

NATIONAL DREDGING QUALITY MANAGEMENT (DQM) PROGRAM

MIDWEST CHAPTER WEDA
MEETING
APRIL 2013



NATIONAL DQM 2012 PROGRAM UPDATE



- 2012 Highlights
- New Initiatives 2013
- Program Vision



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Annual Goals

- Integrate Customer input in tool Scoping/Dev
- Improve the Timeliness of the Data
- Improve Customer Support
- Improve the Dependability of the System
- Improve Partnership with Industry
- Improve Quality of the data

DQM TOOLS

The DQM Viewer is the latest and greatest addition to the USACE dredging tools collection, providing an interactive Silverlight application for selecting dredging projects, graphing load data, managing and requesting disposal plot information, as well as providing data exports.



Selecting a Load



Viewing a load with graphs



Disposal Plot

COMING SOON

- ▶ Email alerts for compliance issues
- ▶ Viewing/exporting multiple loads
- ▶ Dredge plots



THE NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM

The DQM Program is a Corps-Dredging Industry partnership for automated dredge monitoring. Onboard sensors monitor dredge activities, operations, and efficiency. Districts may utilize Corps provided software to prepare summary reports, plots, or spreadsheet compilations of dredge operations. The data can be used to improve business practice, ensure environmental compliance, provide dredging information and data to support the National Dredging Mission, and increase our understanding of dredging science and technology.



DATA ACQUISITION

- ▶ Telemetry
- ▶ Hull Status
- ▶ Fore and Aft Draft - Displacement
- ▶ Fore and Aft Ullage - Volume
- ▶ Slurry Velocity and Density
- ▶ Draghead Depth - Z
- ▶ DGPS - Position (Lat/Long), Course, Heading, Speed, Time, Draghead position



HOPPER



SCOW

3 SCOW PROFILES AVAILABLE

- ▶ **Tracking:** position and hull status
- ▶ **Monitoring:** tracking + draft and displacement tables
- ▶ **Ullage:** tracking+ monitoring + ullage sensors and ullage volume tables

Program Advancements

- All Web Based Environment: Tools, Website
- State of the Art Oracle Database
- Near Real-time Telemetry from Hoppers
- Improved Specs: Measurable Increase in Data Quality, Reduced Inspection Time
- Partnerships: Industry, Districts, EPA, BOEMRE

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PARTNERSHIP

Dredging Contractors

Load Disposal

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HOPPER

SCOW

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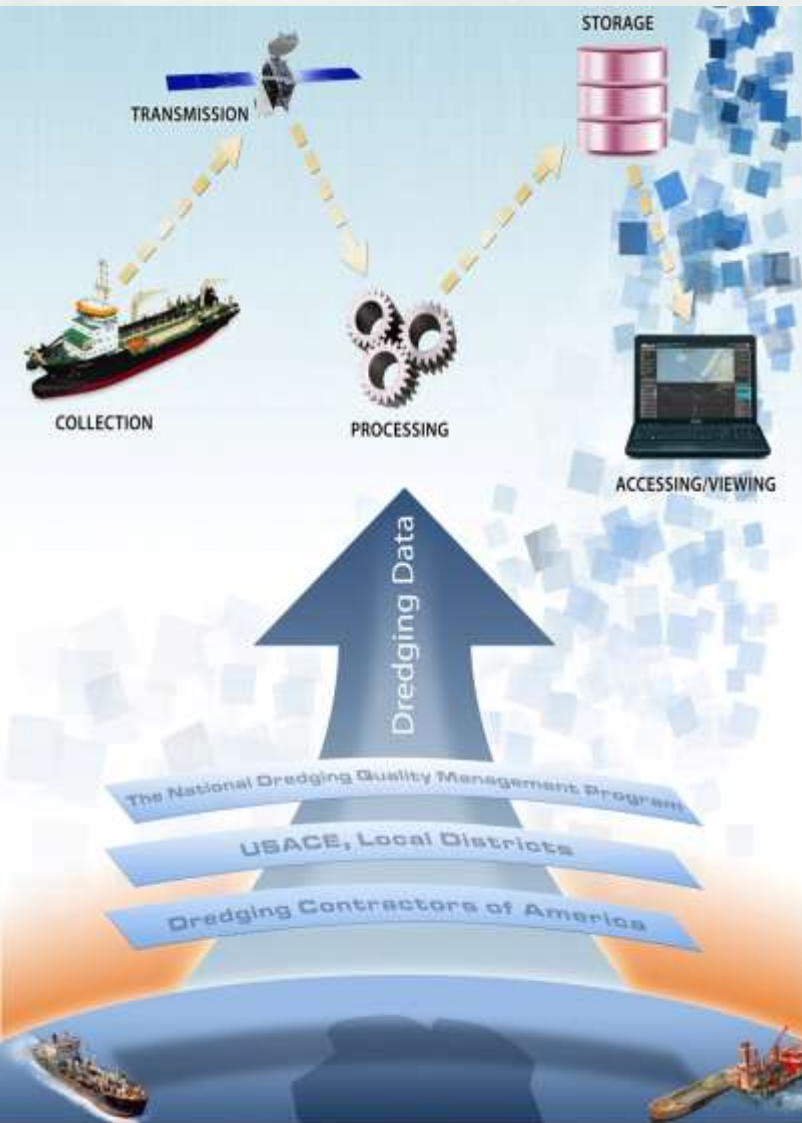
- ▶ **Tracking:** position and hull status
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Types of Dredges



