> System Dollar Miles

Work Package Details

Budget Details

X-Axis

Y-Axis

GIS

Vessel Type	
Shipment:	<input checked="" type="radio"/> All <input type="radio"/> Containerized <input type="radio"/> Non-Containerized
Vessel Type:	<input checked="" type="radio"/> All <input type="radio"/> Selected

Vessel Type	
Shipment:	<input checked="" type="radio"/> All <input type="radio"/> Containerized <input type="radio"/> Non-Containerized
Vessel Type:	<input type="radio"/> All <input checked="" type="radio"/> Selected

Rafted Logs

Self-Propelled Dry Tanker

Towboat

▲

☰

▼

Hold Ctrl key to select multiple vessel types

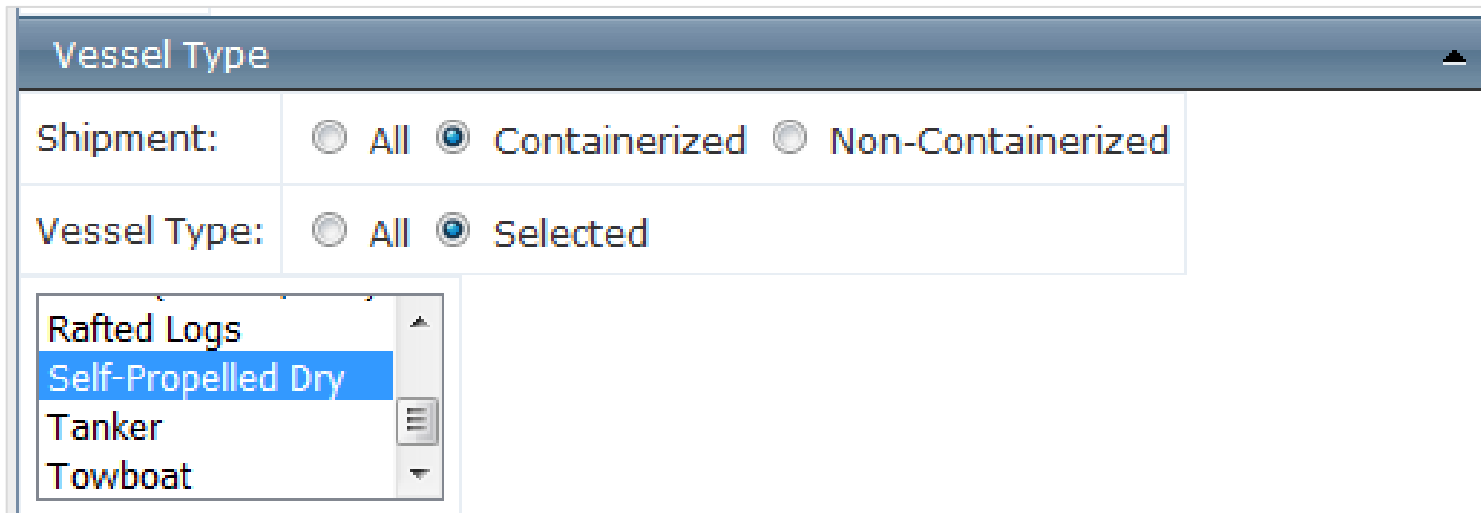
Dry Cargo Barge
 Liquid Barge
 Other (Cranes, etc.)
 Rafted Logs
 Self-Propelled Dry
 Tanker
 Towboat

Selecting for Containers Vs. Bulk Cargo

To select **only** container ship traffic:

Shipment: **Containerized**

Vessel type: **Self-Propelled Dry**



Vessel Type	
Shipment:	<input type="radio"/> All <input checked="" type="radio"/> Containerized <input type="radio"/> Non-Containerized
Vessel Type:	<input type="radio"/> All <input checked="" type="radio"/> Selected
<div><div>Rafted Logs</div><div>Self-Propelled Dry</div><div>Tanker</div><div>Towboat</div></div>	

To select **only** Dry Bulk cargo

Shipment: **Non-Containerized**

Vessel type: **Self-Propelled Dry**

Traffic

Traffic: ☐ All ☒ Selected

Local
Overseas-Exports
Overseas-Imports
Unknown

Canadian-Exports: Exclusive to U.S. Exports **to** Canada. *This traffic NOT included in Overseas-Exports*

Canadian-Imports: Exclusive to U.S. Imports **from** Canada. *This traffic NOT included in Overseas-Imports*

Coastwise: from one U.S. port to another via deepwater

Ferry: Historical category, no longer used

Internal: Barge traffic on rivers, but also for areas like GIWW and Long Island Sound that might be considered internal.

