

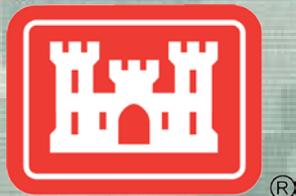
NATIONAL DREDGING QUALITY MANAGEMENT (DQM) PROGRAM

NATIONAL DREDGING MEETING

MAY 11, 2016

WASHINGTON DC

**VERN GWIN, PROGRAM DIRECTOR
NATIONAL DQM CENTER**



PRESENTATION OUTLINE

- PROGRAM STATUS/ADVANCEMENTS
- CURRENT SIGNIFICANT ACTIVITIES
- FUTURE OBJECTIVES



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PROGRAM STATUS

SINCE LAST YEAR....

- **V2.9 WAS RELEASED**
- **NEW SECURITY ACCESS**
- **PIPELINE MONITORING**
- **AUTOMATED ULLAGE IMPLEMENTATION**
- **ODESS PROGRAM PILOT TESTING**



NEW V2.9 DQM VIEWER



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SECURITY REQUIREMENTS

- **AS2 REQUIREMENTS FOR DATA WEB SERVICES**
 - ▶ DATA TRANSMITTAL
 - ▶ USER ACCESS
- **SECURITY MATRIX ROLES AND ACCESS**
 - ▶ PASSWORD ACCESS – **CONTRACTOR ACCESS**



PIPELINE IMPLEMENTATION

- HEAD QUARTERS IMPLEMENTATION GUIDANCE APRIL 2014
- PILOT MONITORING USACE DREDGING PLANTS IN SUMMER 2015
- INDUSTRY SPEC VERSIONS (CURRENTLY RECENT ADDRESSING COMMENTS)
- MARCH 2016 HEADQUARTERS DIRECTED DQM TO IMPLEMENT MONITORING ON >18", WITH PRODUCTION PARAMETERS



National Dredging Quality Management Program (DQM)

Pipeline Data Flow Sensor-Based Parameters (per Compliance Specification)



Pump Sensors

- Pump Vac
- Pump Press
- Density
- Velocity



Position Sensors

- Position
- Heading
- Vert Correction (Tide)
- CH Depth



Discharge Sensors

- (radio link)
- Discharge Position
- Discharge Elevation
- Discharge Heading

Notes

*Dredge Positioning Computer—Data is compiled and converted to JSON format

**DQM Onboard Computer—Minimum Specifications

CPU: Intel/AMD processor; 3 GHz (non-overclocked) clock speed

Hard Disk: 250 GB; internal

RAM: 2 GB

Ethernet Adapter: 10/100 Mbps internal network card; RJ-45 connector

Video Adapter: Supports 1024x768 resolution at 16-bit color depth

Monitor: 17" viewable display; supports 1024x768 resolution at 16-bit color depth

Keyboard: Standard 101-key

Mouse: Standard 2-button

CD-ROM Drive: 16X read speed/8X write speed

Ports: 2 free serial ports (standard 9-pin connectors); 1 free USB port

Cables: Cat-5 cable; standard RJ-45 plugs connecting the network adapter to the network hub; 1 spare cable

Software: Windows 7 Professional (fully licensed); any necessary manufacturer-provided drivers for the installed hardware

DQM ON-BOARD SOFTWARE (DQMOBS)

Instruments
Raw Data Monitor
Settings

National Dredging Quality
Management Program

Test Hopper B		1/6/2010 3:30:27 AM GMT	
Latitude: 24.220791 deg	Speed: 0 kts		
Longitude: -90.300305 deg	Tide: 0 ft		
Heading: 94 deg	Load #: 1		
Course: 94 deg	Hull Status: Closed		

Draft		Ullage	
Fore: 20.27 ft	Fore: 9.6 ft		
Aft: 18.7 ft	Aft: 8.9 ft		
Average: 19.485 ft	Average: 9.25 ft		
Displace: 7931.6 LT	Volume: 4497.4 CY		

