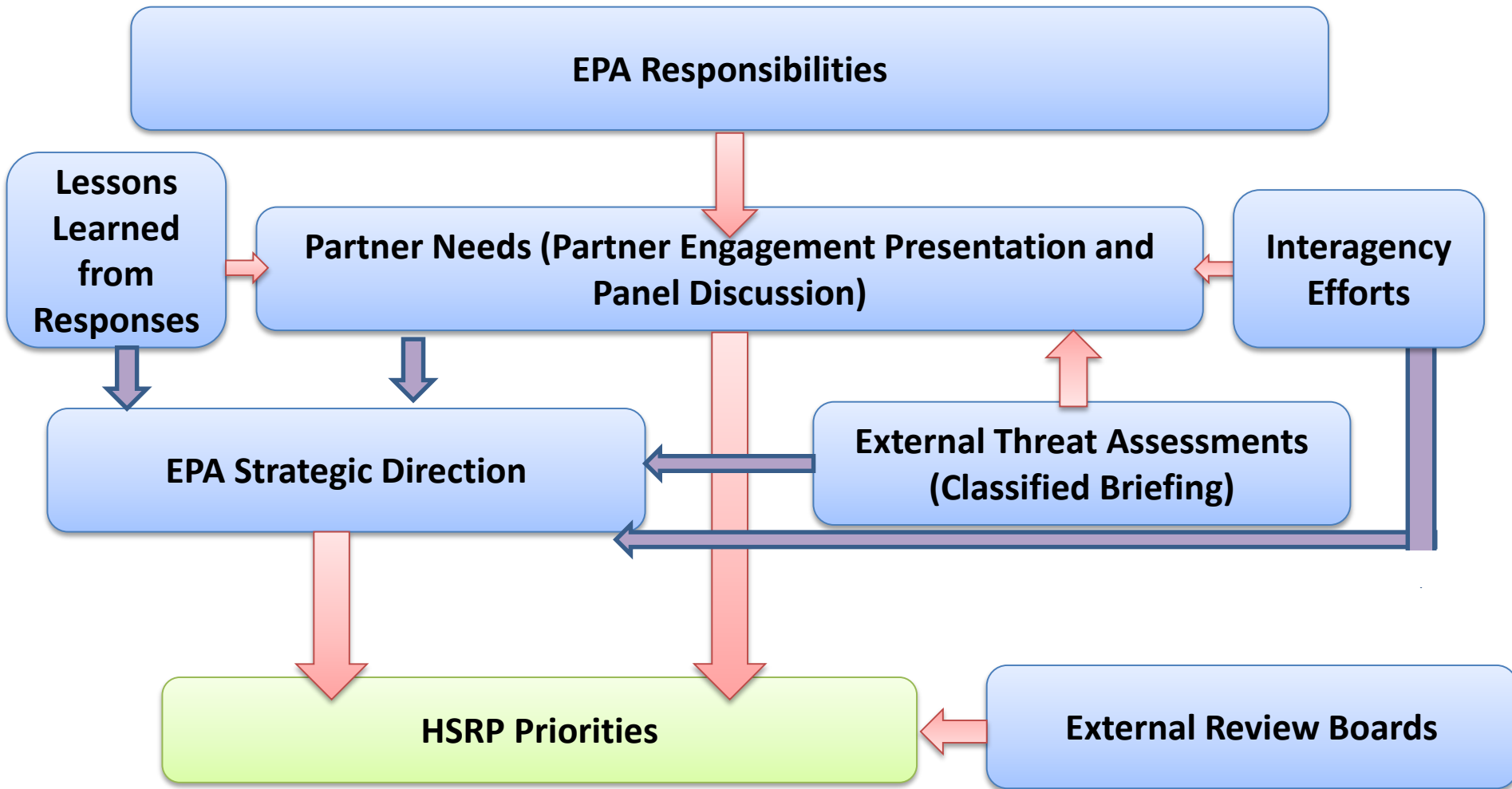**Homeland Security Research Program
Partner Engagement throughout the Research
Lifecycle**

How does HSRP set its research agenda?

Outline of Engagement Presentation

- Needs collection
- Implementation of research
- Transitioning and communicating the research
- Assessing our engagement

