Water Utility Operations, Response, and Preservation in the DMV

DWSPP Oil Spill Exercise
October 25, 2023

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Fairfax Water

Goals for Today's Exercise & Key Questions

- Familiarize participants with DWSPP Utility Spill Response Plan
- Remind PotomacSpills members about the platform
- Provide overview of ICPRB modeling capabilities
- Discuss communications with:
  - First responders/ICS/UC
  - Other utilities
  - ICPRB and COG
  - Customers and the public
- Others?

15 Water Suppliers

10 Government Agencies

100+ Representatives

14,670 Square Miles

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River Basin
Drinking Water
Source Protection
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DWSPP is…

Water Utility Committee

15 Water Suppliers in the Potomac Basin

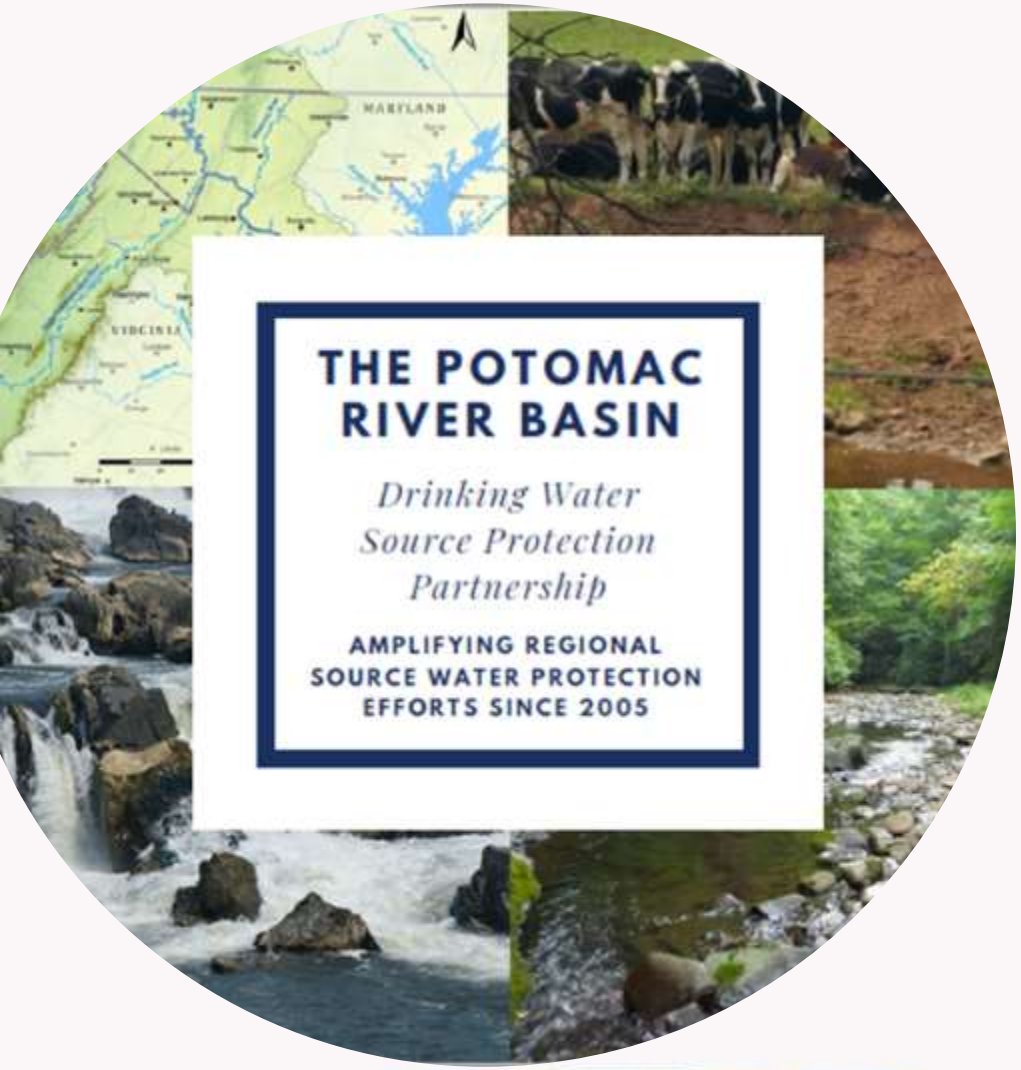
Partnership Coordinator

Interstate Commission on the Potomac River Basin

Government Partner Committee

State and Federal Agencies

a cooperative and voluntary partnership working towards the goal of improved source water protection