Port Draghead		Stbd Draghead	
24.220791 deg	Latitude	24.220791 deg	
-90.300305 deg	Longitude	-90.300305 deg	
0 ft	Depth	0 ft	
0 ft	Elevation	0 ft	
0.71 ft/s	Velocity	4.82 ft/s	
0.37 g/cc	Density	0.07 g/cc	
0 rpm	Pump RPM	0 rpm	

DQM On-Board Software Version: .973 beta

```

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```

Last received: 1525 bytes
Idle time: 00:06:00
Points in queue: 0



Currently Viewing

Plant: Bill Holman
 Type: Pipeline
 Project: Project_Test_Bill_Holman
 Contract: CONTRACT_TEST_BILL_
 Start Date: 05/30/2012
 End Date: 11/02/2015



[PREV](#) [NEXT](#)

Selected Point

ADVANCE_DAILY	null
ADVANCE_HOURLY	null
ADVANCE_TOTAL	null
CH_DEPTH	-12.29
CH_HEADING	268.60
CH_LATITUDE	37.072012
CH_LONGITUDE	-88.564571
CH_RATE	null
CH_RPM	200.21
CH_SWING	null
MSG_BUNDLE_ID	916206
MSG_STATUS_ID	undefined
MSG_DATE	05/30/2012
MSG_TIME	11:27:06
OUTFALL_ELEVATION	null
OUTFALL_HEADING	-19.90
OUTFALL_LATITUDE	37.074674