HS Research Partner Engagement

Indoor / Outdoor Decon

EPA Program Offices (OSWER, OW, OAR, OCSPP, OHS) & Regions

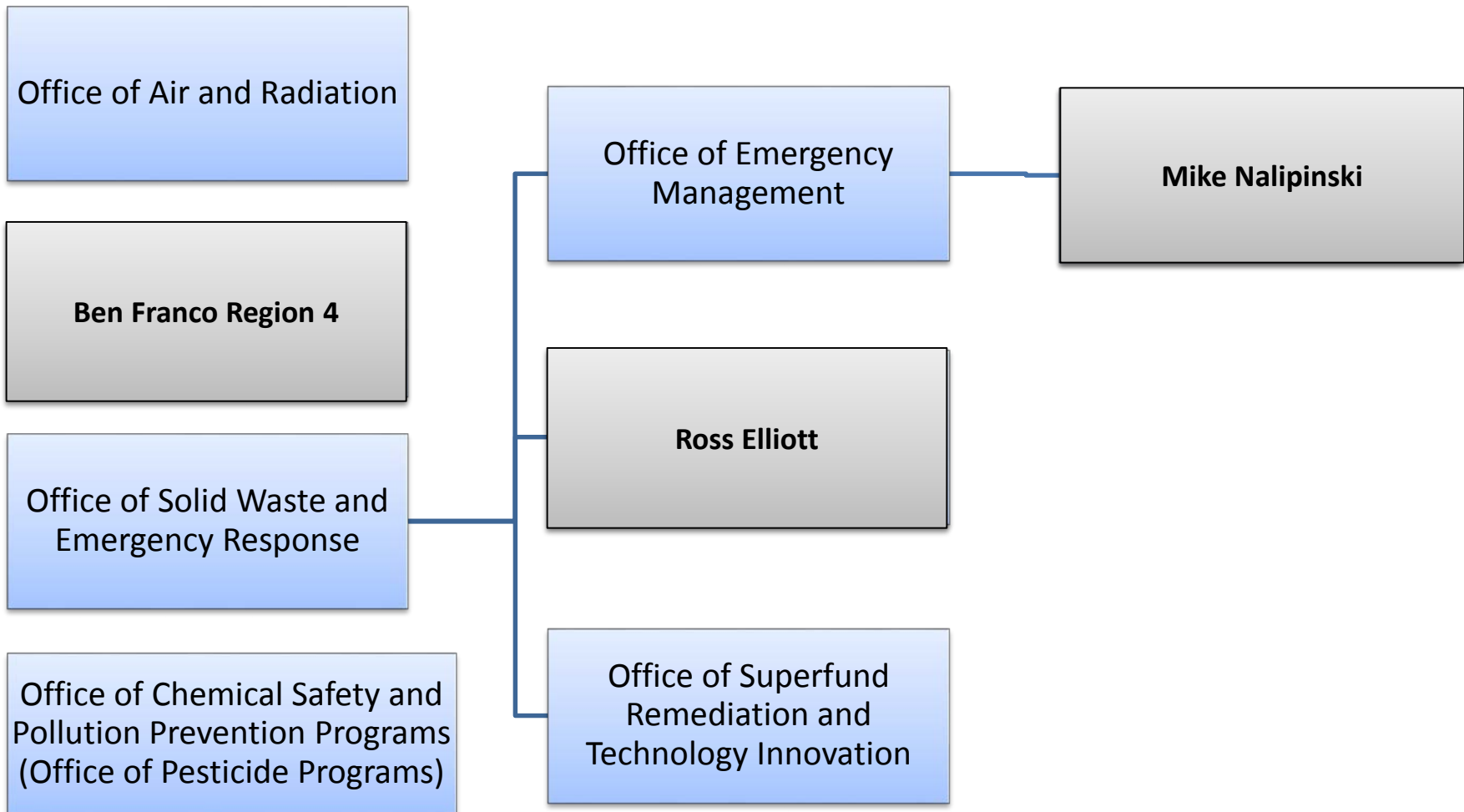**Water Resilience and Security**

EPA Program Offices (OW, OHS) & Regions, Critical Infrastructure Partnership Advisory Council (CIPAC) for Water

HS Research

All partners engaged in:
Needs prioritization
Research implementation
Product formulation/delivery

Agency Indoor/Outdoor Cleanup Partners

Water Partners

- Ben Franco Region 4

- Office of Water
  - Office of Ground Water and Drinking Water
    - Debbie Newberry
    - Standards and Risk Management Division
    - Drinking Water Protection Division
  - Office of Science and Technology
  - Office of Wastewater Management

- Jeff Swertfeger Greater Cincinnati Water Works
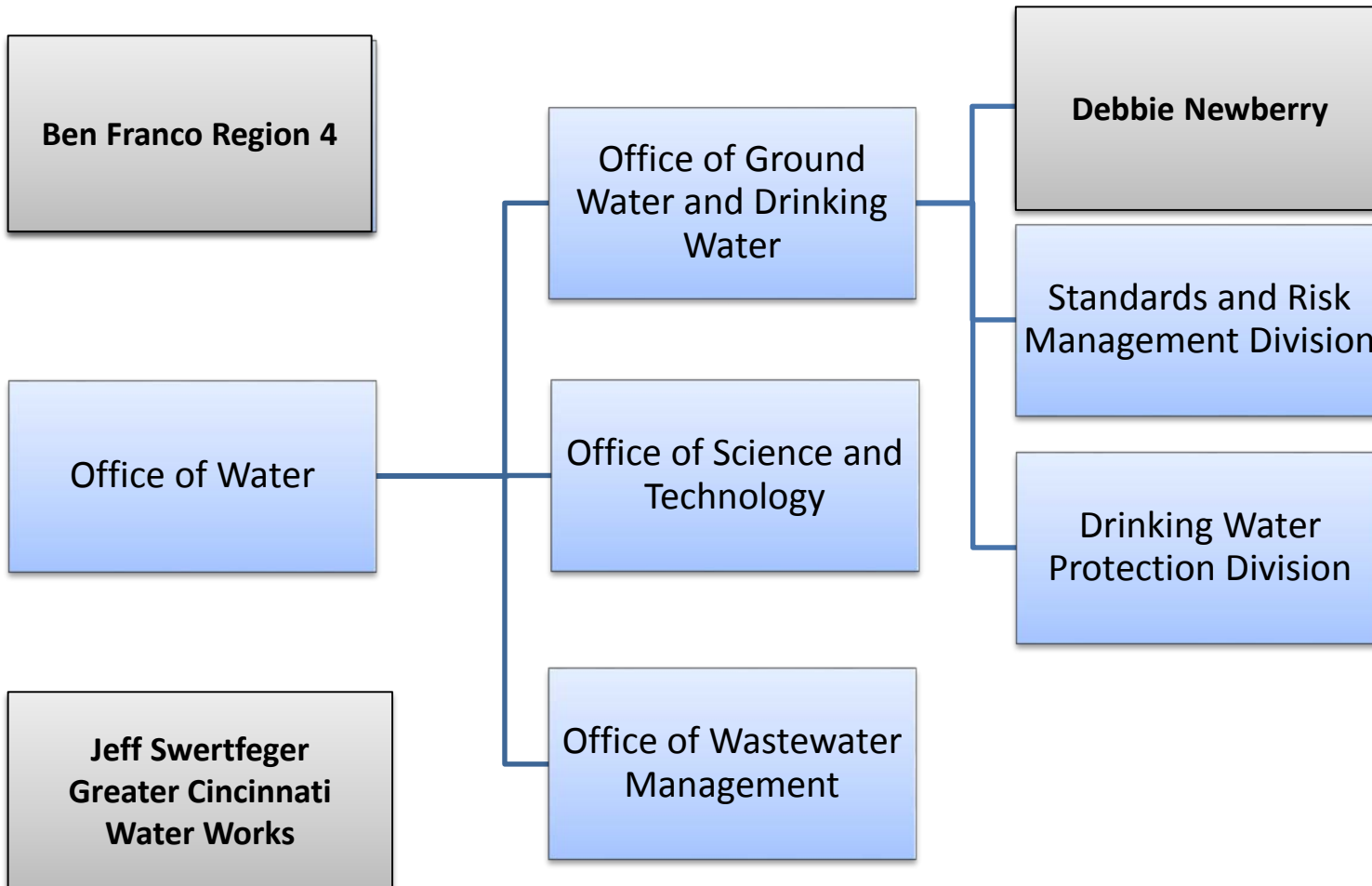
INDOOR/OUTDOOR CLEANUP PARTNERS – NEED COLLECTION