Workgroups

- Agricultural Issues
- Contaminants of Emerging Concern
- Early Warning & Emergency Response
- Reaching Out
- Urban & Industrial Issues
- Water Quality

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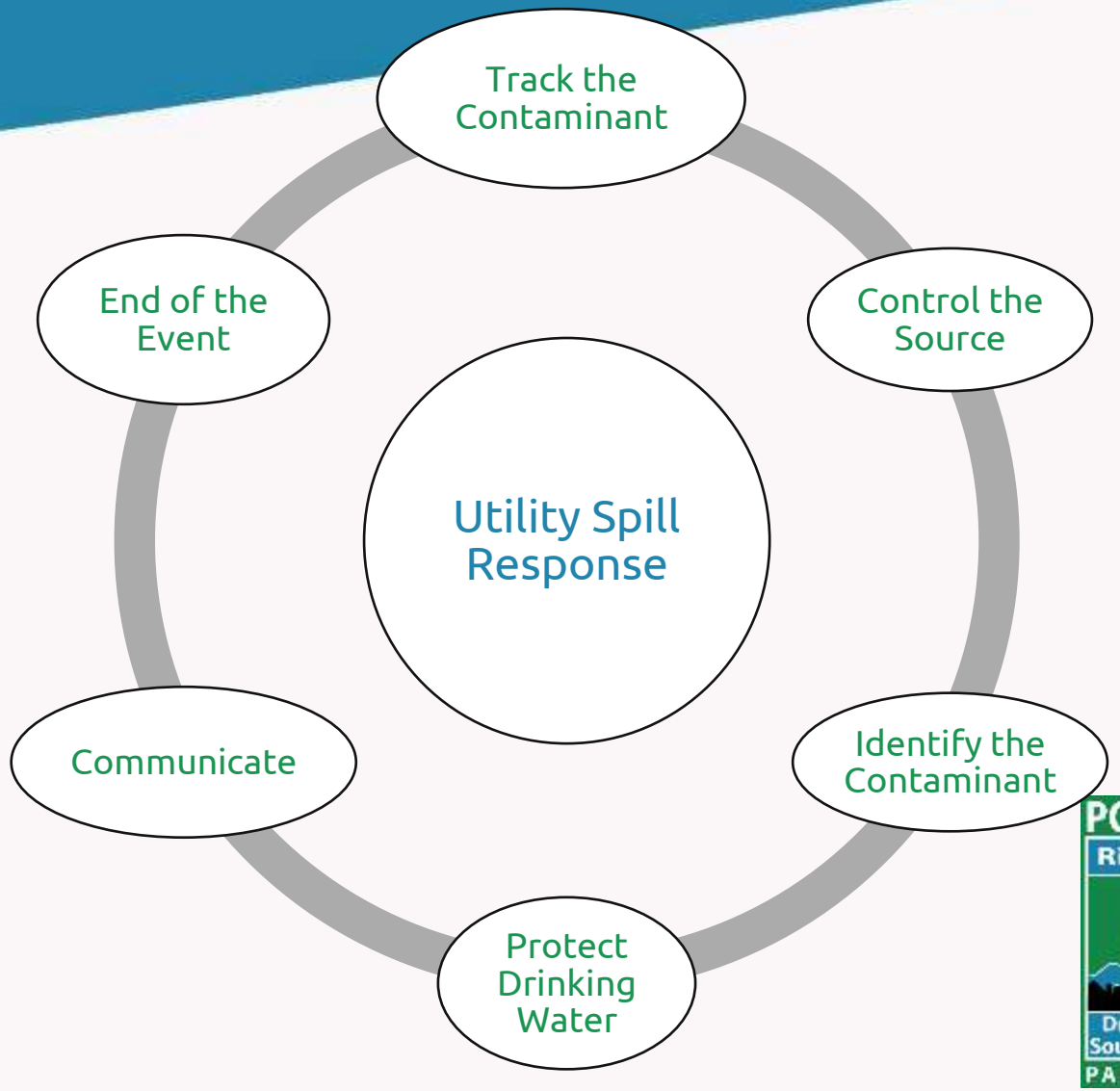
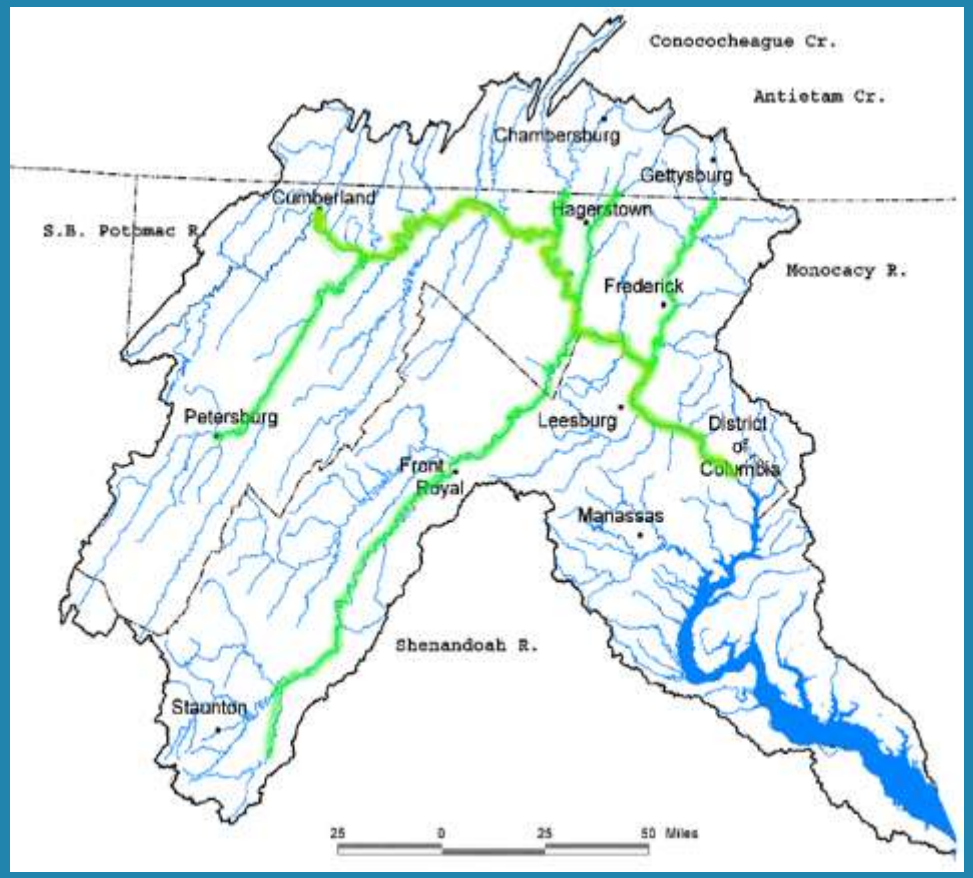
DWSPP Utility Spill Response Plan