OUTFALL_LONGITUDE	-88.562046
PROD_CUMULATIVE	1074.30
PROD_INSTANTANEOUS	11.30
PROD_INTEGRATED	null
SLURRY_DENSITY	1.02
SLURRY_VELOCITY	15.48
SURVEY_DEPTH	null
SWING_CABLE_PSI_PORT	0
SWING_CABLE_PSI_STBD	141.72
TARGET_DEPTH	null
VERT_CORRECTION	302

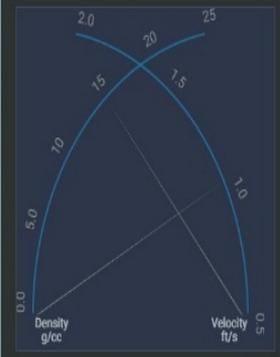


Zoom: 100% 75% 50% 36% 25%

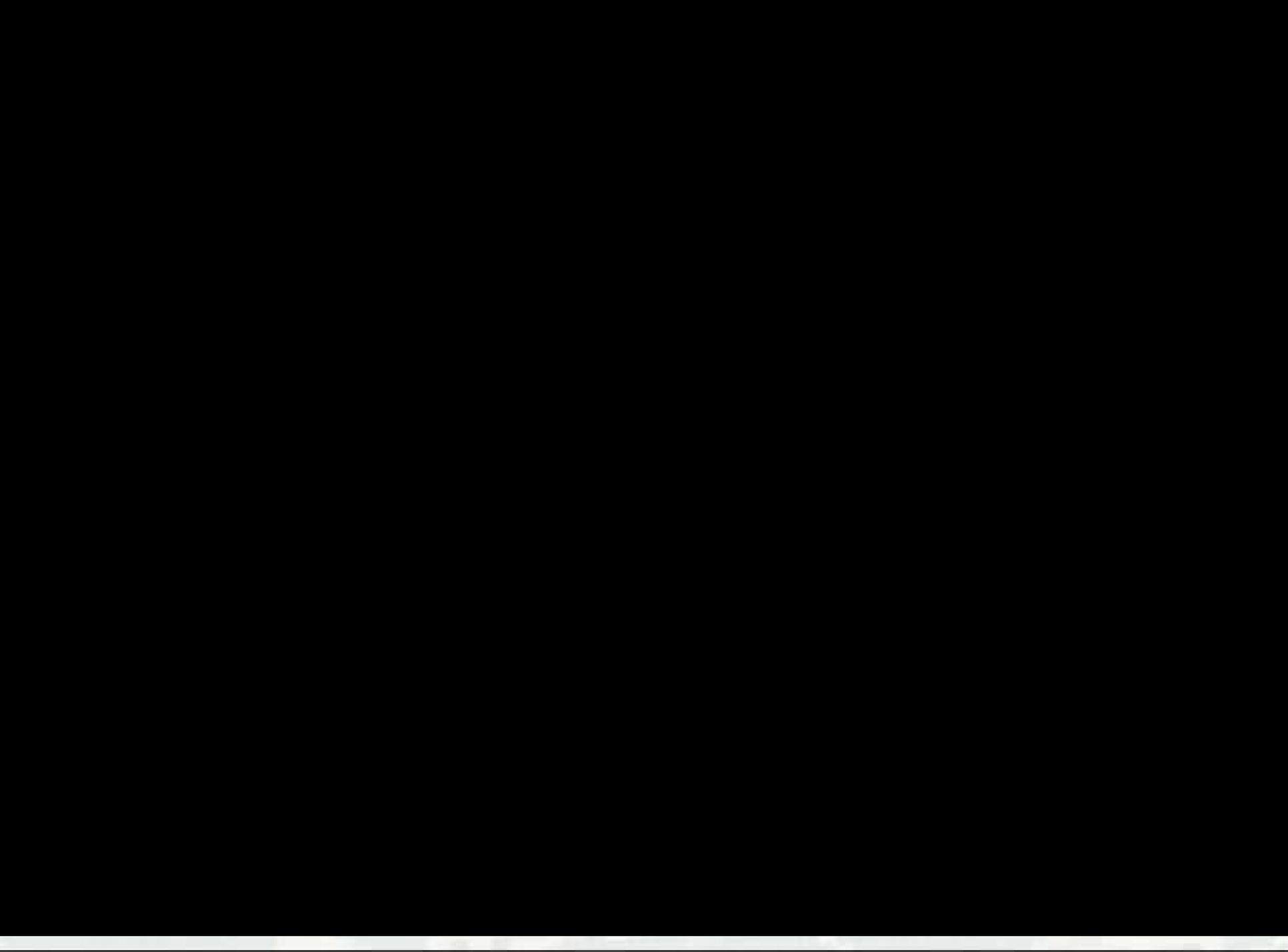


Dredge Status

Pipe Length	[Insufficient Data]
Boosters	[WIP] [Insufficient Data]
Effective Time	[Insufficient Data]
Non-effective Time	[Insufficient Data]



- ADVANCE_DAILY
- ADVANCE_HOURLY
- ADVANCE_TOTAL
- CH_DEPTH
- CH_HEADING
- CH_LATITUDE
- CH_LONGITUDE
- CH_RATE
- CH_RPM
- CH_SWING
- OUTFALL_ELEVATION
- OUTFALL_HEADING
- OUTFALL_LATITUDE
- OUTFALL_LONGITUDE
- PROD_CUMULATIVE
- PROD_INSTANTANEOUS
- SLURRY_DENSITY
- SLURRY_VELOCITY
- SURVEY_DEPTH
- SWING_CABLE_PSI_PORT
- SWING_CABLE_PSI_STBD
- TARGET_DEPTH
- VERT_CORRECTION



Overview