Intra-Territory: involving Puerto Rico and the U.S. Virgin Islands

Intransit-Exports: a catch-all category

Intransit-Imports

Lakewise: Domestic traffic between U.S. Great Lakes ports

Local: Traffic within a port

Overseas-Exports: international shipments, non-Canadian

Overseas-Imports: international shipments, non-Canadian

Unknown

Tip: Users interested in deep-draft tonnage commonly select the following three traffic types:

- Coastwise
- Overseas-Exports
- Overseas-Imports

Commodity

Value: ☐ National Avg. ☒ Regional (If N/A, default is National Avg.)

Commodity Level: ☐ 1-Digit ☒ 2-Digit ☐ 4-Digit ☐ 5-Digit

Commodity: ☐ All ☒ Selected

+ ☐ Units (Ferried Autos, Passengers, Railway Cars) (0)

+ ☐ Coal, Lignite & Coal Coke (1)

+ ☐ Petroleum and Petroleum Products (2)

+ ☐ Chemicals and Related Products (3)

+ ☐ Crude Materials, Inedible Except Fuels (4)

+ ☐ Primary Manufactured Goods (5)

- ☐ Food and Farm Products (6)

+ ☐ Fish (61)

+ ☐ Wheat (62)

+ ☐ Corn (63)

+ ☐ Barley, Rye, Oats, Rice and Sorghum Grains (64)

+ ☐ Oilseeds (Soybean, Flaxseed and Others) (65)

+ ☐ Vegetable Products (66)

+ ☐ Animal Feed, Grain Mill Products, Flour, Processed Grains (67)

+ ☐ Other Agricultural Products; Food and Kindred Products (68)

+ ☐ All Manufactured Equipment, Machinery and Products (7)

+ ☐ Waste Material; Garbage, Landfill, Sewage Sludge, Waste Water (8)

+ ☐ Unknown or Not Elsewhere Classified (9)

+ ☐ Light Load (10)

Check that the radio button for Commodity Level matches the level of detail you select in the Commodity menu.

