

DOEE's Rapid Stream Assessment Program

★ ★ ★ DEPARTMENT
OF ENERGY &
ENVIRONMENT



GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

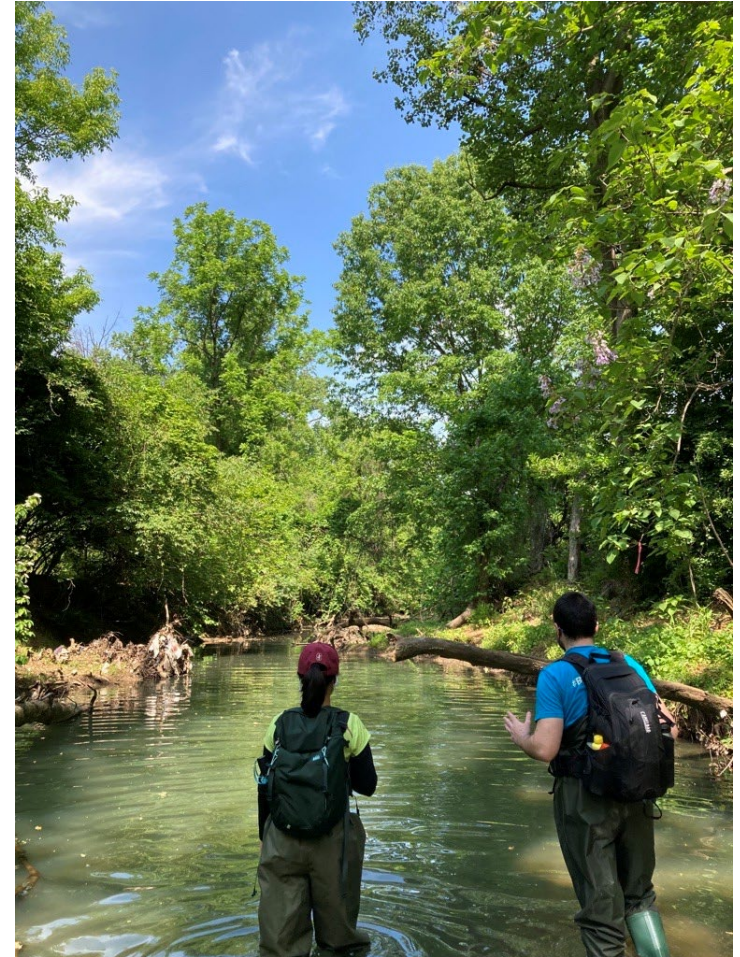
Overview

- Why we created the RSA Program
- Conducting Assessments
- Staff Training and QAQC
- Data Management Needs
- Data Products
- Program Success and What's Next



