



# Capability Report Presentation

Presented to USACE and Non Federal Sponsors of the Regional WID Program



# Agenda



- Process Illustrated
- Background of report development
- Motivf's recommendations for improvements to the Regional WID system
- Q + A
- Prioritize your ideal backlog of feature or items

## **Process Illustrated**

### **Program Strategy**

# Goal 1 Objective 1.1 Performance Measure A Performance Measure B Objective 1.2 Performance Measure C Performance Measure D Goal 2 Objective 2.1 Performance Measure E Goal 3....

## Enhanced Data Management Systems



## **Data Management Capabilities**



×	ACTION	VALUE	DIFFICULTY		RANK (2-6)
	Task 1 - Just Do It	HIGH	EASY	0	6
	Task 2 - Good Idea	HIGH	MEDIUM	Δ.	5
	Task 4 - Might as well	MEDIUM	EASY	Δ	5
	Task 3 - If it's worth it	HIGH	HARD	0	4
	Task 5 - Maybe	MEDIUM	MEDIUM	0	4
	Task 7 - If there's time	LOW	EASY	0	4

## High Priority

Second-Level Priority

**Low Priority** 

## Legal and Regulatory Requirements



Potential Actions to Achieve Desired Capabilities

Prioritized Backlog of Potential Actions / Projects

## Background on the Capabilities Report

- USACE Invasive Species Mission
- USACE Aquatic Plant Control Program
- WID cost share program
  - Data Management Systems and Capabilities
- Project Drivers
  - Satisfying recent GAO findings and recommendations
  - Enhancing regional AIS data management systems

#### Program Data

#### Required Data

Data.01. WID Station Locations

Data.02. WID Station Characteristics

Data.03. WID Operational Data

Data.04. Boater Movement Information

Data.05. Early Detection Monitoring Data

Data.06. Rapid Response Data

> Data.07. Financial Data

Data.08. Policy / Regulatory Data

#### Additional Data

Data.09. Additional Stations

Data.10. Additional WID Station Information

Data.11. Additional WID Operational Data Data Lifecycle Management

#### Lifecycle Stages

DLM.01. Data Creation

DLM.02. Data Upload

DLM.03. Data Validation

DLM.04. Data Modification

DLM.05. Data Cleansing

DLM.06. Data Transformation

> DLM.07. Data Lineage

DLM.08. Historic Data Retention

> DLM.09. Data Archiving

DLM.10.
Data Deletion

#### **Enabling Capabilitie**

DLM.11. Data Governance

> DLM.12. Data Security

DLM.13. Regulatory Compliance

## Data and Information Sharing

#### Data Centricity

Sharing.01. Data Storage

Sharing.02. Data Structure/Schema

> Sharing.03. Data Connectivity

> > Sharing.04. Data Formats

#### Access and Sharin

Sharing.05. Interagency Notifications

Sharing.06. Interagency Data Queries

Sharing.07. NFS to USACE Data Sharing

Sharing.08. USACE to NFS Data Sharing

Sharing.09. Sharing Outside Program

#### Analysis

Analysis.01. Analyze Causal Relationships

Analysis.02. Predefined Analytics

Analysis.03. Ad-Hoc Analytics

Analysis.04.
Descriptive Analytics

Analysis.05.
Diagnostic Analytics

Analysis.06. Predictive Analytics

Analysis.07. Prescriptive Analytics

Analysis.08. Location Intelligence

> Analysis.09. Data Driven Risk Assessment

#### Reporting

Reporting.01. Predefined Reports

Reporting.02. Ad-Hoc Reports

Reporting.03. Reporting Frequency

Reporting.04. Report Recipients

Reporting.05. Report Formats

Reporting.06. Report Delivery Presentation

Internally Facing

Presentation.01.
Data and File Access

Presentation.02. Predefined Dashboards

Presentation.03. Ad-Hoc Dashboards

Presentation.04. Interactive Maps (GIS)

> Presentation.05. Web Sites

Presentation.06. Mobile Access

#### Externally Facing

Presentation.07.
Predefined Dashboards

Presentation.08. Interactive Maps (GIS)

> Presentation.09. Web Sites

Presentation.10. Open Data

## **Icon Explanation**



















## Regional WID System Tentative Priority 1 Tasks

#### **Regional WID Data Sharing System**

#### **Database Structure / Schema**

Opportunities exist to consolidate the Regional System database to remove unused fields, consolidate similar database fields serving the same purpose, to enhance valid value domain picklists, and to enhance Regional System database dictionary and documentation. The enhanced Regional System database structure should be configured for extensibility, to store User-specific data in ancillary tables, related to the core database tables.







#### **Regional WID Data Sharing System**

#### Personally-Identifying and Sensitive Data

Enhance the Regional System database schema to allow for explicit identification and tagging of data considered PII and/or sensitive by each data owner. This will enable the ability to limit and protect access to such data by interagency partners and other system users, when querying and accessing other System User's data.







