



## POTOMAC RIVER BASIN DRINKING WATER SOURCE PROTECTION PARTNERSHIP

### Annual Meeting Summary for November 18, 2015

Frederick P. Griffith Jr. Water Treatment Plant, Fairfax Water

#### Attendees

##### Utilities

Berkeley County PSWD:  
Steve DeRidder  
Christine Thiel

City of Leesburg:  
Russell Chambers

City of Rockville:  
Craig Simoneau

DC Water:  
Nicole Kaiser  
Jessica Edwards-Brandt

Fairfax Water:  
Jojean Bolton  
Steve Edgemon  
Doug Grimes  
John Hanchak  
Chuck Murray  
Mishelle Noble-Blair  
Greg Prelewicz  
Niffy Saji  
Joel Thompson  
A-J Wangner

Loudoun Water:  
Charles Logue  
Beate Wright

Washington Aqueduct:  
Maj. Richard Bratton  
Alex Gorzalski  
Tom Jacobus  
Woody Peterson  
Anne Spiesman  
Mel Tesema

WSSC:  
Martin Chandler  
JC Langley  
Priscilla To  
Keith Tyson

##### State and Local Government

DOEE:  
Collin Burrell  
Shah Nawaz  
Joshua Rodriguez

MDE:  
John Grace  
Barry O'Brien

PA DEP:  
Patrick Bowling (phone)  
Lisa Daniels (phone)

VDH:  
John Aulbach  
Robert Edelman  
Roy Soto

WV DHHR:  
Monica Whyte

##### Federal and Regional Agencies

EPA Region 3:  
Catherine Magliocchetti (phone)  
Rick Rogers

ICPRB:  
Karin Bencala  
Renee Bourassa  
Carlton Haywood  
Heidi Moltz

MWCOG:  
Steve Bieber  
Lisa Ragain

USGS:  
Cheryl Dieter  
Melanie Mathesz

##### Other interested parties:

Univ. of the District of Columbia:  
Tolessa Deksissa  
Patrick Payne

Water Research Foundation:  
Kim Linton

## **Welcome and Introductions**

Collin Burrell, Associate Director, Water Quality Division, DC Department of Energy and the Environment (DOEE); Potomac DWSPP Chairman

## **Welcome to Fairfax Water**

Chuck Murray, General Manager, Fairfax Water

## **Business Meeting**

**2015 in Review** – Greg Prelewicz, Fairfax Water

Below is a selection of the activities workgroups completed in 2015. For a complete list see *attachment 1*.

### Government Committee

Held a meeting in the Monocacy watershed and participated in meetings with West Virginia systems to discuss potential collaborative source water protection

### Emerging Contaminants

- Tracked UCMR3 data from Potomac basin utilities
- Sponsored information session on Chlorate detection, toxicology, formation, and operational controls
- Tracked multiple related research and legislative efforts

### Urban Issues

- Surveyed utilities on understanding of Water Quality Standards program
- Participated in NPDES public review process for several permits
- Sponsored information session on chloride trends in snow-affected urban watersheds

### Early Warning and Emergency Response

- Participated in source water assessment update projects – WaterSuite, DWMAPS
- Participated in Colonial Pipeline exercise
- Conducted follow-up activities from spills to improve regional response
- Updated spill contact lists

### Water Quality Data

- Reached out to state agencies for information on monitoring efforts; focused on Maryland
- Provided input to ICPRB on water quality data inventory and map
- Sponsored information session on water quality monitoring in Maryland

### Reaching Out

- Assisted Emerging Contaminants workgroup with UCMR3 communications efforts
- Produced the 2014 Annual Report and redesigned the website
- Awarded Water Research Foundation grant to assess forest protection opportunities and potential reductions in sediments, nutrients, and TOC

### **Proposed 2016 Work Plan – Nicole Kaiser, DC Water**

A new approach was used this year to develop the proposed work plan. Instead of having each workgroup develop a list of tasks within their issue area, all members were invited to nominate larger, more significant, priority projects. The idea is that we could be more effective if we took on a smaller number of projects that everyone can work on together. After projects were nominated, all individual members were invited to vote for specific projects by committing themselves or a colleague to participate. Almost all member organizations had at least one person vote. The results were used to draft the proposed work plan for discussion at the annual meeting. Additional consideration was given to the fact that there are more utility members than state members and therefore the results did not fully reflect Government Committee priorities. The proposed list of projects can be found below and in *attachment 2*.

### Priority Projects

#### Enhancing chemical contaminant knowledge in our watershed

- Goal: Better understand risks from stored and utilized chemicals
- Possible Tasks:
  - Utilize the WaterSuite tool and regulatory program tools such as NPDES permits, SPCC plans, AST and UST regulations, to list chemicals that are stored, transported, or otherwise used
  - Develop action items to minimize the potential impact on drinking water supplies
    - comments on permits
    - discussions with state regulators
    - directly engaging companies/entities in dialogue

#### Implement improvements to regional, cooperative spill response

- Goal: Incorporate lessons from recent spills to improve response
- Possible Tasks:
  - Create groups to tackle specific issues identified during 2015 annual meeting
  - Research issues, reach out to key players, develop written plans, test solutions, etc
  - Work with regional partners to implement improvements

#### Explore source water protection activities related to toxic and non-toxic algae

- Goal: Define source water protection aspects related to toxic and non-toxic algae not already handled by others in the region
- Possible Tasks:
  - Research existing efforts
  - Identify gaps and/or opportunities for source water protection
  - Reach out to potential partners
  - Develop communication resources as needed

#### On-going Projects

##### DWSPP Communications

The Reaching Out workgroup will continue to production the annual report, make updates to outreach materials, and assist the other projects as needed.

##### Water Quality Data

The main aim of the Water Quality Data workgroup is to support other workgroups by gathering data and information for their efforts. The workgroup will support any or all of the projects, as required.

##### Explore creation of upstream source water committee(s)

The Government Committee will continue to work with water systems and county planners in areas upstream of the DC area to determine interest in pursuing collaborative source water protection.

##### Workgroup Issue Tracking

The established workgroups will continue to monitor and report on research and legislation on topics of interest. This may include:

- Emerging Contaminants – pharmaceuticals, endocrine disruptors, microbeads
- Early Warning and Emergency Response – pipeline safety
- Urban Issues – road salts, water quality standards, stormwater

#### Projects Pursued with Outside Funding

##### Regional Source Water Assessment and Data System Tool

COG and the National Capital Region utilities are working with Corona Environmental Consulting to build a tool for a basin-wide source water assessment (WaterSuite). The project's tasks include:

- Develop a methodology for identifying and organizing possible sources of contamination.
- Develop an information system to facilitate methodology application and fast access to potential source of contamination data.
- Calibrate the methods developed based on efforts by Greater Cincinnati Water Works and other partners.
- Use tools to update Potomac Source Water Assessment

The Partnership may be asked to weigh in during the development of the tool, including how the tool could be used to determine priorities for the Partnership and further source water protection goals.