DOEE's Rapid Stream Assessment Program

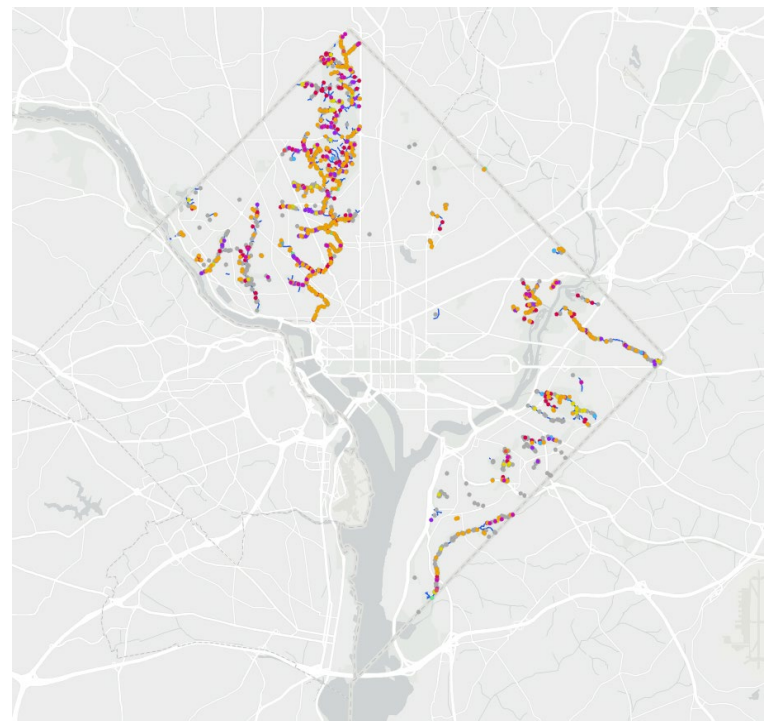
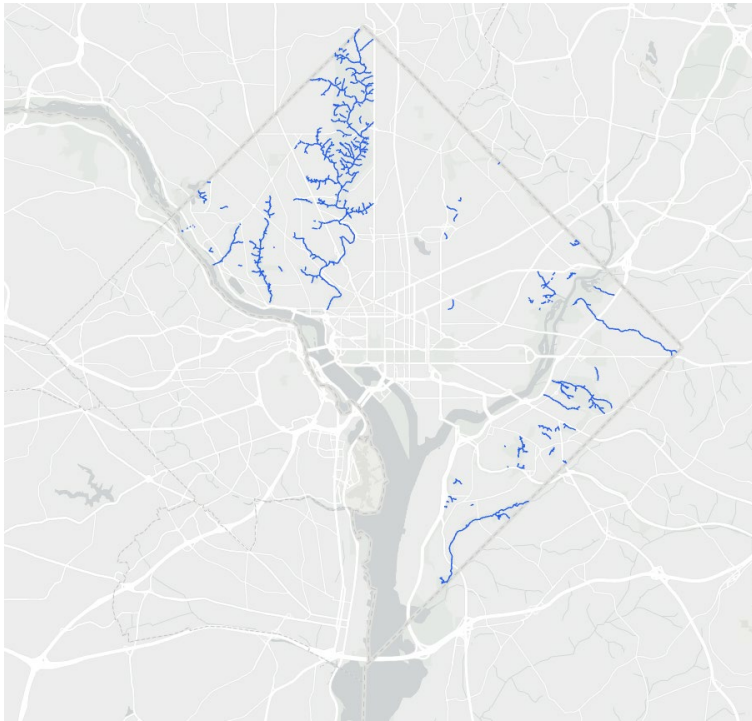
- The intent is to collect information to provide a high-level overview of the entire wadeable stream network within the District. Partially driven by MS4 permit requirements.
- Help identify potential issues as well as locations that may warrant follow-up inspections or more in-depth evaluations.
- Target future implementation of restoration projects
- Serve as a baseline with which to compare information from these assessments in the future.



Conducting the Stream Assessments

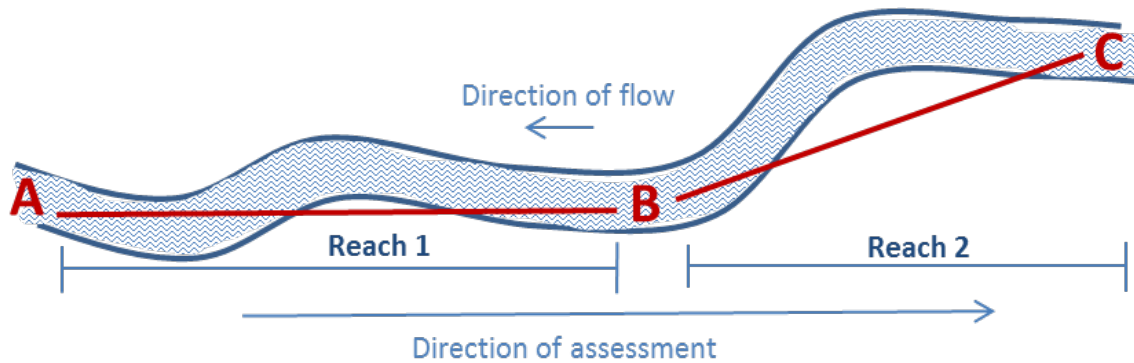
Overview

To date we've assessed >100 miles of stream, recorded >2,400 point assessments, and taken >5,000 photographs.