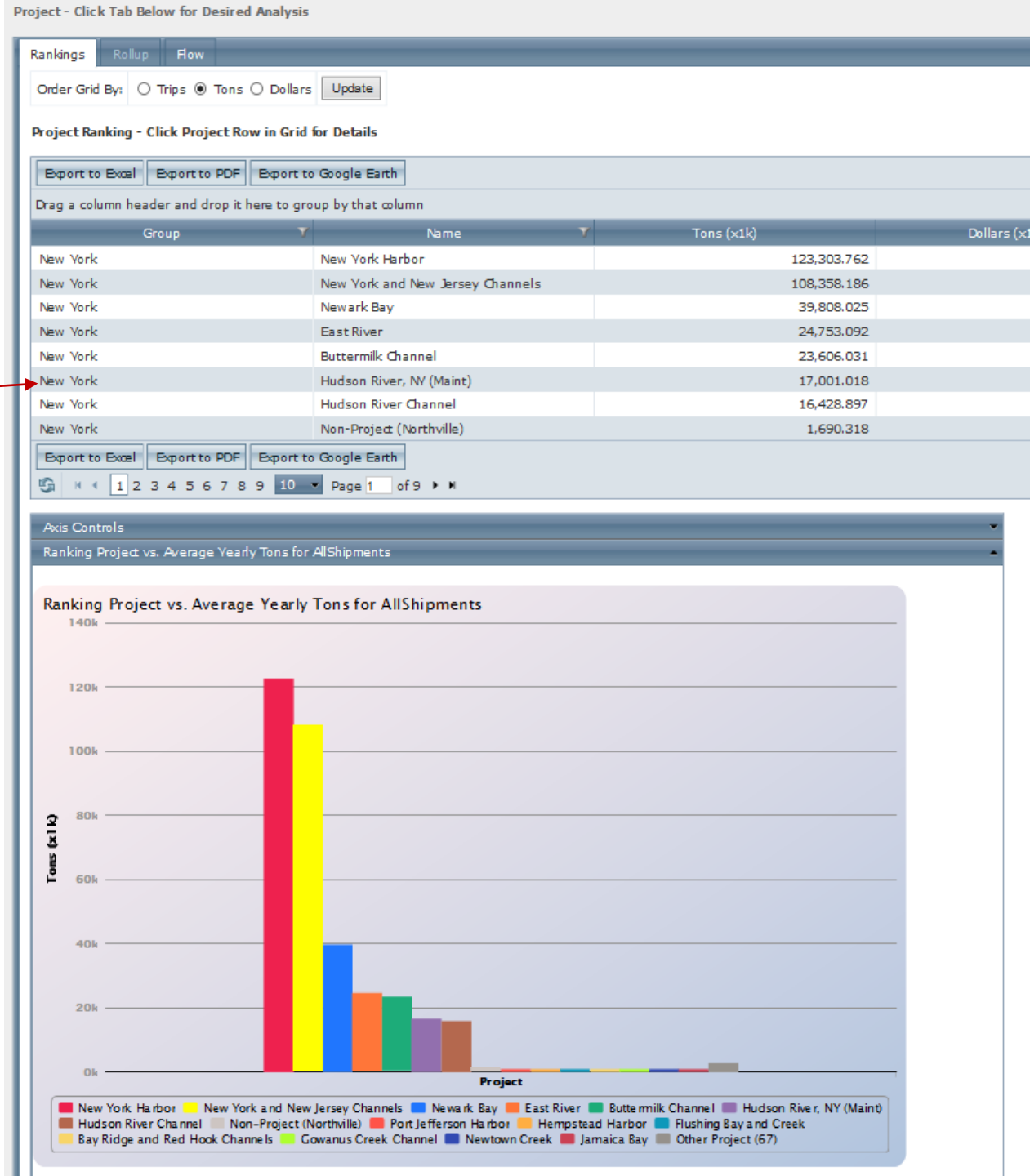
If you want 5-digit commodity specificity in your query results, click the 5-Digit radio button.

Viewing Results

Tables at the top
of the page

Click on a row to open a
new DETAILS tab

Graphs at the
bottom



Project RankingDetail - Traffic

Group by: ☐ Draft ☐ System ☐ Vessel Type ☒ TrafficOrder Grid By: ☐ Trips ☒ Tons ☐ Dollars

Update

Export to Excel

Export to PDF

Drag a column header and drop it here to group by that column

Year	Traffic	Tons (x1k)	Dollars (x1k)	Trips
2015	Overseas-Imports	53,042.332	\$132,397,995.298	3,771.000
2015	Coastwise	26,841.410	\$9,392,136.709	10,009.000
2015	Overseas-Exports	16,991.280	\$48,734,024.222	3,893.000
2015	Canadian-Imports	10,843.691	\$3,907,494.657	478.000
2015	Internal	8,841.601	\$2,762,681.521	4,557.000
2015	Local	6,527.079	\$3,531,025.048	72,776.000
2015	Canadian-Exports	216.369	\$44,644.307	382.000
		123,303.76	\$200,770,001.76	95,866.00

Export to Excel

Export to PDF

Page 1 of 1

Displaying items 1 - 7 of 7

Project RankingDetail - Commodity

Export to Excel

Export to PDF

Drag a column header and drop it here to group by that column

Year	Traffic	Commodity	Tons (x1k)	Dollars (x1k)
2015	Overseas-Imports	All Manufactured Equipment, Machinery and Products (70)	10,783.626	\$76,043,034.720
2015	Coastwise	Distillate, Residual & Other Fuel Oils; Lube Oil & Greases (23)	10,121.848	\$3,731,788.065
2015	Coastwise	Gasoline, Jet Fuel, Kerosene (22)	9,251.927	\$2,772,305.928
2015	Canadian-Imports	Crude Petroleum (21)	6,952.011	\$2,528,349.231
			123,303.76	\$200,770,001.76

Export to Excel

Export to PDF

Page 1 of 13

Displaying items 1 - 10 of 129

DETAILS tab has two kinds of tables

CPT does not provide commodity and trips in the same table

CPT practice exercises are available

Access CPT at <https://cpt.usace.army.mil>

For further questions, trainings, or collaborative project opportunities please contact:

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