Need Generation Process

Staff SMEs in Program Offices and ORD, Regions

↓

Managers in Program Offices and Regions
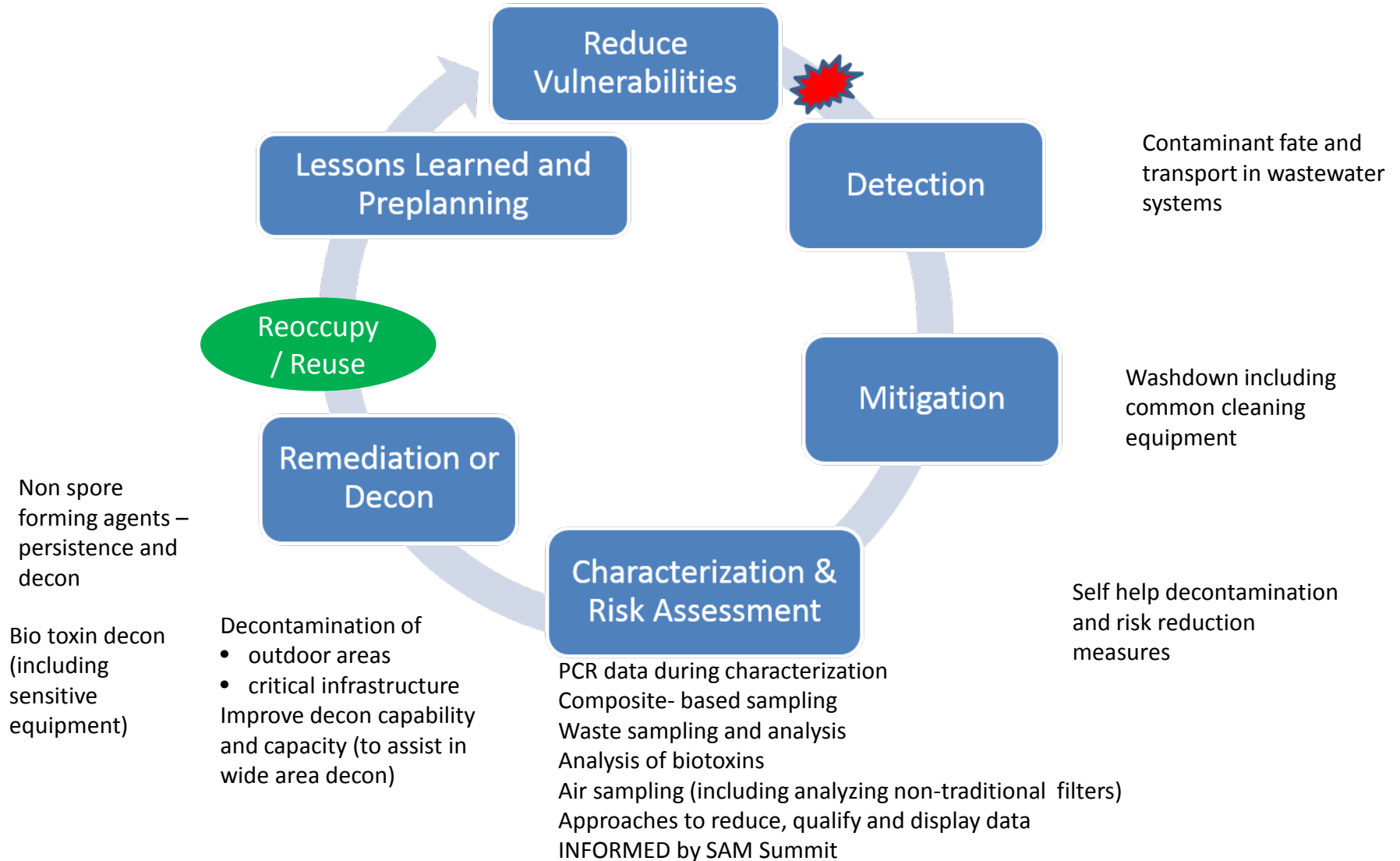
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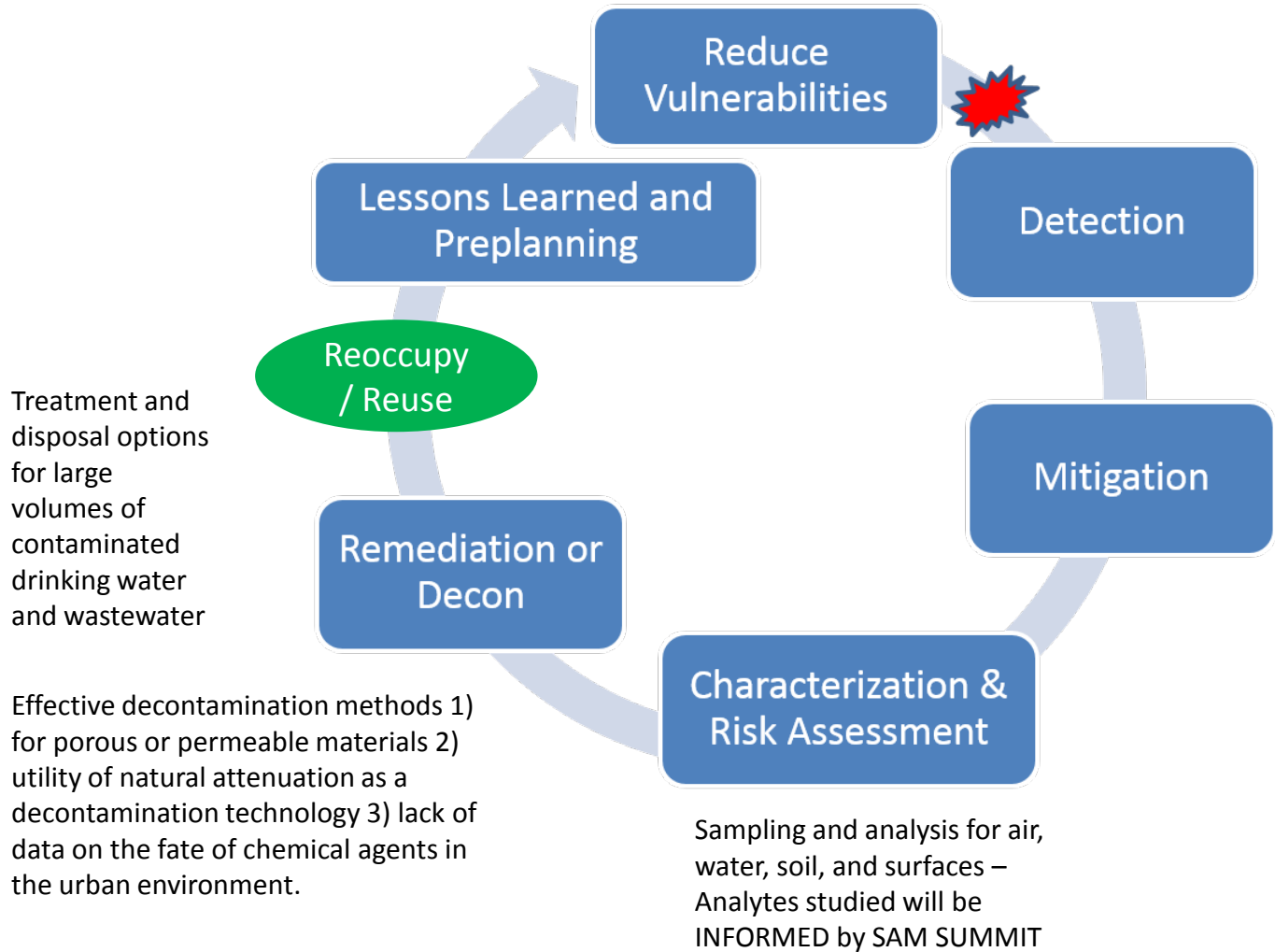2015 Priorities Memo