#### **Regional WID Data Sharing System**

#### Add a National List of Waterbodies

Rationalize and reconcile duplicative waterbody names, and create/add a (filterable, hierarchical) list of all known waterbodies nationwide, and limit the ability for Regional System users to manually add/enter new waterbody names. This will help ensure consistency in data collection for watercraft location and movements.







## Regional WID System Tentative Priority 2 Tasks

#### Regional WID Data Sharing System

#### **Update Waterbody Status**

Enable the ability for program managers, and potentially WID station staff, to update waterbody ZQM status (detected, positive, negative), etc.







#### **Regional WID Data Sharing System**

# **Enhance Data Entry Processes for Efficiency and Data Validation**

Enable additional conditional data entry rules and real-time data validation.

Present data entry options tailored to data already entered by the User, where feasible.

Prompt the Inspector to confirm data entered, with a user-friendly data review presentation/form, for 'point of entry' data validation.

The System would perform additional real-time data validation and present 'conditional' data values based on other data entered by System users.







#### **Regional WID Data Sharing System**

#### **Enhance System API**

Enhance the API of the Regional System to enable secure, web service-based access to data by authorized parties, including the USACE, states, and other non-federal governmental entities performing AIS prevention and mitigation activities.







## Regional WID System Tentative Priority 3 Tasks

#### **Regional WID Data Sharing System**

# Update Data Access Policies and Agreements

Update data sharing agreements to allow direct access to interagency WID data. Update policies to enable protected and authorized direct access by systems other than the Regional WID Data Sharing System, allowing System users to perform analysis and risk assessment using data from other System users.







#### **Regional WID Data Sharing System**

# Enable User-Specific Configurations and Customizable Forms

Enable System-user-specific / tailored data collection forms that are specific to each organization. Data entry forms tailored to the needs of local WID station staff will significantly enhance data collection activites and better ensure the capture of structured WID data to enable operational support, risk assessments, analysis, and reporting functions.







## Regional WID System Tentative Priority 3 Tasks

#### Regional WID Data Sharing System

#### **Data Editing Functions**

Add a rapid recall of previous inspection forms and data, enabling WID station staff to recall inspections for a given watercraft, all inspections performed over a given time period, etc. to quickly review and edit data once a data entry error is discovered.







#### **Regional WID Data Sharing System**

#### **Customizable Risk Alerts**

Implement condition-based customizable risk alerts for inspectors. NFS program managers can set conditions, based on inspector-entered data, that trigger risk alert notifications and guidance for inspectors at WID stations.







#### **Regional WID Data Sharing System**

#### **Data Synchronization**

Enhance the Regional System to auto-synchronize data collected in mobile/offline mode with the System database, immediately upon restoration of internet connection to the devices on which offline data were collected.







# Regional WID System Tentative Priority 4 Tasks

#### **Regional WID Data Sharing System**

#### **Enhance Data Upload Functions**

Ensure the CSV-based bulk data upload functions are fully synchronized with the latest Regional System database schema.







#### **Regional WID Data Sharing System**

#### General System Improvements for Performance and Stability

Evaluate and test the Regional System code and business logic, identify and resolve System instabilities.







#### **Regional WID Data Sharing System**

#### **Automated Notifications**

Implement condition-based automated notifications between users of the Regional System.

Notifications can be sent by the Regional System to identified recipients via several channels including but emails, text messages, and in-app notifications.







## Regional WID System Tentative Priority 4 Tasks continued

#### **Regional WID Data Sharing System**

#### **Map-Based Displays**

Provide an interactive map-based view portraying WID stations, waterbodies (with waterbody status), boater movements, and other program data, to enable full situational awareness of program operations, current conditions, etc. The map-based view provides the foundation for geospatial analysis of program data.







#### **Regional WID Data Sharing System**

#### **Analytics**

Provide pre-configured and/or custom analytics functions for Regional System users, connecting to their data directly in the Regional System database. The analytics will enhance the ability to understand program operational trends and patterns, and to predict future operational results based on current and past actions taken.







#### **Regional WID Data Sharing System**

#### **Reports**

Provide additional pre-configured and/or custom reporting functions for Regional System users, connecting to their data directly in the Regional System database. The reports will increase User's efficiency in quickly creating required or ad-hoc/asneeded custom reports.

Provide report filtering tools to specified states, river basins, waterbodies, waterbody status (ZQM+, etc.), individual watercraft, individual or groups of inspectors, date ranges, etc.







## Regional WID System Tentative Priority 4 Tasks continued

#### **Regional WID Data Sharing System**

#### **Dashboards**

Enhance existing standard Regional System home page/dashboard to include additional metrics, and/ or provide functions for state programs and/or individual users to custom configure tailored dashboards. Users should be able to select from amongst a set of standard dashboard widgets and components, and connect their program data to their dashboards. Dashboards should include the ability to show both program summary data and risk thresholds/metrics.