- Reflects drinking water priorities
- Developed by the Water Quality Workgroup after the 2016 sheen incident
- Six interdependent elements, actions may occur *simultaneously*
- Available for reference on the secure groups.io site



Track the Contaminant(s)



- Initiated upon receiving a spill notification via PotomacSpills secure listserv on groups.io
- ICPRB may run time-of-travel model(s) and post updates to listserv
- Sampling and/or visual observation may be initiated by utilities with information shared to listserv
- DWSPP Water Utility Committee Chair may convene TEAMS meeting(s) to discuss:
  - field observations
  - model predictions
  - sampling and laboratory analysis
  - contaminant properties and treatability
  - possible operational response
  - compliance and/or notification

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Possible Utility Sampling

- Sampling strategy determined by needs, resources, and conditions
  - Baseline sampling
  - Contaminant identification
  - Treatability studies
- Considerations for sampling strategy:
  - Sample site hazard assessment
  - Sample site accessibility
  - Sampling kits
  - Chain of custody forms
  - Sampling instructions, blanks, handling

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Control the Source of Contamination

Identify the source of contamination

Stop the contamination

Recover and clean up

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Identify the Contaminant(s)

- Lab forensics
- Simultaneous, parallel efforts to identify contaminant(s) and concentrations
- Information sharing via secure listserv and/or TEAMS meetings
- Treatability studies