#### An Assessment of Forest Protection Opportunities and Potential Reductions in Sediments, Nutrients, and Total Organic Carbon in the Freshwater Potomac River

With funding from the Water Research Foundation, the U.S. Endowment for Forestry and Communities, DC Water, Fairfax Water, Washington Aqueduct, and WSSC, ICPRB will conduct a two-year research effort to:

- determine future water quality changes near Fairfax Water, Washington Aqueduct, and WSSC's Potomac intakes by preserving varying degrees of existing forested lands;
- conduct an initial assessment of the impact of water quality changes on treatment costs; and
- use the results to develop recommendations for source water protection activities.

During the first year of work the utilities will work with ICPRB to develop quantitative relationships between raw water quality and treatment costs.

#### Discussion

Two questions were raised about the proposed work plan: do we have a handle on data related to road salts and what are the specific algae issues about which the Partnership is concerned?

Road salts – We do not know how much is applied within the basin. This issue was nominated during the voting process but did not receive enough votes to be put on the priority list. The Urban Issues workgroup will continue to track the issue, following any new research or legislation. The issue is being addressed in the region in a few ways:

- Accotink chloride TMDL - <http://www.potomacriver.org/focus-areas/water-quality/total-maximum-daily-loads-tmdls/>
- COG cooperative purchasing - <https://www.mwcog.org/purchasing/>

- WRF forest project will, if possible, look at the potential increase in road salt application due to land use changes from forest cover to developed - <http://www.potomacriver.org/focus-areas/water-resources-and-drinking-water/drinking-water/forests-water-treatment/>

Algae – The specific issues members would like to address through the Partnership have yet to be defined. The task for the year is to identify any gaps in what is already being done related to algae that is of interest to the Partnership. Since there is already a lot of activity at the national level and since members decided that agricultural issues (nutrients and sediments) were not a current priority, the recommendation is to take a critical look at the potential for algae to affect water systems and determine what the Partnership realistically would want to take on.

**Financial Report** – Carlton Haywood, ICPRB

*See attachment 3*

**Committee Chair rotation** – Karin Bencala, ICPRB

*See attachment 4*

If the same rotation for the Government Committee was maintained, ICPRB would be back up as chair in 2018. Since ICPRB serves as coordinator they propose that they do not act as chair, and that in 2018 EPA R3 takes on that role.

**Passing of the Gavel** - DOEE to Washington Aqueduct

## **Improving Cooperative Regional Spill Response**

Moderator: Tom Jacobus, Washington Aqueduct; Potomac DWSPP Chairman

- Recap of recent spills – Steve Bieber, Metropolitan Washington Council of Governments

- **Source of chemical information** – Martin Chandler, WSSC

Explored the information sources available to help us understand a contaminant during a spill event. The types of potential materials discussed fall into three categories: known vs. unknown, single substance vs. blend or mixture, and common vs. uncommon. *See attachment 5 for slides.*

Discussion:

- o Need to further discuss who should be responsible for doing the work suggested in the presentation.
- o Look further into industrial hygiene data sources.
- o Consider taste and odor issues when thinking about analytical methods.

- **Collaborative monitoring and data sharing** – Niffy Saji, Fairfax Water
  - Discussed how monitoring data are gathered, used, and shared
  - Areas for improvement based on activities during recent spills:
    - speed of obtaining results
    - means of sharing results
    - utilities available and willing to do treatability studies (at a minimum know which ones would be capable of doing so)
    - more frequent sampling in the plume
    - monitoring plan template
      - which agency should coordinate monitoring
      - are there existing templates
      - what information would ICPRB like for model calibration
        - WaterSuite might have tools to help with this; the limitation would be accessibility by non-COG members, both government agencies and water systems
      - ensure coordination between laboratories
- **Information available from regulators, use of a unified command** – C. Burrell
 

Reviewed:

  - information sources available to emergency responders,
  - federal programs that hold information of interest, and
  - use and structure of a unified command under the National Incident Management Systems.

*See attachment 6 for detailed list.*

Discussion:

  - If the ICS structure was used for Potomac/inter-state spills, the focus would be on information sharing, not on regulatory roles.
  - Treatment process recommendations – some systems felt that they received differing guidance from MDE and EPA Region 3. Systems would like to know more about if and how regulators coordinate recommendations. EPA noted that they defer to state recommendations since the states are the primacy agency (except for DC).
- **Verso paper mill and Upper Potomac River Commission WWTP permits and opportunities for comment** – G. Prelewicz
  - Recommended review of permits and modifications for source water protection:
    - Look at the notification requirements in NPDES permits. Often permittees are required to notify officials as soon as possible within 24 hours. If we

wanted to shorten this time, would it be a policy or regulatory change at the state or federal level? Or is it just a matter of changing a permit template?

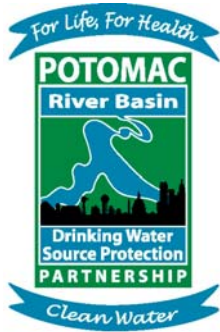
- The Partnership could draft notification request language that could be submitted during the permit comment process.
- As an example, Maryland's draft Marcellus Shale regulations have a short notification period that MDE pushed for.
- Dulles airport's permit is a good example of how permits can be improved to better protect source waters.
- Comments on permits could be coordinated through ICPRB or the Partnership's Utility Committee.
- Information on permits for high-risk sites is needed before, not during, an event.
- WaterSuite should be a good tool for learning about permits, but for it really to be helpful members will have to put in time to make the tool work for us. Additionally, the real benefit will come from developing relationships with the facilities identified as high risk.
- Lean more on regulatory agencies to get the needed information during a spill. More exercises are needed.
- Other recommended activities:
  - The Partnership should reach out to Verso to develop a relationship similar to the one we now have with Colonial Pipeline.
    - Piedmont water system has good contacts at Verso.
  - Use ICS structure during all spills. Run exercises to determine roles for ICPRB, COG, and DWSP.
- **Improving information sharing – C. Haywood**
  - Need better way to share information rather than relying on email
  - This is separate from public information sharing
  - Potential tools:
    - NCR WARN
    - ICPRB password-protected webpage
    - SharePoint site
    - WaterSuite
- **Involvement of upstream utilities in spill response, coordinating information requests, and public information – N. Kaiser**

Recommended improvements for external communications during spill events, including how to coordinate communications across all parties and how to centralize incident information. *See attachment 7 for slides.*



- **Next Steps**

The issues and improvements raised during this discussion and other after-action meetings will be addressed through two of the Partnership's 2016 priority projects: enhancing chemical contaminant knowledge and implementing improvements to regional, cooperative spill response.



## 2015 Accomplishments

### Potomac River Basin Drinking Water Source Protection Partnership

#### Government Committee

Initial meetings were held in the Monocacy watershed and with West Virginia systems to discuss interest in a collaborative source water effort.