↓

HSRP Uses Priorities in Planning

↓

HSRP Implements Research Based on Priorities

2015 Bio – PARTNER Highest Priorities

Reduce Vulnerabilities

Lessons Learned and Preplanning

Detection

Reoccupy / Reuse

Mitigation

Remediation or Decon

Characterization & Risk Assessment

Contaminant fate and transport in wastewater systems

Washdown including common cleaning equipment

Self help decontamination and risk reduction measures

Non spore forming agents – persistence and decon

Bio toxin decon (including sensitive equipment)

Decontamination of
- outdoor areas
- critical infrastructure
Improve decon capability and capacity (to assist in wide area decon)

PCR data during characterization
Composite- based sampling
Waste sampling and analysis
Analysis of biotoxins
Air sampling (including analyzing non-traditional filters)
Approaches to reduce, qualify and display data
INFORMED by SAM Summit

2015 Chem - PARTNER Highest Priorities

Reduce Vulnerabilities

Detection

Lessons Learned and Preplanning

Reoccupy / Reuse

Mitigation

Remediation or Decon

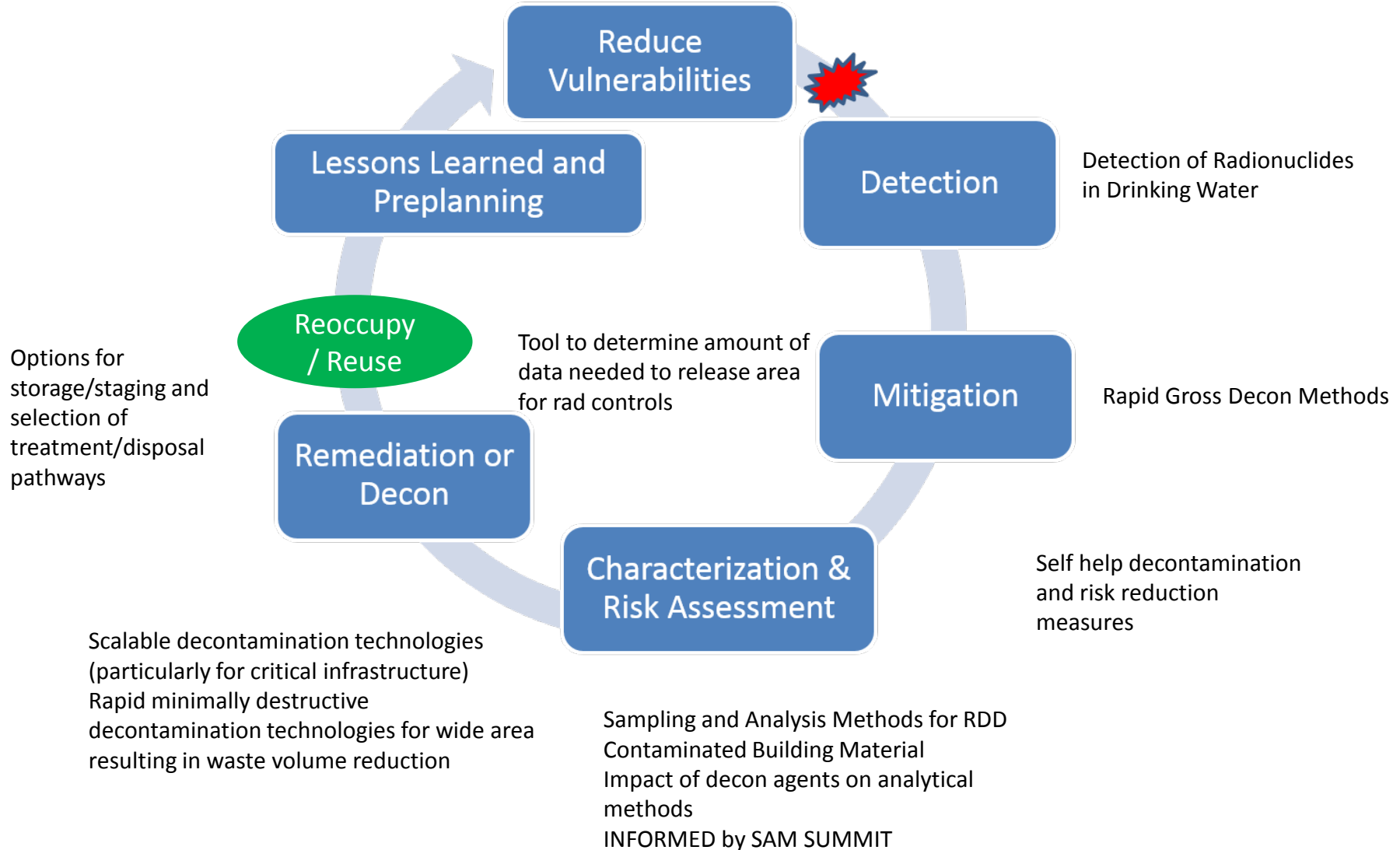Characterization & Risk Assessment

Treatment and disposal options for large volumes of contaminated drinking water and wastewater

Effective decontamination methods 1) for porous or permeable materials 2) utility of natural attenuation as a decontamination technology 3) lack of data on the fate of chemical agents in the urban environment.

Sampling and analysis for air, water, soil, and surfaces – Analytes studied will be INFORMED by SAM SUMMIT
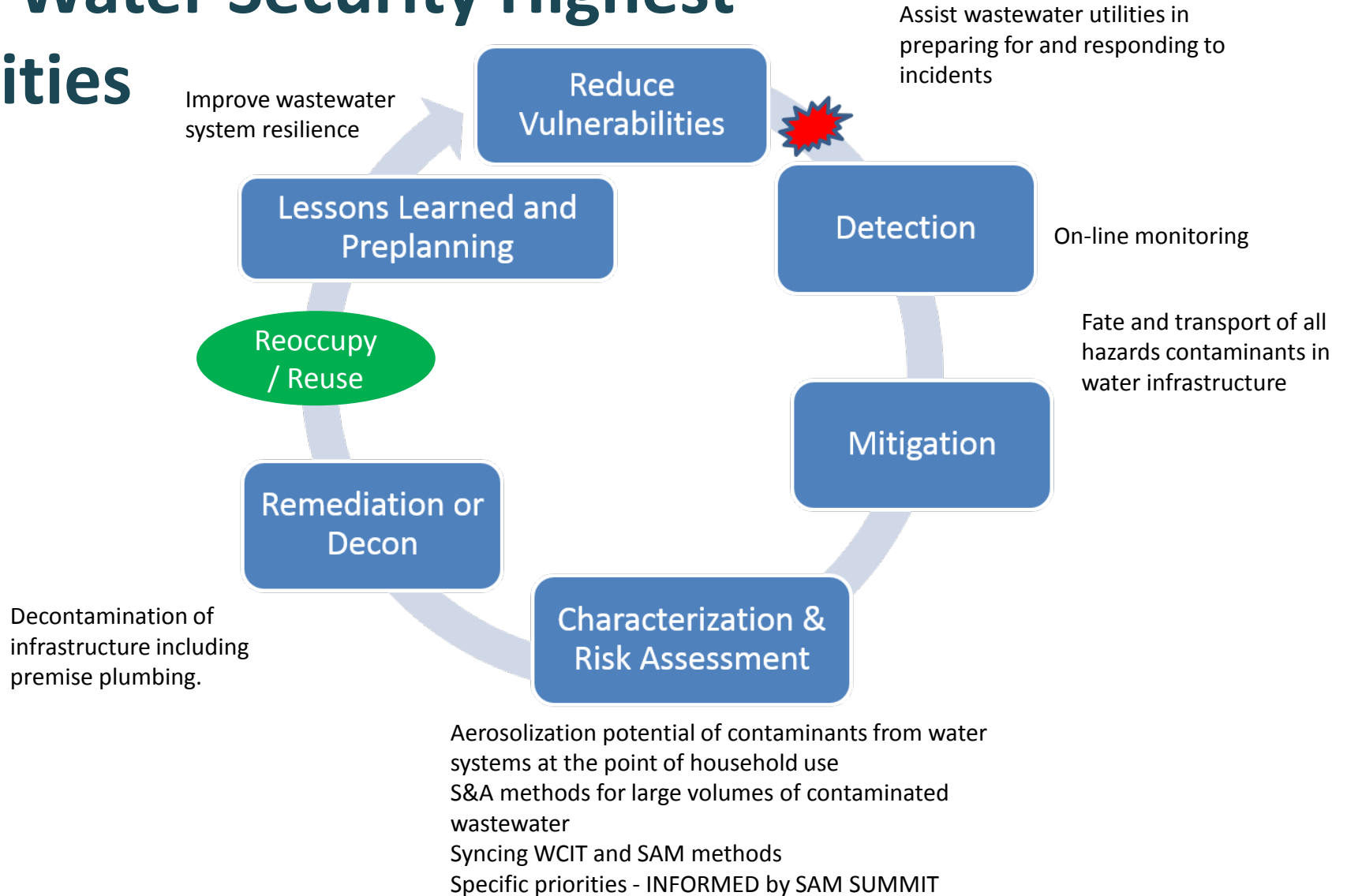
2015 Rad - PARTNER Highest Priorities