Protect Drinking Water

- Utilities' #1 Objective: **PROTECT DRINKING WATER**
- Possible Protective Actions:
  - Close intakes
  - Boom
  - Implement physical and chemical treatment barriers
  - Precautionary pretreatment (e.g., oxidation, activated carbon)
  - Monitor raw and finished water
- Secondary Objectives:
  - Maintain pressure
  - Public information
  - Decontamination and recovery

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Communicate - PotomacSpills

- Groups.io platform
  - 208 members – utilities, government responders, ICPRB, COG
  - Secure listserv and database of stored messages
  - File structure for sharing info during an incident response
    1. Archived Messages
    2. Laboratory Information
    3. Miscellaneous
    4. Model Runs
    5. Photos
  - Hashtags for sorting topics

Communicate

PotomacSpills | Main / #EXERCISE / Topics

Search

Topic Properties | Mute This Topic

#exercise Loudoun Water update #EXERCISE

Date 1 - 1 of 1

Cogswell, Catherine

10/15/20

EXERCISE:

Loudoun Water Trap Rock plant is shut down. We are currently preparing Goose Creek WTF to come online, we expect to be online and operating at full emergency capacity in the next 8-10 hours. We also have a spill sampling kit available if it is requested we collect additional samples for analysis.

Cathy Cogswell
Compliance Manager

Show quoted text

Christy Davis

THIS IS AN EXERCISE

30,000-gal used oil spill, Brunswick, MD occurred shortly after midnight on Wednesday, Oct 14, 2020. ICPRB ERSM predicts the following arrivals at intakes:

Potomac River Travel Times	Leading Edge Arrival (mil time)	Duration (hours)	Peak (hours after LE)	Peak Conc. (ppm)	Peak Conc. (ug/l)
Intake: Fred. Co., MD	Oct 14, 1230	3	1	120	120,259
Intake: Leesburg, VA	Oct 15, 0300	6	2	62	61,534
Intake: Fairfax Water, VA	Oct 15, 1800	9	3	42	42,156
Intake: WSSC, MD	Oct 16, 0500	15	5	25	24,701
Intake: Rockville, MD	Oct 16, 0800	16	5	22	22,109
Intake: WA Gt Falls	Oct 16, 1130	18	5	20	19,783
Intake: WA Lt Falls	Oct 17, 0630	28	8	13	12,644

Unless otherwise indicated, the model is based on the following assumptions:
1. Spill material is dissolved and instantly and uniformly mixed across a stream channel and through the water column at the initial spill point and also when a tributary joins a larger stream.
2. Spill material is either conservative or, if there are losses due to volatilization, chemical decay, or deposition, then those losses may be represented as an exponential decay process.
3. Streamflows are constant throughout the modeled time period.