#### Emerging Contaminants

- Tracked UCMR3 data as available from Potomac basin utilities to identify and understand trends. Summaries of EPA's January and June 2015 data sets prepared and distributed.
- Information session on Chlorate held during February 2015 Partnership meeting, summary available on Partnership's website.
- Participated in ad hoc group on algae and algal toxins.
- Participated in early planning meetings, tracked and reported progress at Partnership quarterly meetings on DC Water's new research project on "Assessing the Impact of Anthropogenic Discharges on Endocrine Disruption in the Potomac River Watershed."
- Supported WRF Project 4551 (Terminology for Improved Communication Regarding CECs).
- Tracked research reports relevant to emerging contaminants and drinking water; reviewed USGS report on ECs in septic systems; participated in EPA Region 3 Pharmaceuticals & Personal Care Products/Contaminants of Emerging Concern Workgroup calls.
- Tracked and reported on US Senate and House chemical reform bills; noted passage of new law on harmful algal blooms.
- Promoted and supported national drug take back event held on 26 September 2015.
- Supported Urban Issues workgroup by reviewing several NPDES facility permit renewals.

#### Urban Issues

- Conducted a survey on water utilities' understanding of the Water Quality Standards program and its relation to source water protection efforts.
- Participated in the NPDES public review process for several permit renewals in the Potomac Watershed.
- Continued efforts to work with entities regionally on best management practices regarding deicing chemicals to reduce their impact on sources of drinking water supply.
- Sponsored an informational session featuring a USGS presentation on Increasing River Chloride Trends in Snow-Affected Urban Watersheds.

### **Early Warning and Emergency Response**

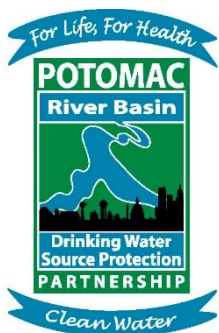
- Participated in discussions of EPA's DWMAPS and Corona's WaterSuite tool. Utility members have invested in WaterSuite and actively participated in its development. The issue of how to share information with Partnership members is still under discussion. Assisted Corona with the delineation of the zone of critical concern for their analysis of potential threats.
- Participated in a large-scale exercise with Colonial Pipeline. The exercise focused on helping the players determine their role(s) within a unified command. It provided the utilities and Colonial Pipeline to better understand each other's capabilities and constraints.
- Conducted follow-up activities from spills to improve regional response.
- ICPRB and COG completed annual updates to their respective contact lists for spill events.

### **Water Quality Data**

- Reached out to each basin state to discuss the data they collect, their monitoring programs, and findings on water quality conditions in general. The focus this year was on Maryland.
- With the workgroup's input a map of the data gathering effort in the basin was created by ICPRB. It is linked to on the workgroup webpage. The workgroup assisted in trying to track down some of the missing data points. Data were gathered on the HAB monitoring stations in the Potomac basin.
- Participated in the ad hoc workgroup on algae and algal toxins.
- Sponsored an information session on water quality monitoring efforts in Maryland.
- Supported other workgroups by maintaining an inventory of water quality data in the basin and helped with analysis as required.

### **Reaching Out**

- Assisted the Emerging Contaminants workgroup with UCMR3 communications efforts.
- Produced the 2014 Annual Report, including a re-design.
- Re-designed the website and transferred web content.
- Submitted and awarded Water Research Foundation grant for ICPRB to conduct an assessment of forest protection opportunities and potential reductions in sediments, nutrients, and total organic carbon.
- Participated in panel discussion for Virginia Tech Executive Masters class on source water protection in the Potomac basin.
- Shared Public Notification Plan and drinking water advisory templates with West Virginia systems.



## 2016 Work Plan

### Potomac River Basin Drinking Water Source Protection Partnership

## Priority Projects

### **Enhancing chemical contaminant knowledge in our watershed: Using available tools to better understand the impact of facilities on our sources of drinking water supply.**

This project will focus on chemical contaminant risks by better understanding the chemicals stored and utilized in the Potomac basin. The project will utilize the newly developed WaterSuite tool (thereby serving to help QA/QC the draft tool), and regulatory program tools such as NPDES permits, SPCC plans, AST and UST regulations, to gain a more complete understanding of the entire spectrum of chemicals that are stored, transported, or otherwise used within the Potomac basin. The objective is to utilize chemical information in order develop action items that will help minimize the potential impact on drinking water supplies. Potential examples of actionable items would be comments on permits, discussions with state regulators, and directly engaging companies/entities in dialogue. Much as the Partnership has “moved the ball” with actionable dialogue with Colonial Pipeline, this project seeks to generate actionable follow-up for the next tier of risks to water supply.

### **Implement improvements to regional, cooperative spill response.**

The Partnership, along with regional partners will implement identified spill response improvements such as setting up a means for information sharing, holding an exercise, and learning more about available chemical information.

### **Explore source water protection activities related to toxic and non-toxic algae.**

This effort will define the source water protection aspects related to toxic and non-toxic algae that are not already being handled by others in the region. Communication resources will be developed as needed.

## **On-Going Efforts**

### **DWSPP Communications**

The Reaching Out workgroup will continue to produce the annual report, make updates to outreach materials, and assist the other projects as needed.

### **Water Quality Data**

The main aim of the Water Quality Data workgroup is to support other workgroups by gathering data and information for their efforts. The workgroup will support any or all of the projects, as required.

### **Explore creation of upstream source water committee(s)**

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### **Workgroup Issue tracking**

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Emerging Contaminants – pharmaceuticals, endocrine disruptors, microbeads

Early Warning and Emergency Response – pipeline safety

Urban Issues – road salts, water quality standards, stormwater

## **Other** (pursued with outside funding)

### **Regional Source Water Assessment and Data System Tool**

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- Develop a methodology for identifying and organizing possible sources of contamination
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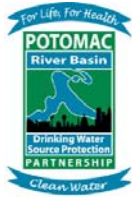
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- conduct an initial assessment of the impact of water quality changes on treatment costs; and
- use the results to develop recommendations for source water protection activities.

During the first year of work the utilities will work with ICPRB to develop quantitative relationships between raw water quality and treatment costs.