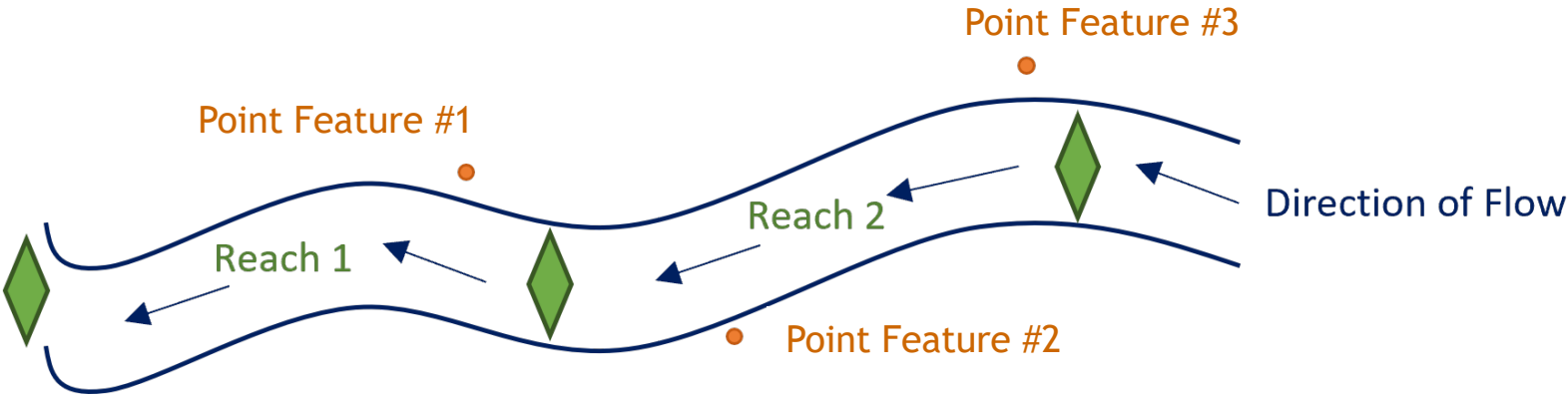
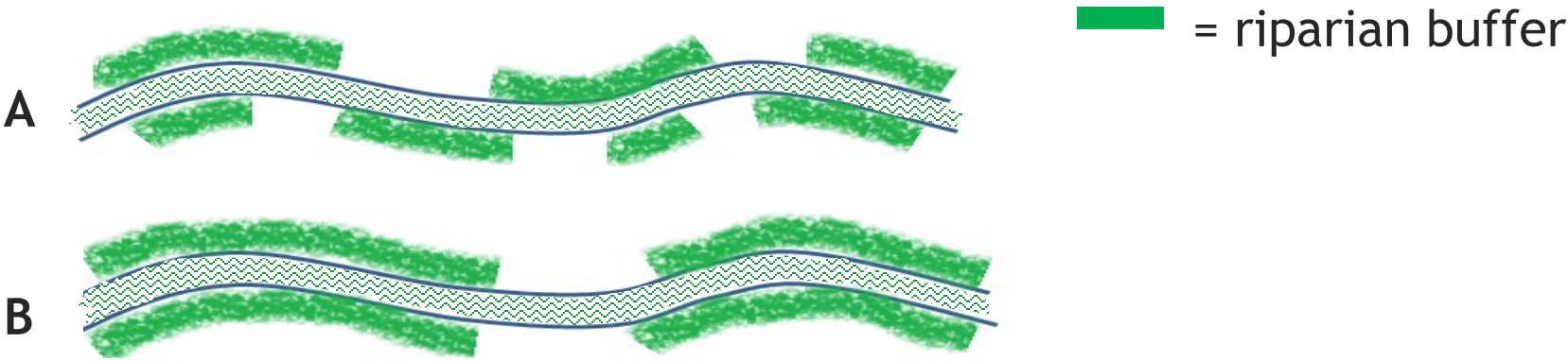
Conducting the Stream Assessments

Reaches



Conducting the Stream Assessments

Points



Staff Training and QAQC

Overview

- Staff Certification
- Annual Training Activities
- Field Verification



Staff Training and QAQC

Certification Levels

Level A certification indicates that a staff person is an expert in the RSA program.

Level B certification indicates that a staff person has demonstrated a working knowledge of RSA data collection but does not have significant experience conducting assessments.



Staff Training and QAQC

Annual Training

Training Modules

Online, recorded modules

Review Session

Hybrid, 'game show' style group activity

In-Person Field Day

Guided, small group opportunity to practice



Staff Training and QAQC

Field Verification

AutoSave On QAAQC Score Card MASTERCOPY... R Saved Search Ritzenhaller, Alicia (DOEE)

File Home Insert Page Layout Formulas Data Review View Automate Help ArcGIS ACROBAT Comments Share

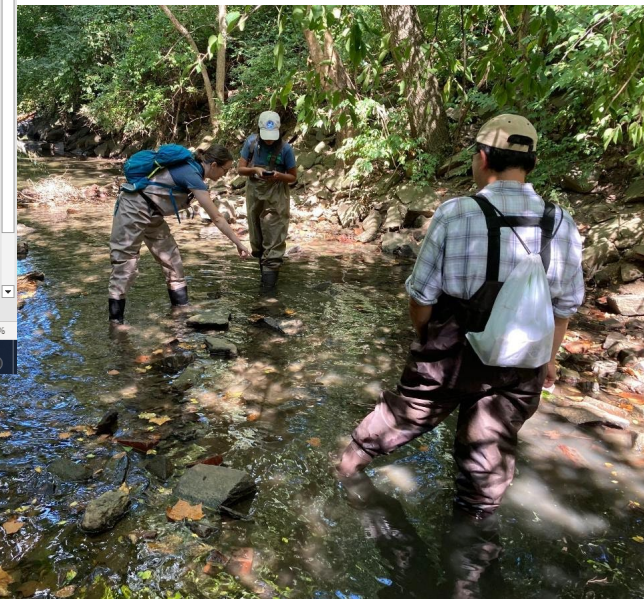
Clipboard Font Alignment Number Styles Cells Editing Sensitivity Add-ins