NATIONAL DREDGING QUALITY MANAGEMENT (DQM) PROGRAM



NEW IN 2012

- V2.5 RELEASE
- DATABASE UPDATES
- NEW ON-BOARD SOFTWARE
- DYNAMIC WEB SITE
- CUTTERHEAD PDT
- MECHANICAL DEMO



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DQM CONSOLE



DREDGING
QUALITY
MANAGEMENT

Below is the list of tools available for viewing and interacting with DQM dredging data. The newest versions of the tools are found under the version 2.5 header.

DQM Console Tools (version 2.0)

- [Online Data Viewer](#)

DQM Console Tools (version 2.5)

- Online Data Viewer
- Multi-Load Data and Disposal Plots

NOTE: The version 2.5 links above have been temporarily disabled.

Last updated 14 August 2012



Currently Viewing

Plant
Essayons (Hopper)
Project
Columbia River
Contract
GDSNWP-12-G-0001 (NWP)
Data
Cycle 2 (ID: 71019)
Start
10/01/2011 22:23:21 GMT
End
10/02/2011 01:52:54 GMT
Points
2639

Prev/Next Cycle

<< >>

Point Info



Layer Opacity

Basemap: Imagery
 [Slider]

Basemap: Vector
 [Slider]

NOAA Charts
 [Slider]

Channel Framework
 [Slider]

Disposal Areas
 [Slider]



Ctrl-Click to select a single graph
Click-and-Drag to move graphs
Shift-Drag to stretch graphs

Graph Controls

DraftAft

UllageFore

UllageAft

HullOpen



Currently Viewing

Plant
Padre Island (Hopper)

Project
Mayport Deepening

Contract
W912EP-10-C-0038 (SAJ)

Data
Cycle 6 (ID: 484835)