## Potomac River Basin Drinking Water Source Protection Partnership

### Administrative Revenue and Expenses Update\* October 1, 2014 through September 30, 2015

REVENUE FROM VOLUNTARY CONTRIBUTIONS	Budgeted	Received
<b>States</b>		
District of Columbia	6,157.40	6,157.40
Maryland	6,157.40	0.00
Pennsylvania	6,157.40	6,157.40
Virginia	6,157.40	6,157.40
West Virginia	<u>6,157.40</u>	<u>0.00</u>
<i>States subtotal</i>	<i>30,787.00</i>	<i>18,472.20</i>
<b>Utilities</b>		
Fairfax Water	10,262.35	10,262.35
Washington Aqueduct	10,262.35	10,262.35
WSSC	10,262.35	10,262.35
City of Frederick	0.00	0.00
City of Hagerstown	752.40	752.40
City of Rockville	330.00	330.00
DC Water	6,600.00	6,600.00
Frederick County DUSWM	375.00	375.00
Loudoun Water	1,380.00	1,380.00
Town of Leesburg	375.40	375.00
Washington County	<u>300.00</u>	<u>300.00</u>
<i>Utility subtotal</i>	<i>40,899.45</i>	<i>40,899.45</i>
<b>Federal &amp; Regional Agencies</b>		
ICPRB contribution	<u>7,849.35</u>	<u>10,119.09<sup>‡</sup></u>
<b>Total FY 2015</b>	<b>79,535.80</b>	<b>81,805.54</b>
<sup>‡</sup> If all AR received.		
EXPENSES	Budgeted	Actual*
ICPRB staff (salary + fringe)	46,692.00	48,366.45
Supplies & Office Expenses	1,600.00	1,561.91
Communications	350.00	474.02
Meeting Expenses & Travel	2,500.00	2,842.77
Contracts - website	500.00	0.00
ICPRB Indirect	<u>27,893.80</u>	<u>28,560.39</u>
<b>Total FY 2015</b>	<b>79,535.80</b>	<b>81,805.54</b>

\*Expense figures subject to accounting review during ICPRB's annual audit.

## 2016 Budget

REVENUE FROM VOLUNTARY CONTRIBUTIONS	Budgeted
<b>States</b>	
District of Columbia	6,157
Maryland	6,157
Pennsylvania	6,157
Virginia	6,157
West Virginia	<u>6,157</u>
<i>States subtotal</i>	<i>30,785</i>
<b>Utilities</b>	
Fairfax Water	10,262
Washington Aqueduct	10,262
WSSC	10,262
City of Frederick	0
City of Hagerstown	752
City of Rockville	330
DC Water	6,600
Frederick County DUSWM	375
Loudoun Water	1,380
Town of Leesburg	375
Washington County	<u>300</u>
<i>Utility subtotal</i>	<i>40,898</i>
<b>Federal &amp; Regional Agencies</b>	
ICPRB contribution	<u>6,025</u>
<b>Total FY 2016</b>	<b><u>77,708</u></b>
<hr/>	
EXPENSES	Budgeted
ICPRB staff (salary + fringe)	45,861
Supplies & Office Expenses	1,600
Communications	350
Meeting Expenses & Travel	2,500
ICRPB Indirect	<u>27,397</u>
<b>Total FY 2016</b>	<b><u>77,708</u></b>



## Attachment 4

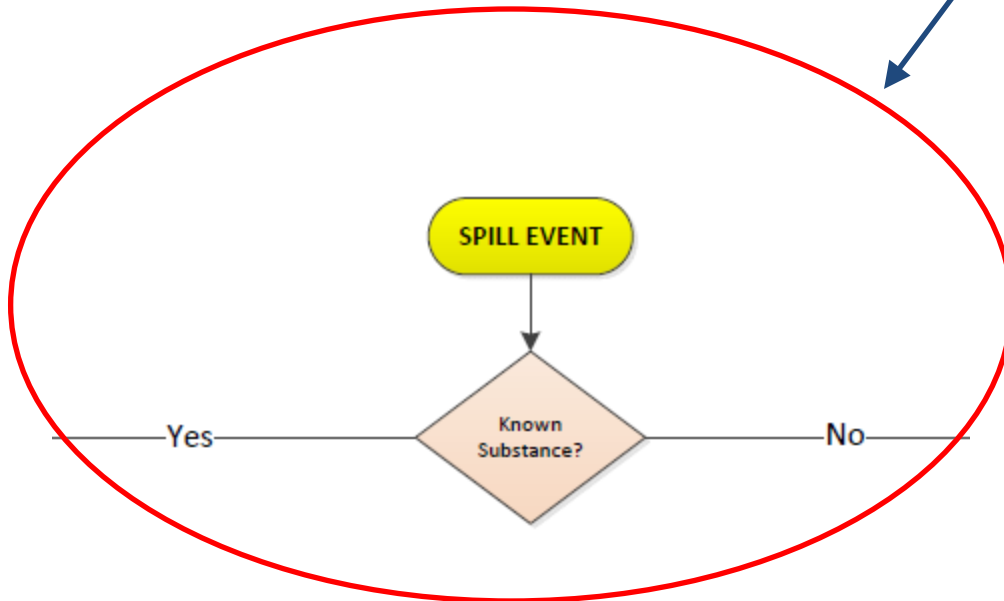
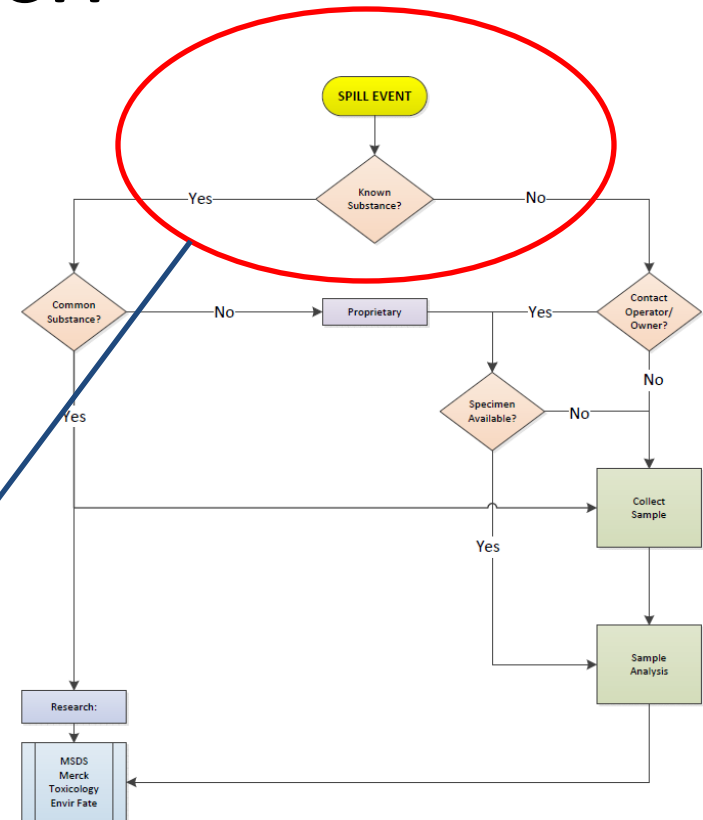
Potomac Drinking Water Source Protection Partnership - Committee Chair Rotation			
	Metro Area Utility Committee Chair	Government Committee Chair	Partnership Chair
<b>2005</b>	WSSC (Mohammad Habibian)	ICPRB (Julie Kiang)	ICPRB
<b>2006</b>	Fairfax Water (Chuck Murray)	EPA Region 3 (Jon Capacasa)	Fairfax Water
<b>2007</b>	Washington Aqueduct (Tom Jacobus)	EPA Region 3 (Jon Capacasa)	EPA
<b>2008</b>	Washington Aqueduct (Tom Jacobus)	MDE (Bob Summers)	Washington Aqueduct
<b>2009</b>	Washington Aqueduct (Tom Jacobus)	MDE (Bob Summers)	MDE
<b>2010</b>	WSSC (Teresa Daniell)	VADEQ (Scott Kudlas/Jason Erikson)	WSSC
<b>2011</b>	WSSC (Mohammad Habibian)	VDH (Wes Kleene)	VDH
<b>2012</b>	Fairfax Water (Chuck Murray)	WVDHHR (Walt Ivey/Bill Toomey)	Fairfax Water
<b>2013</b>	Fairfax Water (Chuck Murray)	WVDHHR (Walt Ivey/Bill Toomey)	WVDHHR
<b>2014</b>	Washington Aqueduct (Tom Jacobus)	District of Columbia (Collin Burrell)	Washington Aqueduct
<b>2015</b>	Washington Aqueduct (Tom Jacobus)	District of Columbia (Collin Burrell)	District of Columbia
<b>2016</b>	Washington Aqueduct (Tom Jacobus)	Pennsylvania(Lisa Daniels)	Washington Aqueduct
<b>2017</b>	Washington Aqueduct (Tom Jacobus)	Pennsylvania(Lisa Daniels)	Pennsylvania