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
1		Grade A:	Grade B:	Grade F:	Required Fleashes										Optional Fleashes				QC Goal 1:	QC Goal 2:					
2	Meets	Identical Responses	Acceptable Responses	Failing Responses	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Reach	Target	Achieved	Target	Achieved
3	Water Type	Responses are identical	Responses differ but with an explanatory comment	Responses F all QC																	80	#DIV/0!	80	#DIV/0!	
4	Water Presence	Responses are identical	Responses differ but with an explanatory comment	Responses F all QC																		80	#DIV/0!	80	#DIV/0!
5	Water Flow	Responses are identical	Responses differ but with an explanatory comment	Responses F all QC																		N/A	#DIV/0!	80	#DIV/0!
6	Water Clarity	Responses are identical	Responses have at least 1 common water clarity AND no more than 2 differing responses	Responses F all QC																		60	#DIV/0!	80	#DIV/0!
7	Odor	Responses are identical	No more than 1 odor indicated if presence/absence differs OR at least one common odor indicated if presence/absence does not	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
8	Max Depth	Responses are identical	Differs by <5m if max depth is <100cm OR differs by <20% if max depth is >100cm	Responses F all QC																		N/A	#DIV/0!	80	#DIV/0!
9	Avg Depth	Responses are identical	Responses do not differ by more than one category	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
10	Max Width	Responses are identical	Responses do not differ by more than one category	Responses F all QC																		80	#DIV/0!	80	#DIV/0!
11	Fish Presence	Responses are identical	Responses are identical	Responses F all QC																		80	#DIV/0!	N/A	#DIV/0!
12	Aquatic Veg	Responses are identical	Responses have at least 1 common water clarity AND no more than 1 differing response	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
13	Algae	Responses are identical	Responses differ but do not indicate both "absent" and "extensive"	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
14	Bacteria Presence	Responses are identical	Responses differ but do not indicate both "absent" and "extensive"	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
15	Trash	Responses are identical	Responses do not differ by more than one category	Responses F all QC																		60	#DIV/0!	80	#DIV/0!
16	Riparian veg width - left	Responses are identical	Responses do not differ by more than one category	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
17	Riparian veg width - right	Responses are identical	Responses do not differ by more than one category	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
18	Riparian veg type - left	Responses are identical	Responses have at least 1 common vegetation type AND no more than 2 differing responses	Responses F all QC																		N/A	#DIV/0!	80	#DIV/0!
19	Riparian veg type - right	Responses are identical	Responses have at least 1 common vegetation type AND no more than 2 differing responses	Responses F all QC																		N/A	#DIV/0!	80	#DIV/0!
20	Substrate Type	Responses are identical	Responses have at least 1 common vegetation type AND no more than 2 differing responses	Responses F all QC																		N/A	#DIV/0!	80	#DIV/0!
21	Shading	Responses are identical	Responses do not differ by more than one category	Responses F all QC																		80	#DIV/0!	80	#DIV/0!
22	Floodplain Connectivity	Responses are identical	Responses do not differ by more than one category	Responses F all QC																		70	#DIV/0!	80	#DIV/0!
23	Bank Erosion	Responses are identical	When presence/absence differs responses should not include both "none" and more than 2 impacts; if presence matches then responses should include at least one common impact and no more than 1 differing impacts	Responses F all QC																		N/A	#DIV/0!	80	#DIV/0!
24	Woody debris/Root W	Responses are identical	Responses do not differ by 15 or exceed 85% difference (whichever is greater)	Responses F all QC																		N/A	#DIV/0!	60	#DIV/0!
			Responses that do not include "none" and >1 recreation type; Responses that do not include "none" have at least one common																						