Start
11/03/2011 20:25:39 GMT

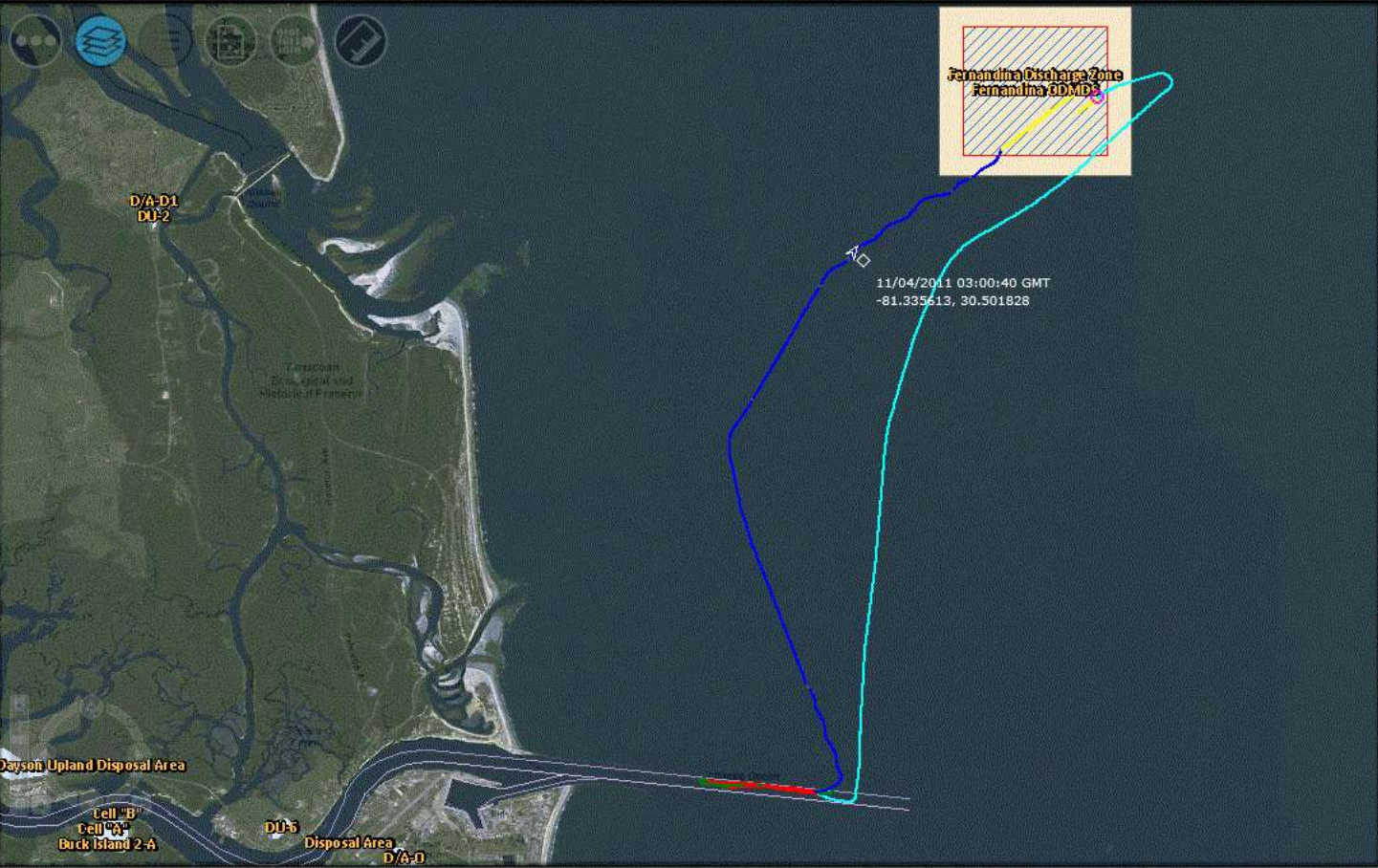
End
11/04/2011 03:34:32 GMT

Points
4461

Prev/Next Cycle

<< >>

Point info



Layer Opacity

Basemap: Imagery

Basemap: Vector

NOAA Charts

Channel Framework

Disposal Areas



CUSTOMIZED DATA EXPORT



Microsoft Excel window showing a spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	CycleNumber	Lat	Long	DraftFore (ft)	DraftAft (ft)	Displacement (LT)												
2	938	43 373886	-124 346478	13.06	23.64	8467.35												
3	938	43 37401	-124 346489	13.22	23.39	8472.26												
4	938	43 374137	-124 346525	12.9	24.35	8549.07												
5	939	43 374266	-124 346587	13.03	23.84	8495.03												
6	939	43 374396	-124 346671	13.05	23.68	8471.44												
7	939	43 37452	-124 346781	13.13	23.77	8512.9												
8	939	43 374631	-124 346919	12.97	24.14	8530.51												
9	939	43 374724	-124 347083	13.15	23.61	8488.56												
10	939	43 374798	-124 347266	13.09	23.7	8485.71												
11	939	43 374845	-124 347469	13.12	23.66	8488.13												
12	939	43 374851	-124 34777	13.05	23.68	8475.3												
13	939	43 374829	-124 347958	12.93	24.31	8547.57												
14	939	43 374774	-124 348243	13.03	23.71	8467.1												
15	939	43 374691	-124 348557	12.76	24.15	8458.62												
16	939	43 374597	-124 348917	12.89	23.64	8404.32												
17	939	43 374496	-124 34931	12.71	23.95	8383.4												
18	939	43 374386	-124 349738	12.95	23.31	8347.86												
19	939	43 374282	-124 350146	12.61	24.16	8391.91												
20	939	43 37415	-124 350675	12.69	23.65	8326.29												
21	939	43 374026	-124 351183	12.77	23.72	8353.9												
22	939	43 373893	-124 351724	13.12	22.59	8258.03												
23	939	43 373755	-124 352284	12.62	23.55	8275.82												
24	939	43 373613	-124 352871	12.93	22.76	8222.95												
25	939	43 37347	-124 353473	12.64	23.32	8232.54												
26	939	43 373321	-124 354091	12.8	22.72	8167.74												
27	939	43 37317	-124 354724	12.77	22.63	8147.67												
28	939	43 373021	-124 355367	12.66	22.86	8148.68												
29	939	43 372848	-124 356009	12.64	22.95	8160.69												
30	939	43 372658	-124 356655	12.72	22.78	8153.49												
31	939	43 37245	-124 357287	12.45	23.04	8112.09												
32	939	43 372228	-124 357918	12.58	22.66	8084.07												
33	939	43 371992	-124 358546	12.69	22.44	8076.98												
34	939	43 37175	-124 359169	12.18	23.51	8113.18												