Reduce Vulnerabilities

Detection

Detection of Radionuclides in Drinking Water

Lessons Learned and Preplanning

Reoccupy / Reuse

Tool to determine amount of data needed to release area for rad controls

Options for storage/staging and selection of treatment/disposal pathways

Mitigation

Rapid Gross Decon Methods

Remediation or Decon

Characterization & Risk Assessment

Self help decontamination and risk reduction measures

Scalable decontamination technologies (particularly for critical infrastructure) Rapid minimally destructive decontamination technologies for wide area resulting in waste volume reduction

Sampling and Analysis Methods for RDD Contaminated Building Material Impact of decon agents on analytical methods INFORMED by SAM SUMMIT

WATER SECURITY AND RESILIENCE– NEED COLLECTION

Need Generation Process

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┌─────────────────────────────┐        ┌─────────────────────────────┐
│   Staff SMEs in OW and ORD   │ ◀──────│   Critical Infrastructure   │
└─────────────────────────────┘        │ Protection Advisory         │
              │                         │ Committee Roadmaps          │
              ▼                         └─────────────────────────────┘
┌─────────────────────────────┐
│    Managers in OW and ORD    │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│        2015 Priorities       │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│   HSRP Uses Priorities in   │
│          Planning            │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│  HSRP Implements Research    │
│     Based on Priorities      │
└─────────────────────────────┘
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2015 Water Security Highest Priorities

Assist wastewater utilities in preparing for and responding to incidents

Improve wastewater system resilience

Reduce Vulnerabilities

Lessons Learned and Preplanning

Detection

On-line monitoring

Reoccupy / Reuse

Fate and transport of all hazards contaminants in water infrastructure

Mitigation

Remediation or Decon

Characterization & Risk Assessment

Decontamination of infrastructure including premise plumbing.

Aerosolization potential of contaminants from water systems at the point of household use
S&A methods for large volumes of contaminated wastewater
Syncing WCIT and SAM methods
Specific priorities - INFORMED by SAM SUMMIT

RESEARCH IMPLEMENTATION – WHAT DO WE DO WITH THE NEEDS?

What do we do with the needs (planning)?

| *Partner Need* A capability gap determined and prioritized with partners | → | *Outputs* Directly usable by our partners (e.g., tools) Championed by partners | → ← | *Products* Reports, journal articles, and conference proceeding |
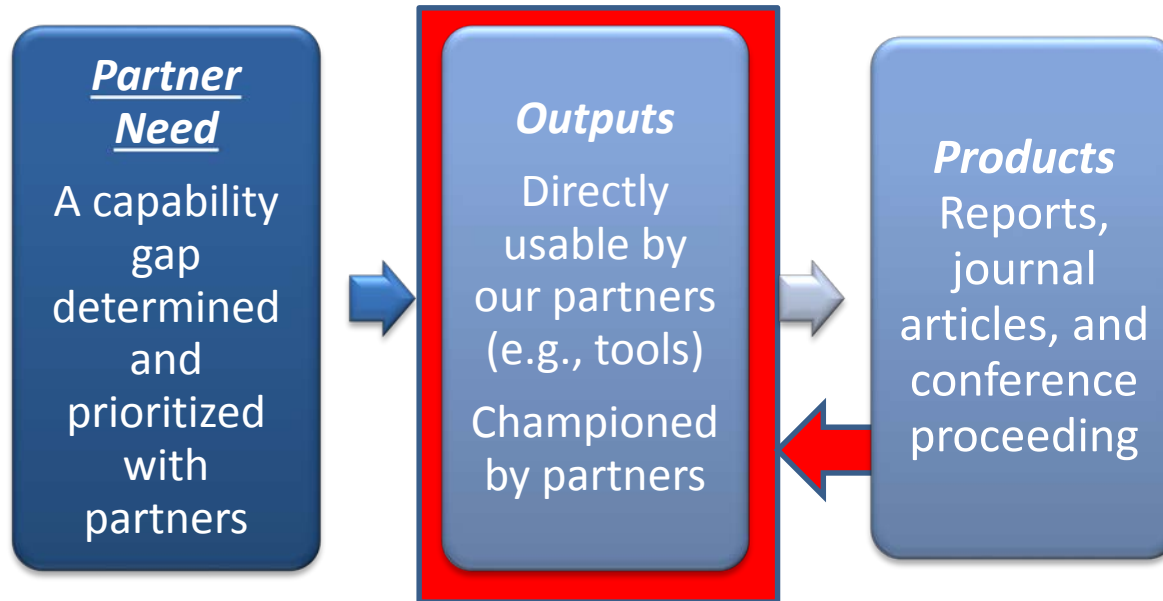
- For high priority needs/gaps form teams with ORD researchers and partners to scope outputs
- Develop products that are needed to formulate the output (when applicable)