Reach Scoring Sheet Point Scoring Sheet

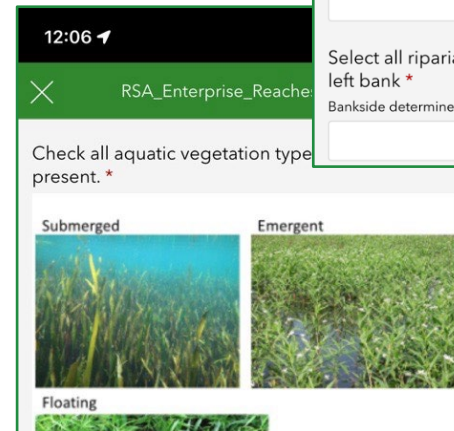
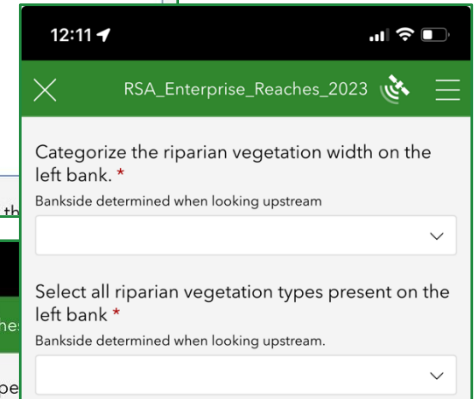
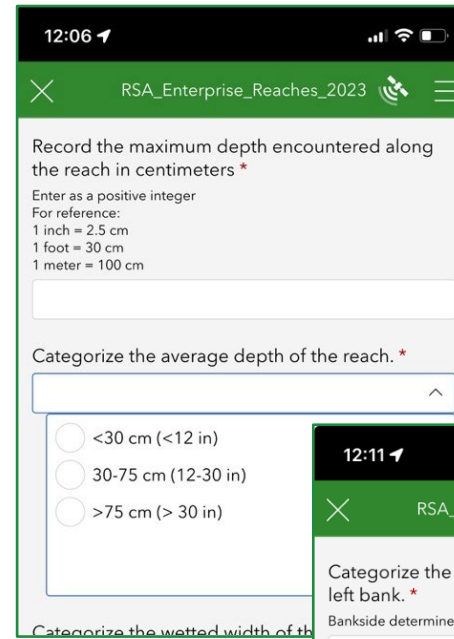
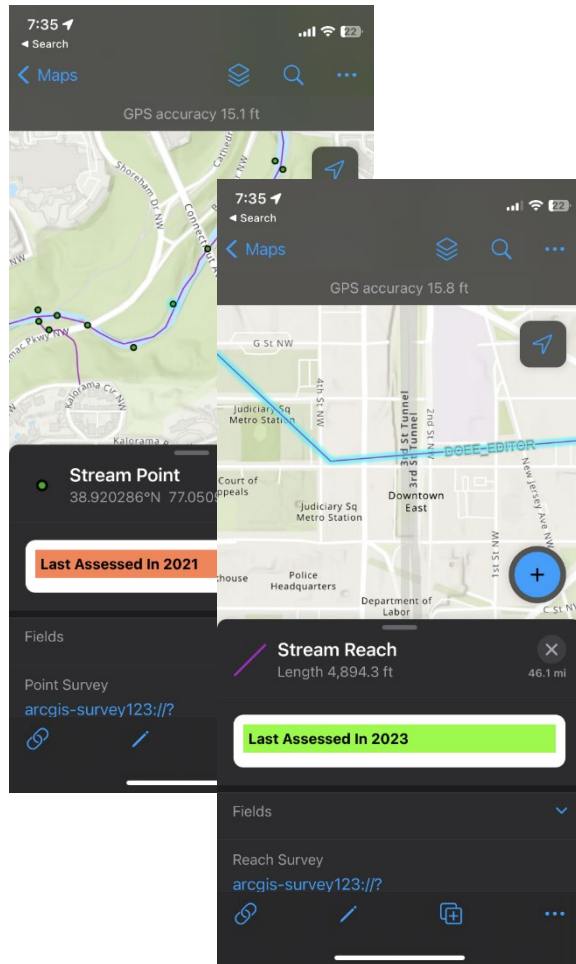
Ready Accessibility: Good to go

12:18 PM 2/15/2024



Staff Training and QAQC

Reference guides



Data Management

Enterprise Geodatabase

The screenshot displays a GIS application interface. On the left, a 'History' panel is visible, showing a list of historical data points. The 'Datasource' is 'sde.DEFAULT (Historical) - [2/21/2023 2:26:42 PM] RSA_Enterprise'. The 'Specific Date and Time (UTC)' is set to '2/20/2023 7:00:00 PM'. The 'Type' is 'Historical Marker'. The 'Name' field is empty. The 'Start' and 'End' date fields are also empty. Below the form is a table with columns for 'Name' and 'Date', which is currently empty.

On the right, a map window titled 'Map_StagingRestUrl' shows a map of a coastal area. The map displays a network of roads and green circular markers. Labels on the map include 'Wilson Blvd', 'Joint Base Myer-Henderson', and 'John (Co) Isl'. The map also shows a body of water and a coastline.