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MULTI-LOAD DISPOSAL PLOTS

Make a choice:

Load Cycle

District
NWP

Contract Number
GDSNWP-12-G-0001

Dredge Name
Essayons

Project Area
Coos Bay


Coordinate System
Geographic

Time Zone
GMT

Parameters

- LoadNumber
- PlantType
- PlantName
- DistrictIdentifier
- ContractName
- ProjectArea
- PointID
- PointTime
- Easting
- Northing
- Speed
- Course
- Heading
- Tide
- DraftFore
- DraftAft
- UllageFore
- UllageAft

Selected



Start Date
8/18/2012 5:55 PM

Plot Time
Daily

Disposal Event
Hull Open

Export Type
.CDP Cumulative Dis

Email Address

[Create Request](#)

Use the shift key to select multiple parameters. Hold the shift key while dragging parameters to the selected pane. Items can also be reordered by dragging and dropping within the selected items pane.





US Army Corps of Engineers
 Phone: (877)840-8024
 Email: DQM-Support@usace.army.mil

Cumulative Disposal Plot

Plant: GL 63
 7-Day Tracking: 6/7/2010 - 6/13/2010

Project: Mobile Harbor
 Contract: W91278-09-D-0057-0001



All latitude and longitude coordinates are in WGS84 using NAD83 datum or Geographic.



NEW DQM DYNAMIC WEBSITE

Welcome » National Dredging Quality Management Program « US Army Corps of Engineers - Windows Internet Explorer

http://dqm.usace.army.mil/ AIS Vessel Tracking

File Edit View Favorites Tools Help

QDM Viewer QDM Data Viewer Welcome » National Dr...

US Army Corps of Engineers

National Dredging Quality Management Program

Home About Us Certifications/Inspections Dredging Status Specifications Tools Education menu

DQM Home

About DQM

- About DQM Home
- Benefits
- Authorization
- Roles/Responsibilities
- Contact Us/Support Center

Reference Links

- Support Center


Have a problem or question, contact our DQM Support Center

How to Set-Up a Project

Instructions on how to begin a new DQM project...

National Dredging Quality Management Program

The DQM Program is a Corps-Dredging Industry partnership for automated dredging monitoring of Corps dredging projects. Onboard sensors monitor dredge activities, operations and efficiency. Data is routed to the DQM Support Center for data retrieval and storage. Districts may utilize Corps-provided software to prepare summary reports, plots or spreadsheet compilations of dredge operations. In addition to assisting dredge inspectors for monitoring performance, the data can be used to improve business practice, ensure environmental compliance, provide dredging information and data to support the National Dredging Mission, and increase our understanding of dredging science and technology.



Training

Manuals, software guidance and training plans/schedules for data collection, analysis and more

Go Now

DQM Viewer 2.0

Interactive Silverlight application for selecting dredging projects, graphing load data, etc.

Go Now

Support Center

Do you have questions, concerns or comments or need help from the support center?

Go Now

New Project Set-up

Do you need information on how to setup a new DQM project?

Done

Local intranet | Protected Mode: Off 100%

<http://dqm.usace.army.mil/>

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CUTTERHEAD PDT AGENDA

MAY 2012

- Purpose: HQ has directed DQM with implementing the monitoring of cutterhead pipeline dredges. The purpose of this initial PDT meeting is to formalize an implementation plan. Discuss the details of monitoring which include data, data transmission, specifications, pilot projects, contractor coordination, etc.