Partner need/output/product – Research for Water Quality Surveillance & Response Systems

Partner need: Robust, comprehensive, and fully coordinated surveillance and monitoring systems

Output: Tools and data to support a systematic framework for enhanced distribution system monitoring activities to detect emerging water quality issues and respond before they become problems

- Water quality sensor performance testing
- Innovative sensors and sensor stations
- Sensor placement and data analysis software

- Crisis communication
- Decontamination
- Response modeling tools
- Waste management

Public health surveillance tools

Sampling and analysis (field and lab) tools
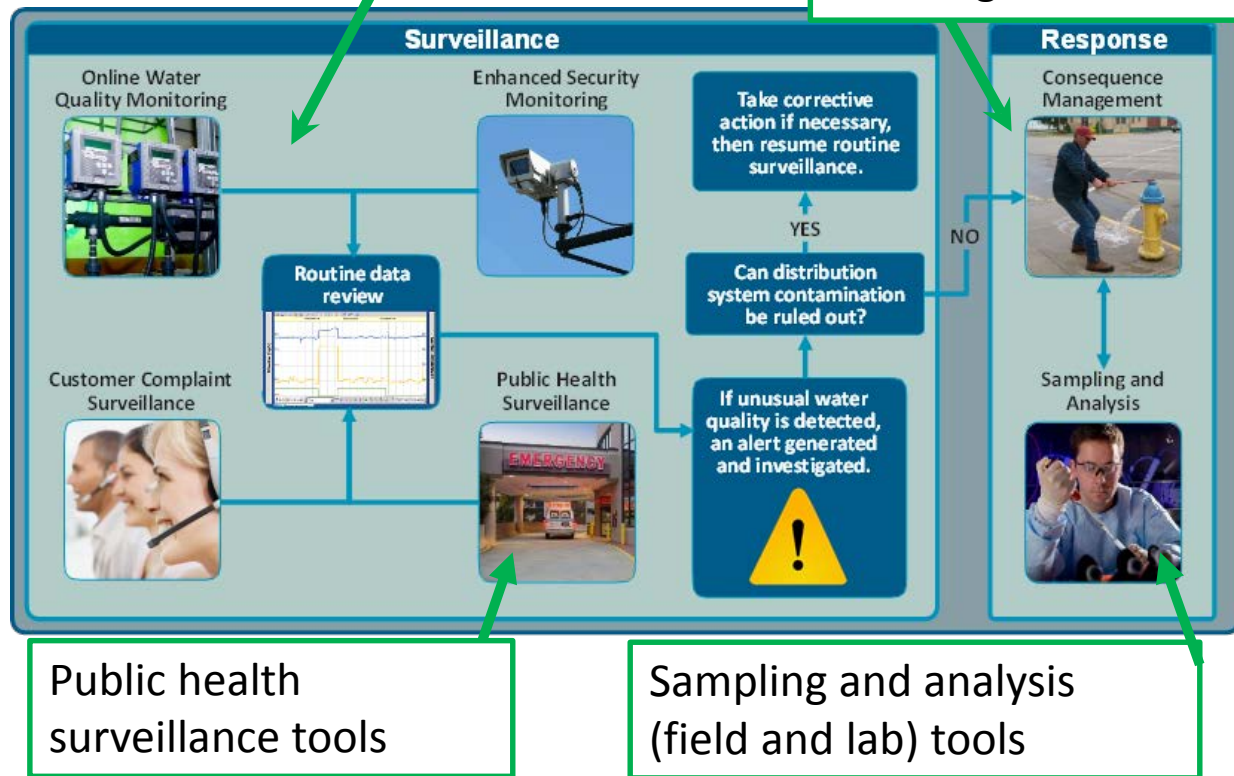
Partner need/gap to product – Implementing Research for SRS with Partners

- **Team Members**: Office of Water/Water Security Division, Office of Research and Development(ORD), Regions, States, American Water Works Association, Water Utilities

- **Format for Input**: WSi design and implementation meetings; Water utility software testing groups; feedback from the water industry

- **Products**: Software tools, reports and technical briefs

- **Benefits**
    — Analysis of nine large U. S. cities shows that SRS's can cut public health impacts of large-scale contamination incidents in half and reduce costs by $billions.
    — Tools designed for water security have multiple benefits in improving operations and resilience.