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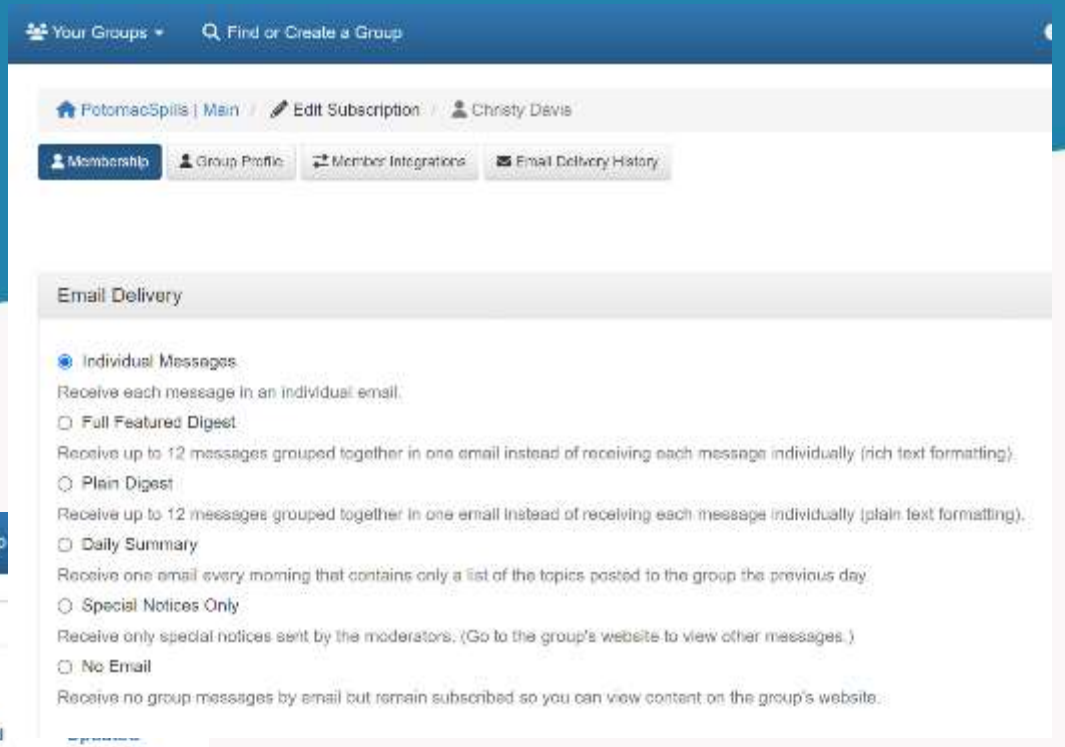
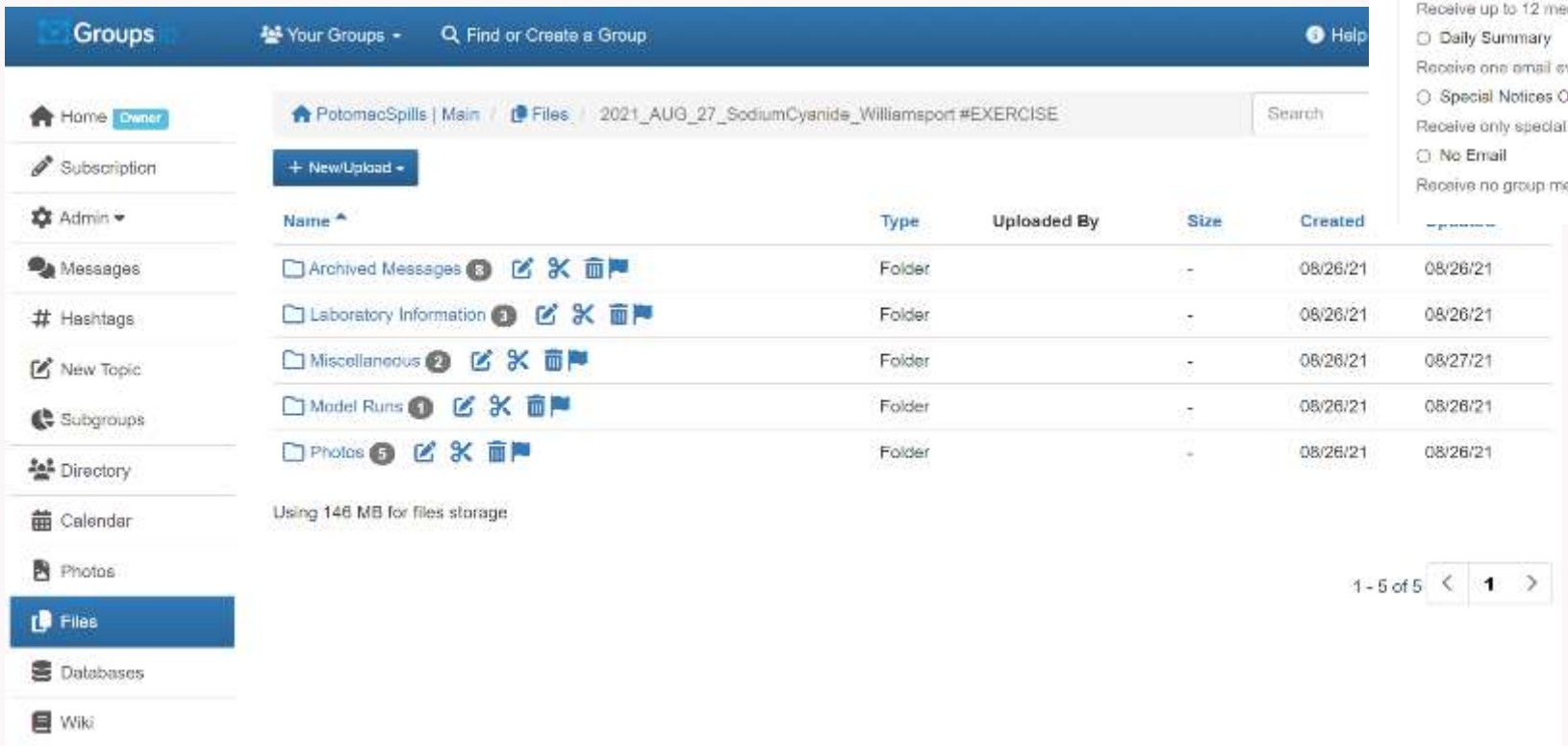
Communicate