- T&E Species Data Collection and Decision Making Tool in support of Operations and Dredging, starting with sea turtles, sturgen
- Streamline T&E species data collection, processing, and reporting
- Reduction in premature project shut down
- Pilot Testing complete
- Full Implementation late 2016

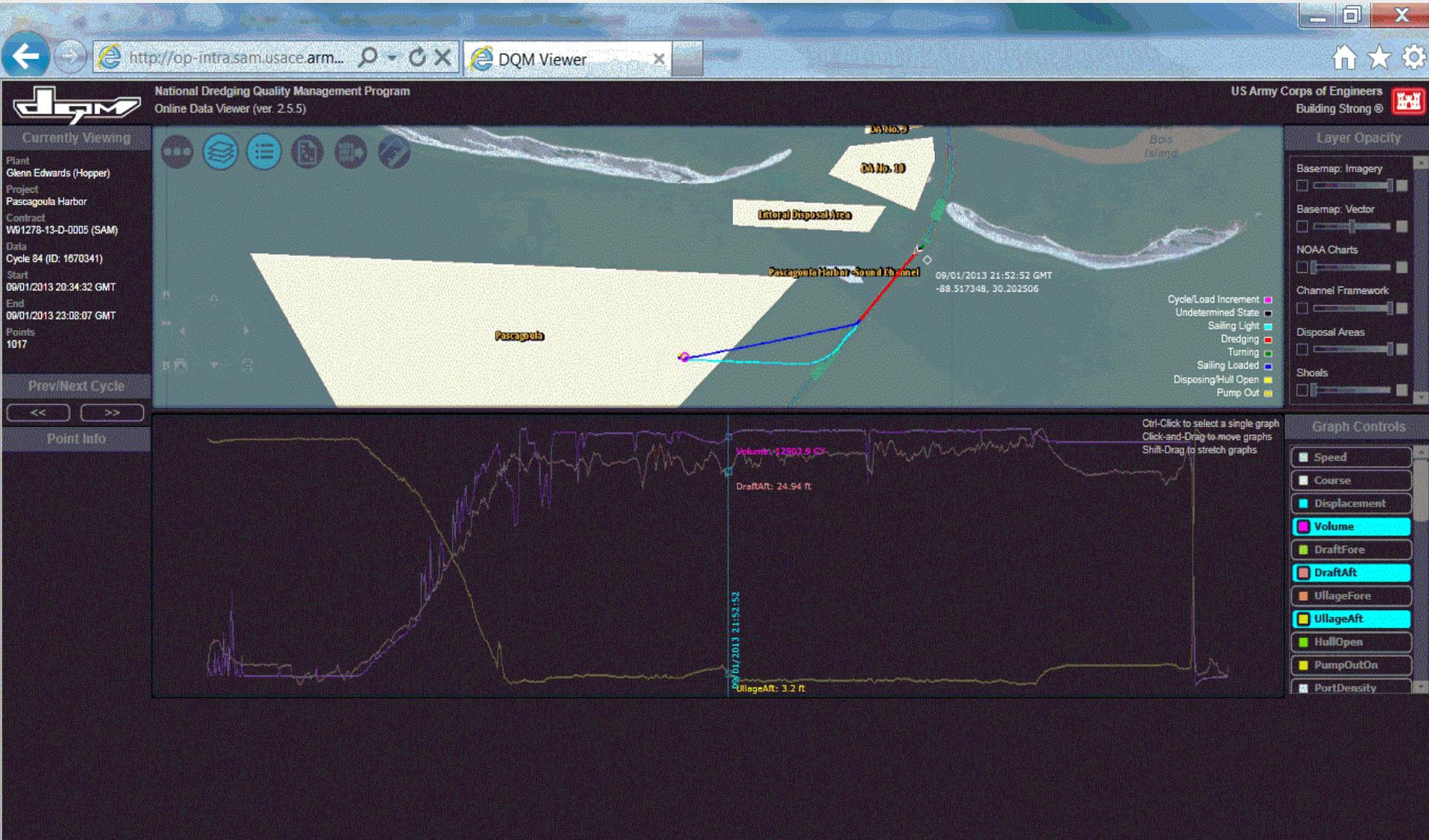


DIF INTEGRATION

- **DIS, RMS, DQM AND DM**
- **DATABASE INTEGRATION**
- **DQM QA VERIFICATION**
- **REPORTS GENERATION**
- **AUTOMATED POPULATION**
- **REDUCTION IN PROJECT SET-UP,
PAPERLESS, CENTRALIZED SOURCE**



NEW V3.0 JUNE 2016



NEW **DQM** PORTAL



Search for Application



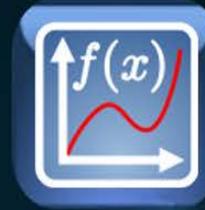
Certifications/QA



Administration



Reports



Plots



Export



DQM Viewer



Dashboard



Payments



Tools



DQM Public Website



Training



Question/Comments?



NATIONAL DREDGING QUALITY MANAGEMENT
DQPM



BUILDING STRONG®



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.