# Sources of Chemical Information

Emerging Contaminants Workgroup

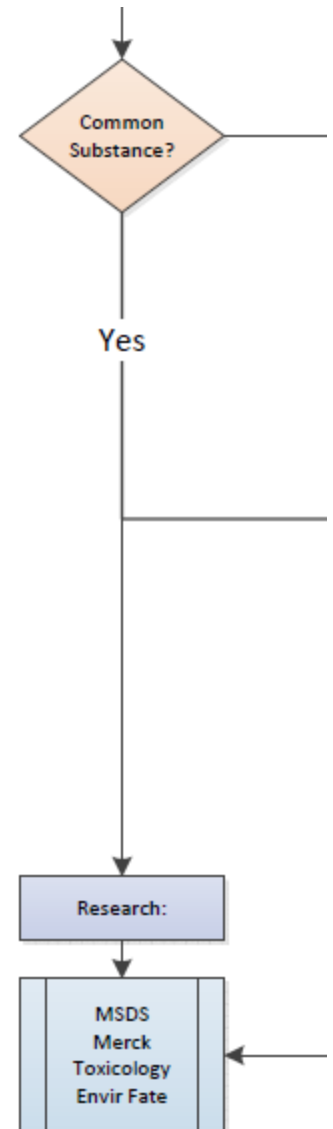
# Approach

- Decision tree flowchart
  - Known vs. Unknown
  - Single substance vs. Blend or mixture



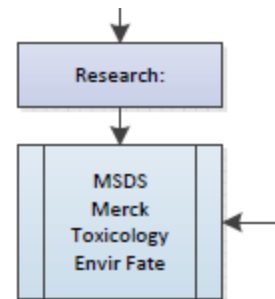
# Known & Common

- Check published and online data sources:
  - Material Safety Data Sheet (MSDS)
    - May be available for Commercial Products/Mixtures
  - Chemical desk reference (e.g., Merck Index)
    - Mainly for individual substances/not mixtures
  - EPA : Water Contaminant Information Tool (WCIT)



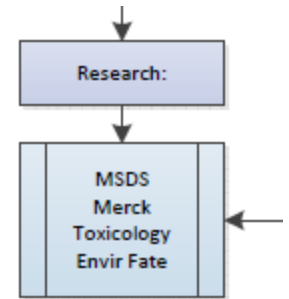
# Known & Common

- Check published and online data sources:
  - Industrial Hygiene data sources (some data intended for emergency response and occupational exposure)
    - NIOSH Pocket Guide
    - NIH-NLM **WISER** (Wireless Information System for Emergency Responders)
    - **CHRIS** (Chemical Hazard Response Information System)
    - DOT-PHMSA **ERG** (Emergency Response Guide, latest 2012)



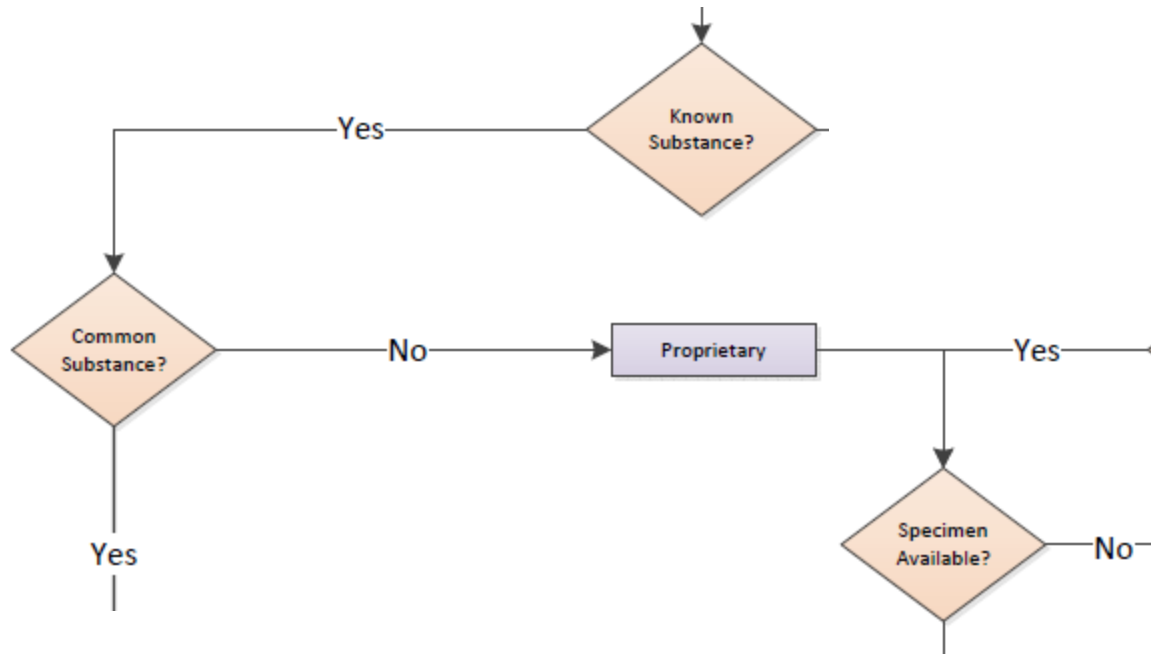
# Known & Common

- Check published and online data sources:
  - Toxicology sources
    - NIH TOXNET → HSDB, PubChem
    - USEPA → IRIS, ECOTOX
  - Environmental degradation rates:
    - Not all “common” substances are published
    - CHEMFATE, BIODEG
    - Handbook *Environmental Degradation Rates*
    - CDC → ATSDR