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Communicate – Video Calls

- DWSPP Water Utility Committee
  - Executives and managers
  - Water Quality and/or Laboratory
  - Production
  - ICPRB DWSPP Coordinator and Spill Team
- COG and Utility Public Information Officers
- Others??

***How should water utilities communicate with and receive critical information from the emergency response command structure?**

Utility End of Event

- Need **NOT** Coincide with the **Regional End of Event**
  - Utility End of Event can occur before the Regional End of Event – e.g., Contaminant has passed the intake
  - Utility Spill Response can continue after the Regional End of Event – e.g., Presence of contaminant in a localized area within that utility's intake
- Utilities can support the regional effort in spite of Utility End of Event

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Addressing emerging challenges and ensuring a reliable water supply for the future requires vigilance and collaboration.

WE ARE

A partnership of water suppliers and government agencies working to advance our shared mission

WE OFFER

- **Quarterly meetings to educate members about research, regulatory affairs, and emerging issues**
- **Opportunities to share best practices for improving water quality and minimizing operational costs**
- **Focused work groups:**

- Agricultural Issues
- Reaching Out
- Contaminants of Emerging Concern
- Early Warning & Emergency Response
- Urban & Industrial Issues
- Water Quality

PARTNERSHIP COORDINATOR

Interstate Commission on the Potomac River Basin
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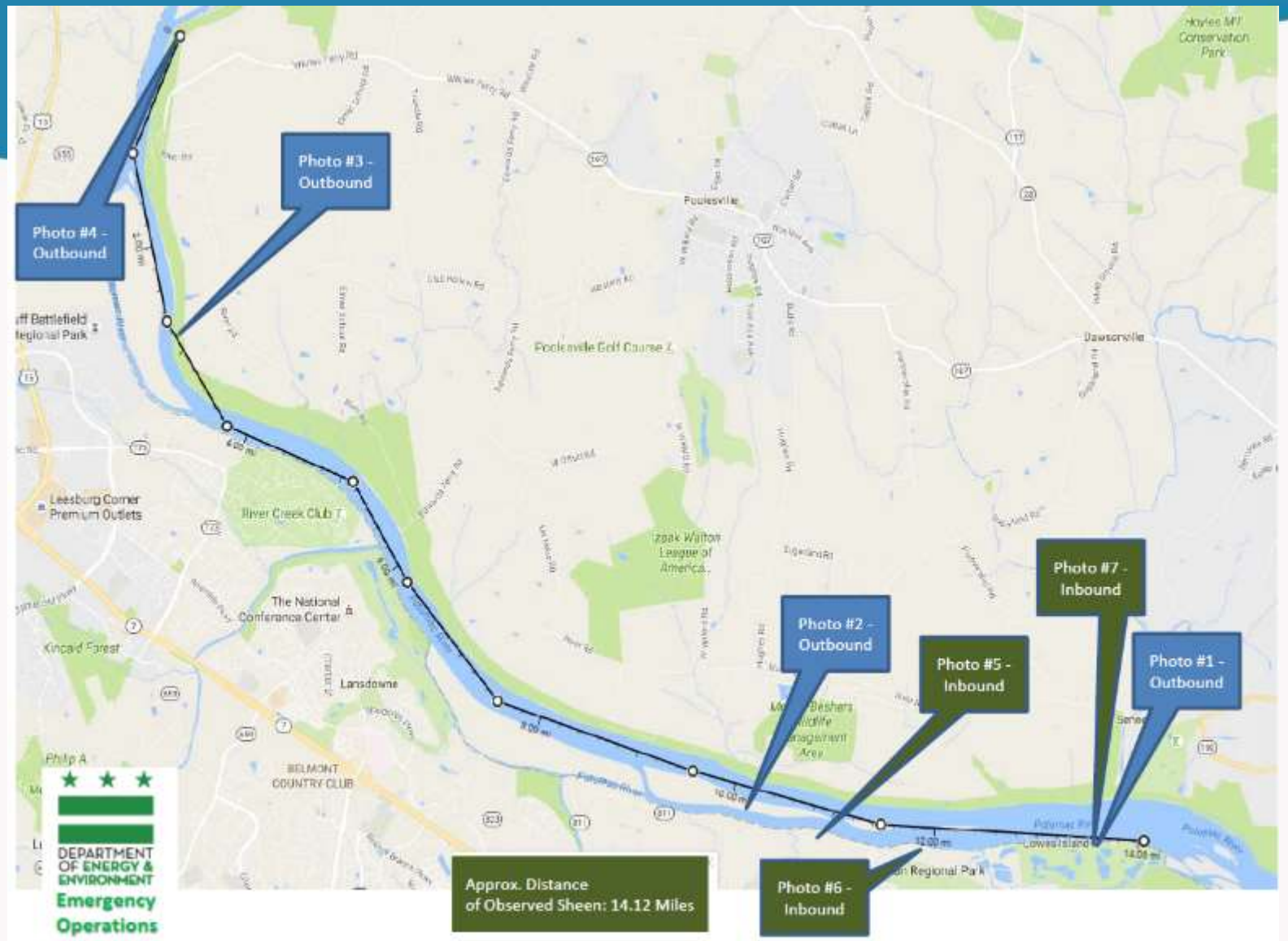
AMPLIFYING REGIONAL SOURCE WATER PROTECTION EFFORTS SINCE 2005