- DQM Overview
- Review Past Evaluations
 - ▶ Illinois – Folly Beach, SC
 - ▶ Goetz – Fountain City, WI
- Review Surveys - Data Parameters
- Discuss Draft Specification
- Future Evaluations (PDT Discussion)
- Implementation Plan



IMPLEMENTATION

■ Cutter-head Implementation

- National PDT Established May 2012
- Parameter List Developed with Team
- Draft Specs Developed Nov 2012
- PDT comments on Draft Specs
- Draft spec to Industry Mar 2013
- Database developed April 2013
- Draft CRD for Web based tools Apr



Security Requirements

- AS2 Requirements for Data Web Services
 - ▶ Data Transmittal
 - ▶ User Access
- Security Matrix Roles and Access
 - ▶ Password Access



Other Current Development

- Scow Transmission
 - ▶ Near Real-time Data
 - ▶ Eliminate Scow Daemon
 - ▶ Set up production web service
 - ▶ Verify System Providers can transmit
 - ▶ Finalize spec language

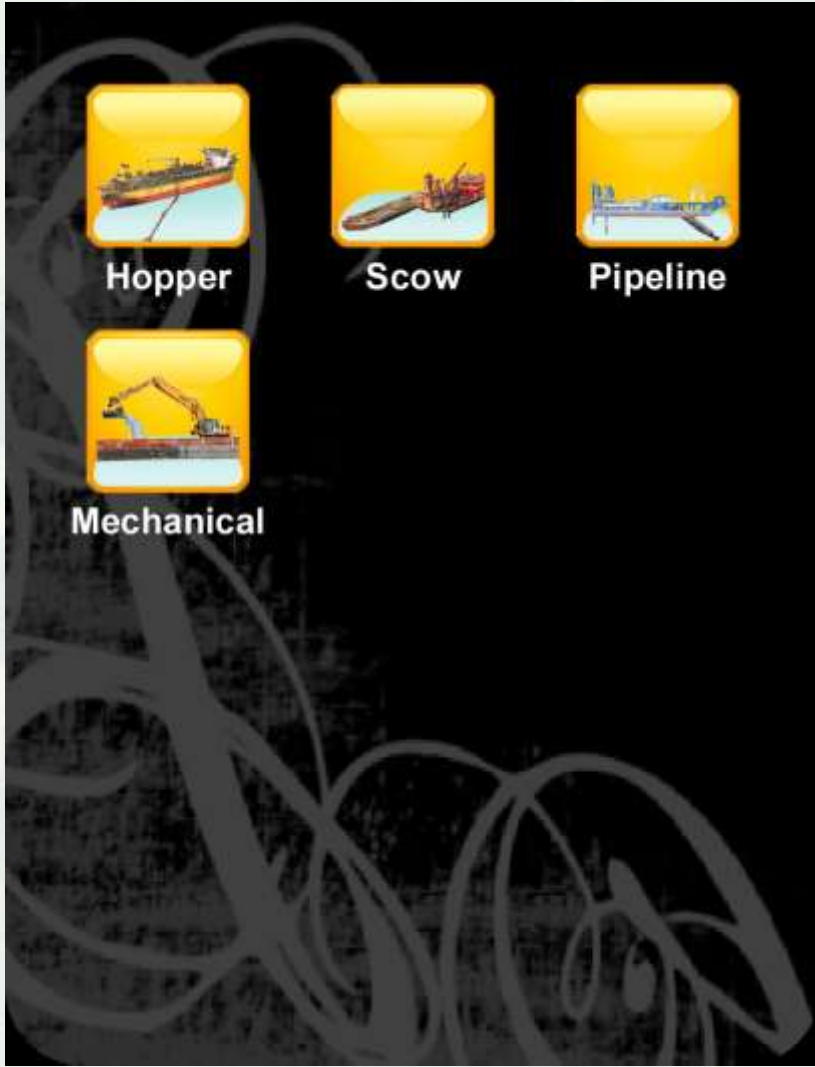


NATIONAL DQM PROGRAM

ALL-REMOTE VISION



ALL-MOBILE ACCESS



Question/Comments?



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THE NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM

The DQM Program is a partnership between the Corps and the dredging industry for automated monitoring of dredge activities.

Onboard sensors provide near-real-time data that allows for immediate response to emerging situations.

Districts can use the web-based DQM software to view, analyze, report on, and export dredging data.

The data can be used to improve business practice, ensure environmental compliance, and increase our understanding of dredging science and technology.