# Known Substance or Mixture

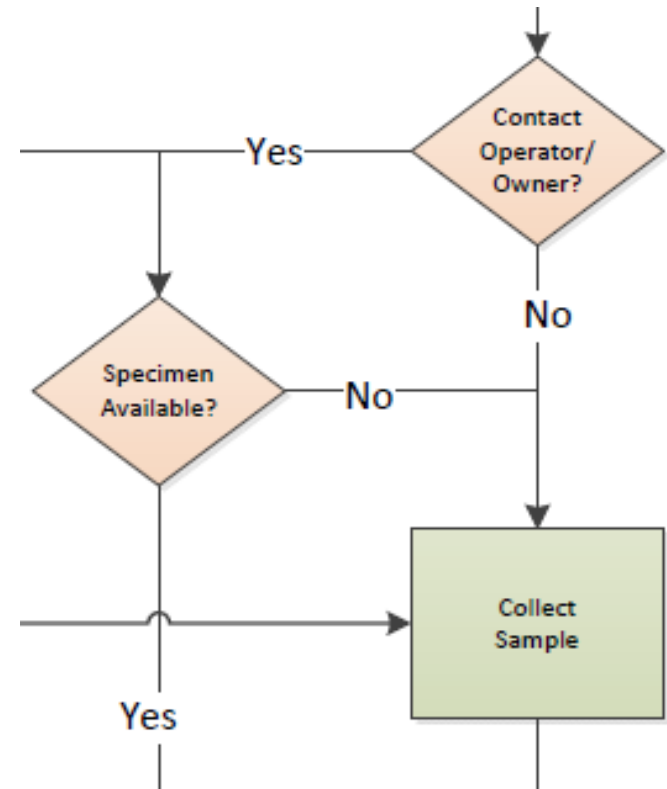
- Common or **Uncommon**:



- If uncommon, is it proprietary?
- If proprietary, can a specimen be provided?

# Known & Uncommon

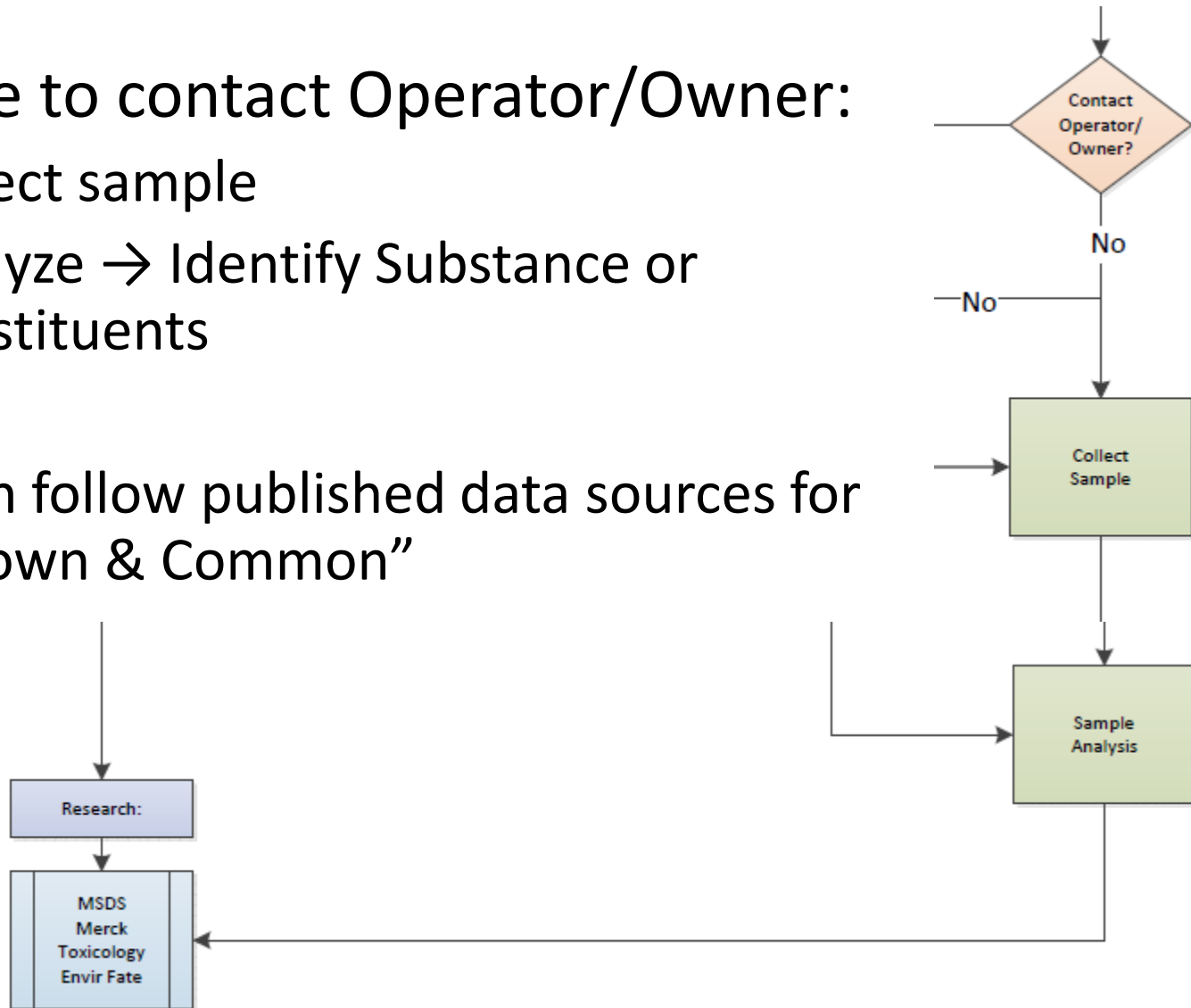
- Seek MSDS from Operator/Owner
- Request disclosure for proprietary mixture
- Request specimen for testing
- Collect sample if no specimen available (see Unknown)