Newsletter:

2016 Sheen Incident



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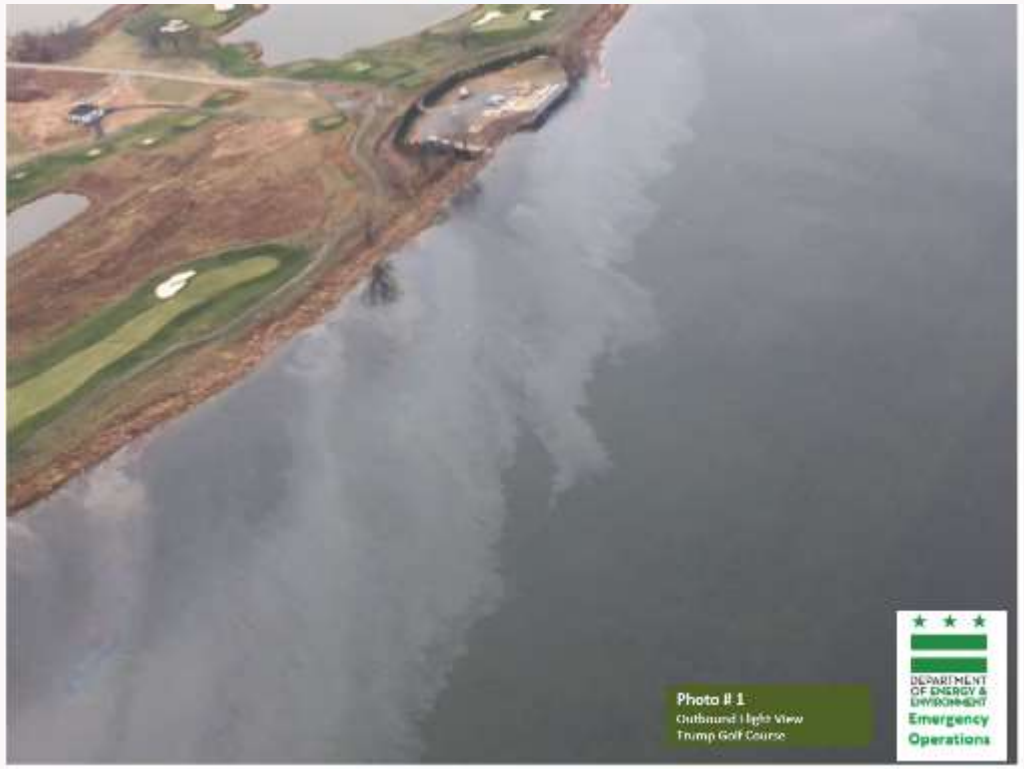
2016 Sheen Incident



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