Data Management

Field Maps and Survey 123

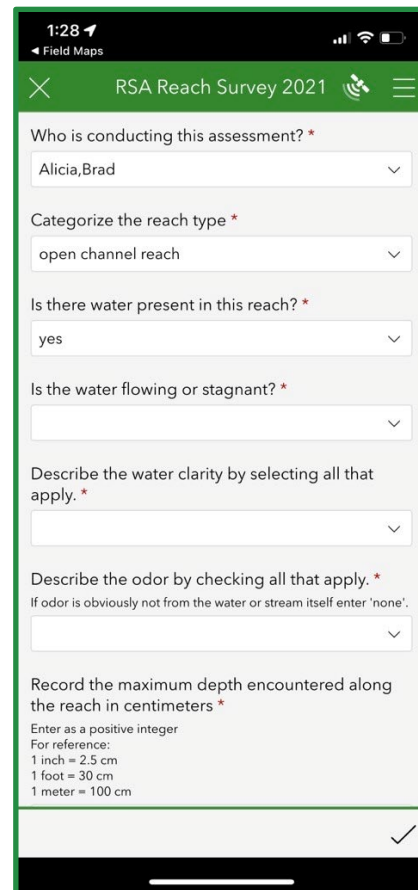
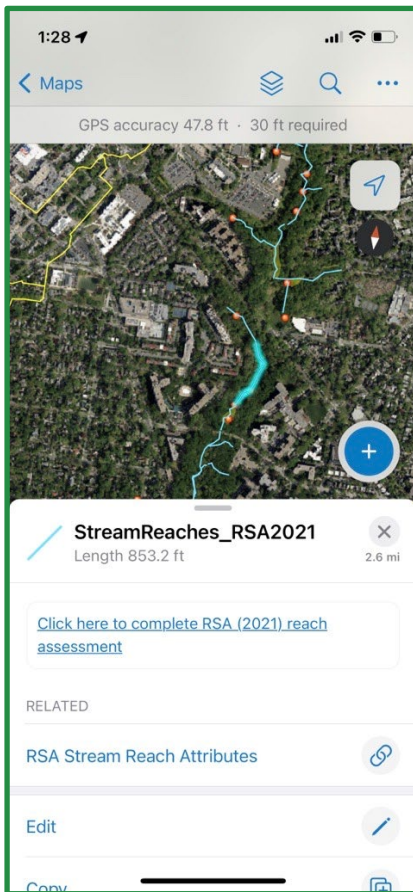
Use of Custom URL Scheme to Link ESRI's Collector/FieldMaps and Survey 123

Pros:

- Dynamic mapping
- Robust conditional programming
- Editing safeguards
- On and offline syncing options
- No additional cost to DOEE

Cons:

- Limited documentation available from ESRI



Data Products

External Data Dashboard

The screenshot shows a web browser window displaying the "Rapid Stream Assessment Data Dashboard". The browser's address bar shows the URL: `experience.arcgis.com/experience/208f5b99663044be9dd6d30289838ac4`. The dashboard has a title "Rapid Stream Assessment Data Dashboard" and two buttons: "Click here for the RSA Storymap" and "Click here for help!".

On the left side, there is a text block explaining the intent of the RSA: "The intent of the Rapid Stream Assessment (RSA) is to collect information to provide a high-level overview of the entire wadeable stream network within the District. This information can help identify potential issues as well as locations that may warrant follow-up inspections or more in-depth evaluations. The information from the RSA can also serve as a baseline with which to compare information from these assessments in the future." Below this, another text block states: "The purpose of this dashboard is to facilitate data sharing and increase program transparency. The data available here is updated from the RSA database in real-time. All data collected as part of the RSA program is subject to the protocols detailed in DOEE's Quality Control & Quality Assurance Program for Rapid Stream Assessments." A note at the bottom of this section reads: "Note: This dashboard has been configured for use on desktop/laptop computers. It may not be suitable for use on tablets or mobile devices." Below the text is a prompt: "Select a feature from the map or a record from one of the tables below to begin!".

The main content area features an "RSA Dashboard Map" with a legend. The legend is divided into two sections: "Stream Points" and "Stream Reaches". The "Stream Points" section includes: Armored Bank (green dot), Crossing (red dot), Dumpsite (blue dot), Erosion (yellow dot), Fish Blockage (purple dot), Outfall (orange dot), Utility Line (pink dot), and Deficient Buffer (red dot). The "Stream Reaches" section is currently empty. The map itself shows a network of streams with various colored points overlaid. A scale bar indicates 5 miles. The bottom right of the map area says "DC.GIS, M-NCPPC, VGIN, Esri, TomTom, Garmin, SafeGraph, ... Powered by Esri".