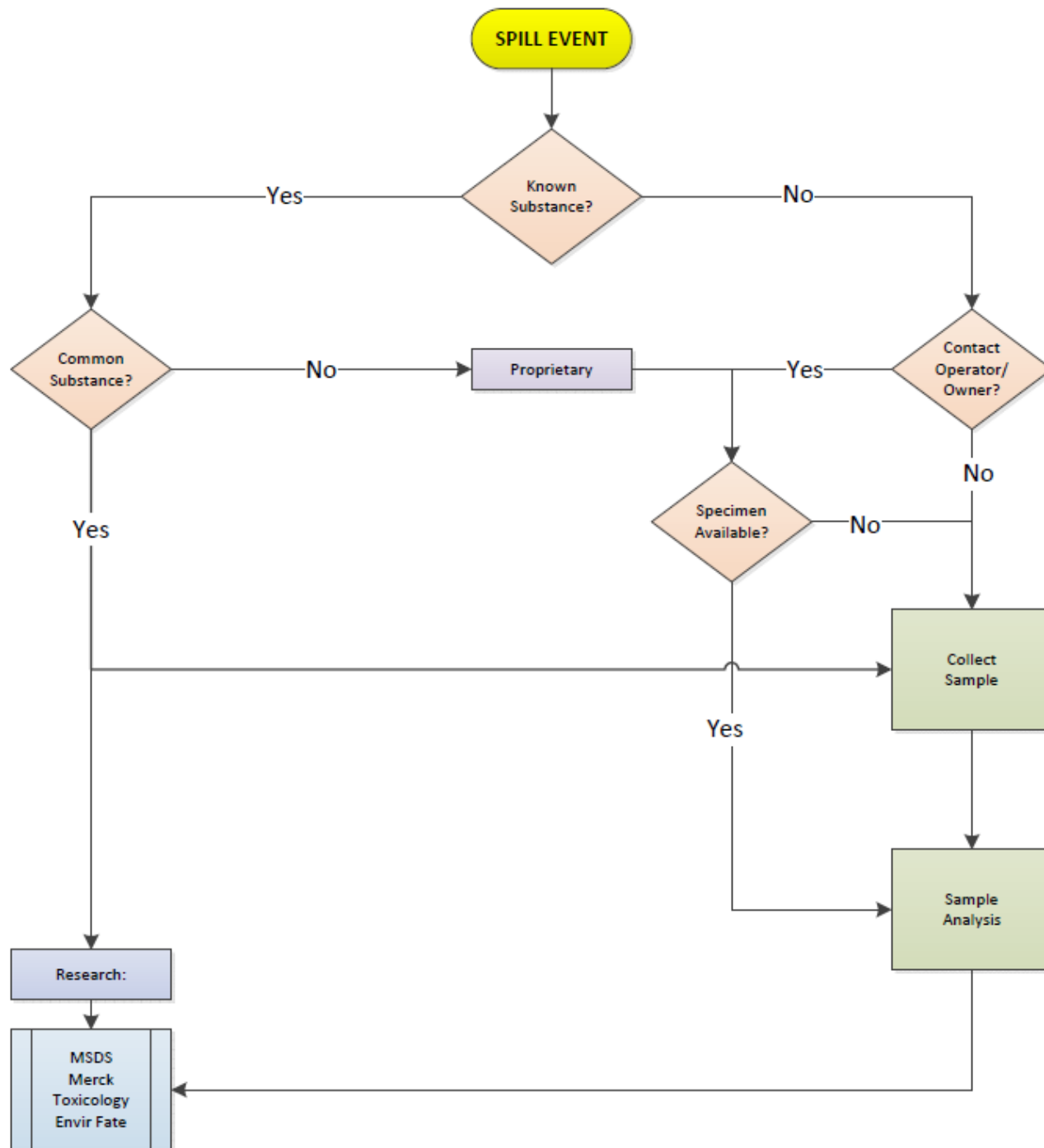




# Unknown Substance or Mixture

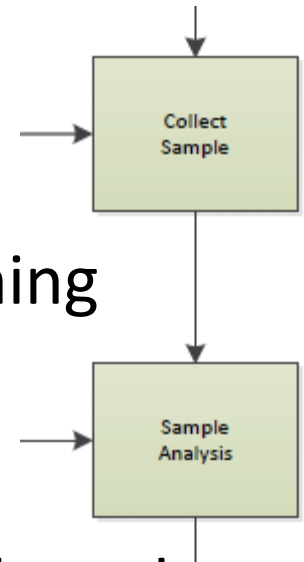
- Unable to contact Operator/Owner:
  - Collect sample
  - Analyze → Identify Substance or Constituents
  - Then follow published data sources for “Known & Common”





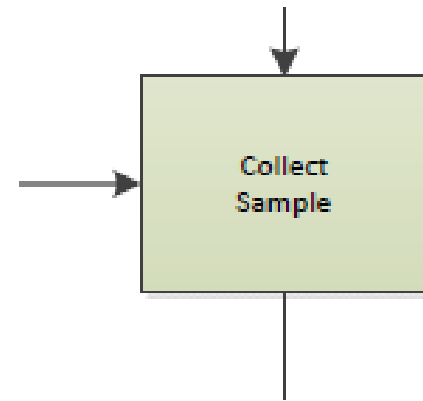
# Unknown Substance or Mixture

- No MSDS or supplied specimen available → **Collect sample**
  - How far downstream from point of spill?
  - Are there any observations/reports (assuming visible impact)?
  - Where to sample? Is it accessible?
  - Need preliminary time-of-travel estimate (based on flow)

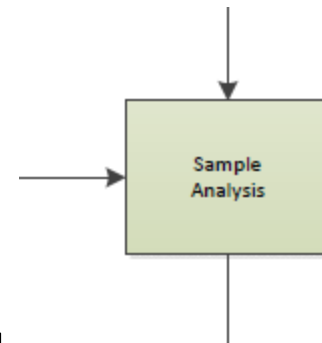


# Sampling Challenges (esp. for Unknowns)

- Container (glass, HDPE, nalgene) and chemical compatibility?
- Field/lab filtration?
- Volume collected?
- Preservative?
- Holding time? Delivery?



# Analytical Challenges (esp. for Unknowns)



- Federal, State or local government lab (e.g., WSSC)? Or private?
- Analytical methods for detection?
  - Universe of substances/compounds ~100,000
  - Known substances ~10,000 (in databases)
  - Analytical methods ~500+
- Can lab meet expedited turnaround time?
- Are MDL and RDL sufficient for potentially diluted sample?

**All Contaminants:**  
Anthropogenic and natural organics, microbes,  
metabolites, complexes, degradation products

Contaminants stored or transported  
in Potomac Watershed

Contaminants for  
which drinking  
water methods  
exist

Contaminants for which  
utility laboratories have  
instruments and methods

# Use of Published or Analytical Results

- Is substance toxic in drinking water?
  - What level?
- Is substance hazardous for human or ecological contact?
  - Beware during sample collection
- Is substance likely to degrade in sunlight/UV?
  - How fast?
- Are dilution, volatilization important factors?
- **Who makes decisions about hazard/risk?**



# Latex Spill – Relatively Simple Situation

- Low river flowrate (initially) – time to react
- Cooperative manufacturer sent MSDS, sample, and technical support
- Known contaminant – latex coating
- Low toxicity substance (styrene-butadiene latex polymer often provides the chew in chewing gum)
- Labs routinely monitor styrene, a regulated contaminant
- Visible plume – allowed sampling from river



# Preparedness Improvements – EPA's DWMAPS

- **Drinking Water Mapping Application for Protecting Source Waters (DWMAPS)**
- DWMAPS is an internet-based GIS tool for drinking water source water protection and assessment.
  - Nationwide mapping tool
  - A customizable source water protection planning tool
  - Suite of data exchange services to help ensure safe drinking water
- Currently for EPA use
- Future use:
  - State agencies, drinking water utilities, source water collaboratives, watershed groups, and others

# Preparedness Improvements - WaterSuite

- Ongoing update of DC's 2002 source water assessment (by ICPRB) of Potomac watershed
  - Sponsored by MWCOG, contractor is Corona
  - Includes National Capitol Area utilities
  - Focus on chemicals that can spill and travel to intakes quickly
  - Ongoing negotiations about
    - Regional availability (entire watershed)
    - Use by ICPRB, regulators, etc.

# Potential Role of Emerging Contaminants Workgroup

- Provide liaisons as WaterSuite and DWMAPS evolve
- Promote regional understanding of Laboratory Response Network and laboratory role in incident response
- Promote improved understanding of contaminant information tools (e.g., MSDS, WCIT, etc.)
- Review and post information on toxicity, analysis methods, treatability, etc. to databases

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Department of Energy and Environment

Natural Resource Administration  
Water Quality Division



**POTOMAC RIVER BASIN DRINKING WATER SOURCE WATER  
PROTECTION PARTNERSHIP  
2015 ANNUAL MEETING**

Briefing on Information Available from Regulators and the Use of a Unified Command

*What information or data is available to Emergency Response Command and First Responders?*

- **Information or data provided by facilities or responsible parties (RP) should not be used as the sole source and in many cases cannot be relied upon;**
  - The information could be inaccurate or out of date,
  - The information could be completely lost in a catastrophic failure; and
  - The facility or RP could refuse to provide the data or information.
- **Information or data collected by local, state and federal government agencies under multiple programs, regulations, and statutes.**
  - No central database or overall access exists for all the information and data.
  - No single regulatory responsibility for submitting timely and accurate data.
  - Multiple agencies involved based on the type of material.
  - Certain materials not covered by any regulatory or legal requirement.
  - Oversight and enforcement of timely and accurate data submittals is lenient.

*If data and information from the facility or RP is not reliable, what other sources exist for reliable and accurate information and how can regulatory information be integrated for use in an emergency response scenario?*

- **Visual Observations**, (signage, labels, placards, and shipping documents) by first responders, combined with PHMSA Emergency Response Guidebook or other similar resources.
- **Local, Regional or Institutional Knowledge**
  - Local Fire and EMS
  - Volunteer Fire and EMS
  - Local government officials
- **Materials Storage Data or Information**
  - Tier I and II Reporting Documents
    - Required under Emergency Planning and Community Right-to-Know Act

- (EPCRA) for any facility storing hazardous materials.
  - Should be readily available to Local Emergency Planning Committee (LEPC) and Planning Districts
  - Reporting is for the previous calendar year and could be outdated.
  - Enforcement of submittal is too lenient.
  - Storage and location of information is typically questionable and depends on the involvement and effectiveness of the LEPC.
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
  - Regulates hazardous materials fixed storage and transportation
  - Data and information is available, but not organized for use in an emergency response scenario.
- RCRA and State Hazardous Waste Programs
  - Only regulate waste and not in-use or virgin materials
- Toxic Release Inventory (TRI)
  - Information readily available on-line
  - Self-reported
  - Designed for analyzing the release of toxics during normal operation, not in the event of a spill.
  - Specific information regarding material storage, i.e. volume, containment, sensitive receptors, not included.
- Spill Prevention Control and Countermeasures Plan (SPCC)
  - Required for facilities with the capacity to store oil greater than 1,320 gallons.
  - Not required for the storage of other substances (hazardous or non-hazardous)
  - No central location for storage of these plans, facility must have on hand.
- Facility Response Plan (FRP)
  - Required for facilities that could reasonably to cause "substantial harm" to the environment by discharging oil.
  - Not required for the storage of other substances (hazardous or non-hazardous)
- **Direct Spill Response Plans**
  - SPCC Plan
  - FRP
- **Indirect Spill Response Plans**
  - Stormwater Pollution Prevention Plans (SWPPP)

- Required for facilities with the potential to be a critical source of stormwater pollution.
- Although they may provide information about the facility and the storage of materials of concern, they generally do not address the response to spills or releases.
- NPDES now requires the public availability of these plans and local water program regulators maintain current copies.

***How can we utilize a unified command under the National Incident Management System for spill response management?***

- **National Incident Management System (NIMS)**
  - Systematic and proactive approach to guide government, nongovernmental organizations (NGO), and the private sector in working together to manage incidents involving all threats and hazards—regardless of cause, size, location, or complexity
  - This management system already has the framework for planning, communication, incident command and management, and incident closure and demobilization.
  - Proven and affective training has already been developed and readily available.
- **The National Capital Region has a current Incident Command System and Structure.**
  - District of Columbia
  - Virginia
    - Arlington, Fairfax, Loudoun, and Prince William Counties
  - Maryland
    - Montgomery and Prince George’s Counties.
  - The region was established without considering source water protection.

***If the NMIS is deployed for spill response, what other agencies should be included?***

- **Local**
  - FEMS
  - Volunteer FEMS
  - Local government
- **Regional**
  - LEPC and Planning Districts
  - County Environmental Agencies
  - County Emergency Response Agencies
- **State**
  - Maryland Emergency Management Agency
  - Homeland Security and Emergency Management Agency (DC)
  - Virginia Department of Emergency Management
  - Pennsylvania Emergency Management Agency
  - West Virginia Division of Homeland Security and Emergency Management

- **Federal**
  - Department of Homeland Security
  - FBI

# Public Communication

## Overview

- 9/25 Coordination with MDE's Public Information Officer
- 9/25 Incident summary and key messages circulated to water utility PIOs
- ICPRB responded to media inquiries throughout incident
- 9/29 Washington Aqueduct & WSSC fielded media inquiries (Channel 7, WTOP, AP)
- 9/30 Potomac Conservancy posted summary to website and distributed to subscribers
- 9/30 Incident summary provided to COG Health Officials Committee



# Recommendations for Spill Communications

## **Develop plan for coordinated communications across involved parties**

- Clarify lead agency for response and external communications at incident onset
- Designate water utility communications liaison for region to interact with response agencies
- Designate a water utility spokesperson for the Lower Potomac water utilities
- Improve coordination with upstream water utilities
- Media monitoring, rumor control and messaging coordination across entities
- Identify opportunities/protocols to assist smaller utilities, including conventional and social media

## **Centralize incident information**

- Consistent information coordination is essential for parties involved as well as the public
- Central website for incident information (public vs. internal stakeholders)
- Information should include sampling/testing plans, test results, maps, updates (at least 2 X day), FAQs, contaminant information, and contact info for utilities or organizations that respond to public inquiries
- Transparency is important to minimize the loss of public confidence in utilities and government

## **How should the Partnership proceed?**

- What is the best way to designate roles during an emergency?
- Should ICPRB or NCR Warn host websites for public/private information?
- How do we improve coordination with upstream and smaller utilities?
- What are communication/information expectations?
- How do we ensure transparency?