At the bottom of the dashboard, there are two sections: "Photos of selected reach assessment(s)" and "Photos of Selected Point Assessment(s)". The browser's address bar at the bottom shows the URL: `https://storymaps.arcgis.com/collections/31776e215eea4122a60a18739dd52054?item=8`. The Windows taskbar at the very bottom shows the time as 2:24 PM on 1/24/2024.



Data Products

Internal Data Dashboard

The screenshot shows a web browser window displaying the 'Internal RSA Dashboard'. The browser's address bar shows the URL 'experience.arcgis.com/experience/a4c5c2c230ff479481db789e9c7c8bb6/page/Home/'. The dashboard has a navigation bar with 'Home' (highlighted), 'Progress Tracker', 'Data Explorer', 'Edit Mode', and 'Fisheries'. Below the navigation bar, there is a descriptive paragraph about the dashboard's purpose. A section titled 'Click to View and/or Download Current Documentation' contains eight dark blue buttons with white text: 'Field Data Collection Guide for RSA', 'SOP for using RSA Data Collection Tools', 'RSA Quality Assurance/Quality Control Manual', 'Quality Assurance Protection Plan (QAPP)', 'Point Assessment Metadata', 'Reach Assessment Metadata', 'RSA Training Modules', 'NPS (ROCR) Permit for RSA Activities', and 'NPS (NACE) Permit for RSA Activities'. To the right, under 'RSA Program News and Updates:', there are sections for 'August Availability' (with a link to a questionnaire), 'Excessive Heat Policy' (with a red warning about RSA limitations), and a note about a missed presentation by Erin Garnaas-Holmes. At the bottom, there is a 'RSA Field Work Calendar - Tap event to see details' section showing a calendar for August 2024 with events for Michelle & Diana and Emily, Mike, & Young + Paul.

Internal RSA Dashboard

Home Progress Tracker Data Explorer Edit Mode Fisheries

This RSA Dashboard is for RSA Team Member reference. The purpose of this dashboard is to facilitate communication between RSA staff members and provide an easy way to reference the data collected. If you would like to share RSA data EXTERNALLY, please share the public facing dashboard [here](#).

[Click to View and/or Download Current Documentation](#)

- Field Data Collection Guide for RSA
- SOP for using RSA Data Collection Tools
- RSA Quality Assurance/Quality Control Manual
- Quality Assurance Protection Plan (QAPP)
- Point Assessment Metadata
- Reach Assessment Metadata
- RSA Training Modules
- NPS (ROCR) Permit for RSA Activities
- NPS (NACE) Permit for RSA Activities

RSA Program News and Updates:

August Availability
Please complete the [August availability questionnaire](#) ASAP if you have not already done so! If completing the survey after 7/26 please also email alicia.ritzenhaller@dc.gov to let her know you'd like to be scheduled.

Excessive Heat Policy
No RSA should be conducted when an excessive heat warning has been issued for the area (95F+ heat index) and RSA is limited to a half day when the temperature 88F or higher. These limitations are intended to take out some of the guess work surrounding heat-related field safety decision and are based on evidence from DOEE's Environmental Services Administration (ESA) that there is a notable uptick in heat-related hospitalizations in the area when temperatures reach 88F. Please consider them "minimum" safety measures. **Please continue to exercise your best professional judgement (and listen to your "gut feeling") to take more protective precautions as necessary. All staff are still STRONGLY encouraged to continue bringing extra water, take frequent breaks in shaded or coolers areas, end your day early and/or cancel field work if you feel condition become (or may become) unsafe.**

If you missed the heat presentation by Erin Garnaas-Holmes on 7/15, please take a moment to check out the recording. The recording can be found by clicking on 'RSA Training Modules' button to the left. The name of the presentation is '(RSA) Heat Safety Presentation - 20240715_120413-MeetingRecording.mp4'.

RSA Field Work Calendar - Tap event to see details

Calendar (Ritzenhaller, Alicia (DOEE))
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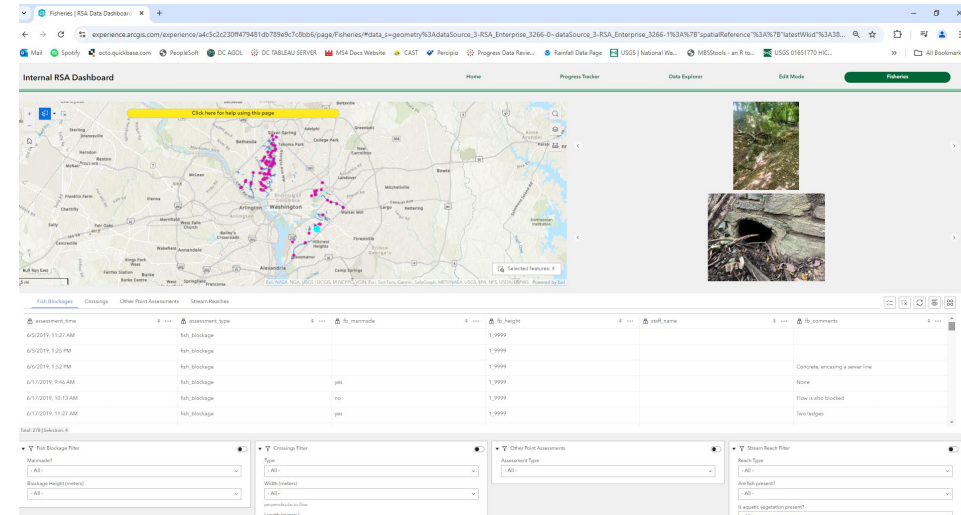
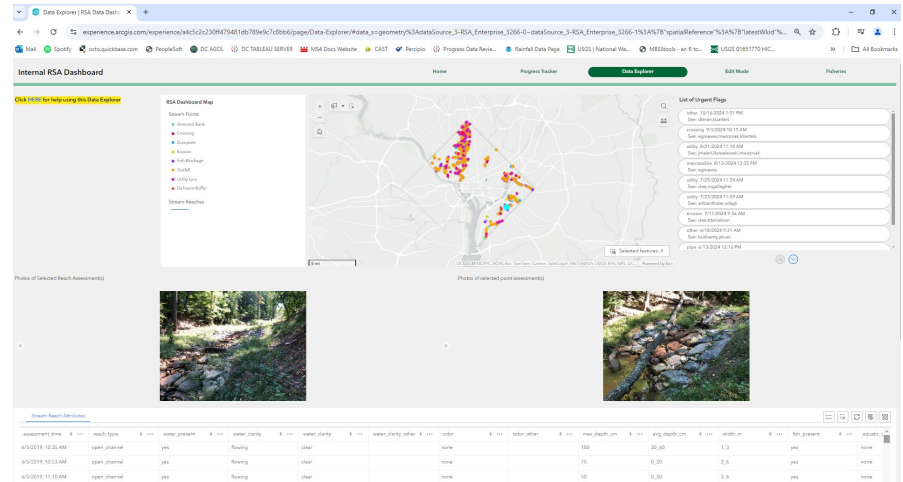
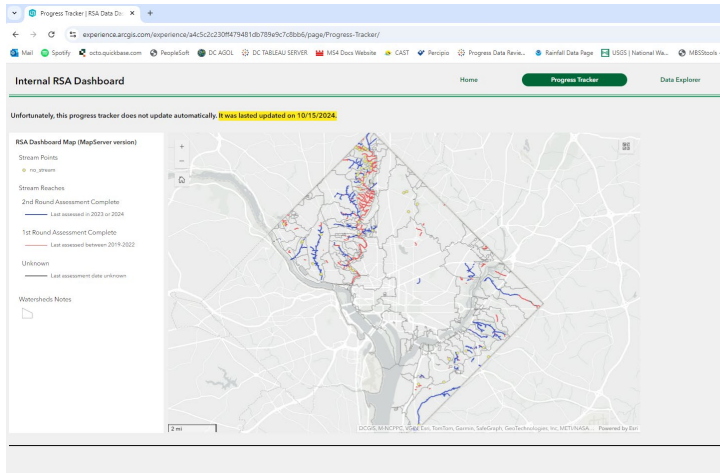
Today ↑ ↓ August 2024 Month ↓ Print

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Thu, Aug 1
Jul 28	29 Michelle & Diana	30 Emily, Mike, & Young + Paul	31	Aug 1	2	3	
4	5	6	7	8	9	10	



Data Products

Internal Data Dashboard



Program Success and What's Next

Round 2 RSA Assessments

- Everything assessed at least once every 5 years
 - Goal of assessing 20% of all streams each year
- Continued improvement of data dashboard and data transparency
- Potential to increase collaboration between RSA and other teams at DOEE



Thanks!

Please reach out if you have questions and/or would like to learn more!

Alicia Ritzenthaler

Department of Energy and Environment

Environmental Protection Specialist

alicia.ritzenthaler@dc.gov

The Rapid Stream Assessment Data Dashboard:

<https://dcgis.maps.arcgis.com/home/item.html?id=208f5b99663044be9dd6d30289838ac4>

2023 First Place BUBBA Award for Most Innovative Stormwater Permit:

<https://chesapeakestormwater.net/awards/does-rapid-stream-assessment-rsa-program/>