Partner need/output/product – an example

- <u>Partner need:</u> Self-help decontamination

- <u>Planned output:</u> Summary of technical reports (that identify self-help decontamination methods and recommendations) to assist in the development of instructions for the local government

Wiping of roof tiles in Fukushima.
Taken from guidelines pertaining to Decontamination and Other Measures

Partner need/gap to product – an example

- Planned Products: Individual technical reports that contain inventories and assessments of existing technologies
- Team Members: ORD, Office of Emergency Management, Region 4, Region 5, and Conference of Radiation Control Program Directors
- Format for input: Monthly meetings and opportunities to provide input on deliverables

Decontamination of gardens through removal of underbrush. *Taken from guidelines pertaining to Decontamination and Other Measures*

TRANSITIONING AND COMMUNICATING THE RESEARCH

Transitioning the Research: Operational Demonstrations

- Ideally methods and tools developed by the research program are assessed through operational evaluations and/or demonstrations

- These are done jointly with our EPA partners

- They are frequently done with interagency partners (e.g., DHS)

- You will see an example of an operational evaluation (BOTE video)
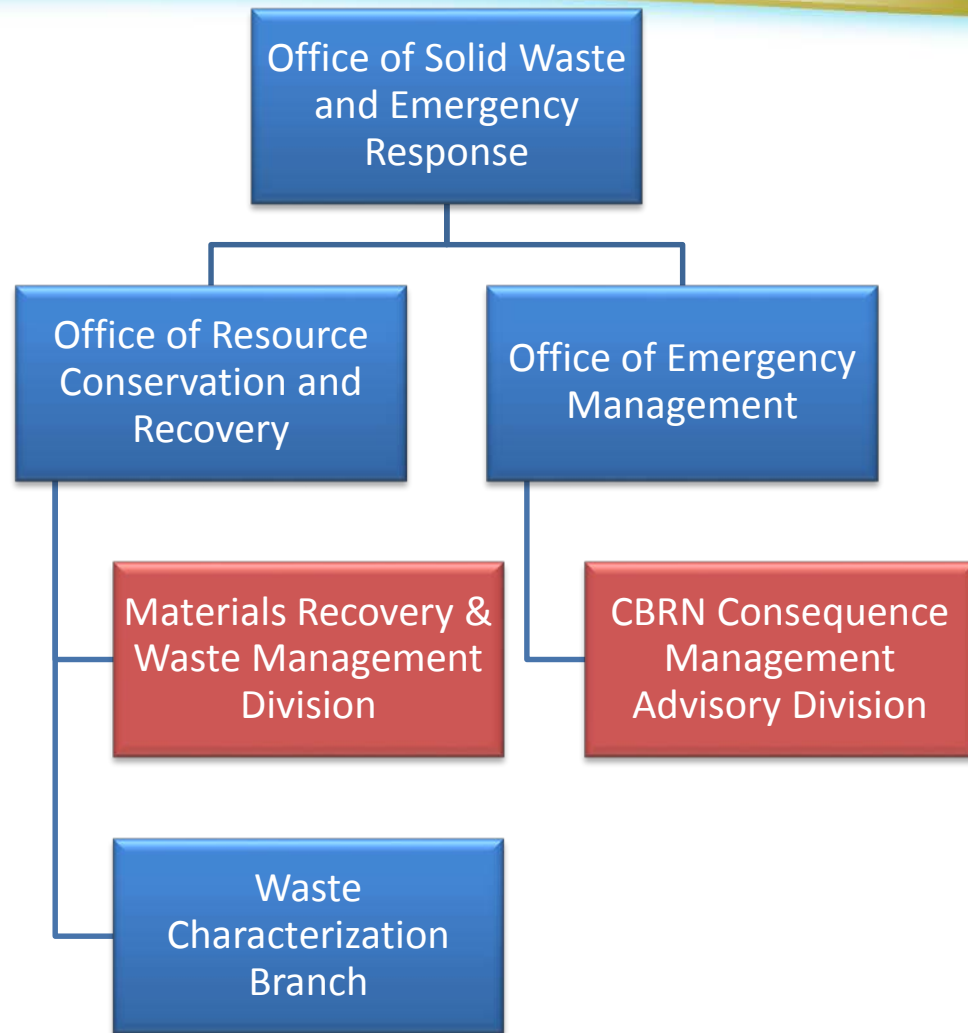
Lessons Learned:

Each part of the organization may requires a different communication strategy.

It is optimal to utilize already existing communication channels.

Monthly/ As needed

- Check-in with Region and Program Office points of contact at Division and Branch level
- Research product development team meetings (staff level)
- Provide research highlights at existing Region-Program office coordination meetings (branch to staff level)

Multiple times per year

- Webinars on research products and outputs (staff level)
- Stakeholder notification of new products and outputs
- Memos to senior managers in the Program Offices and Regions
- Joint newsletter with OSWER's Office of Emergency Management (branch to staff level)
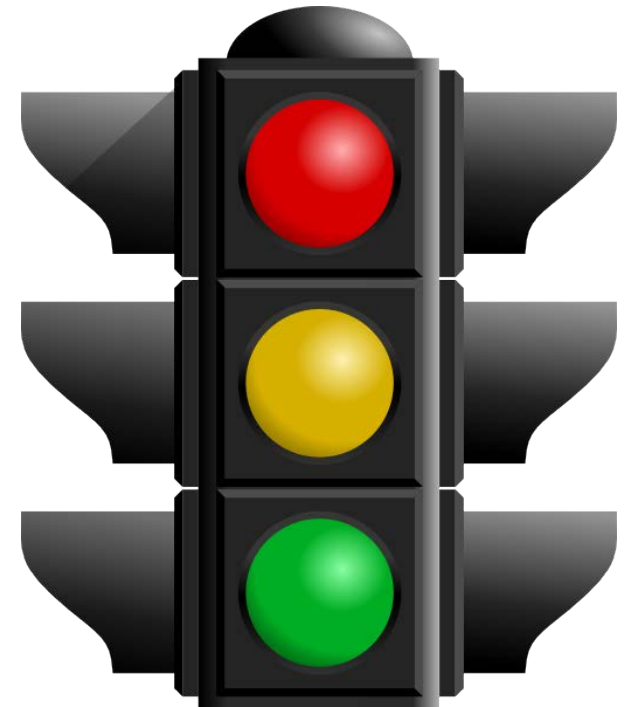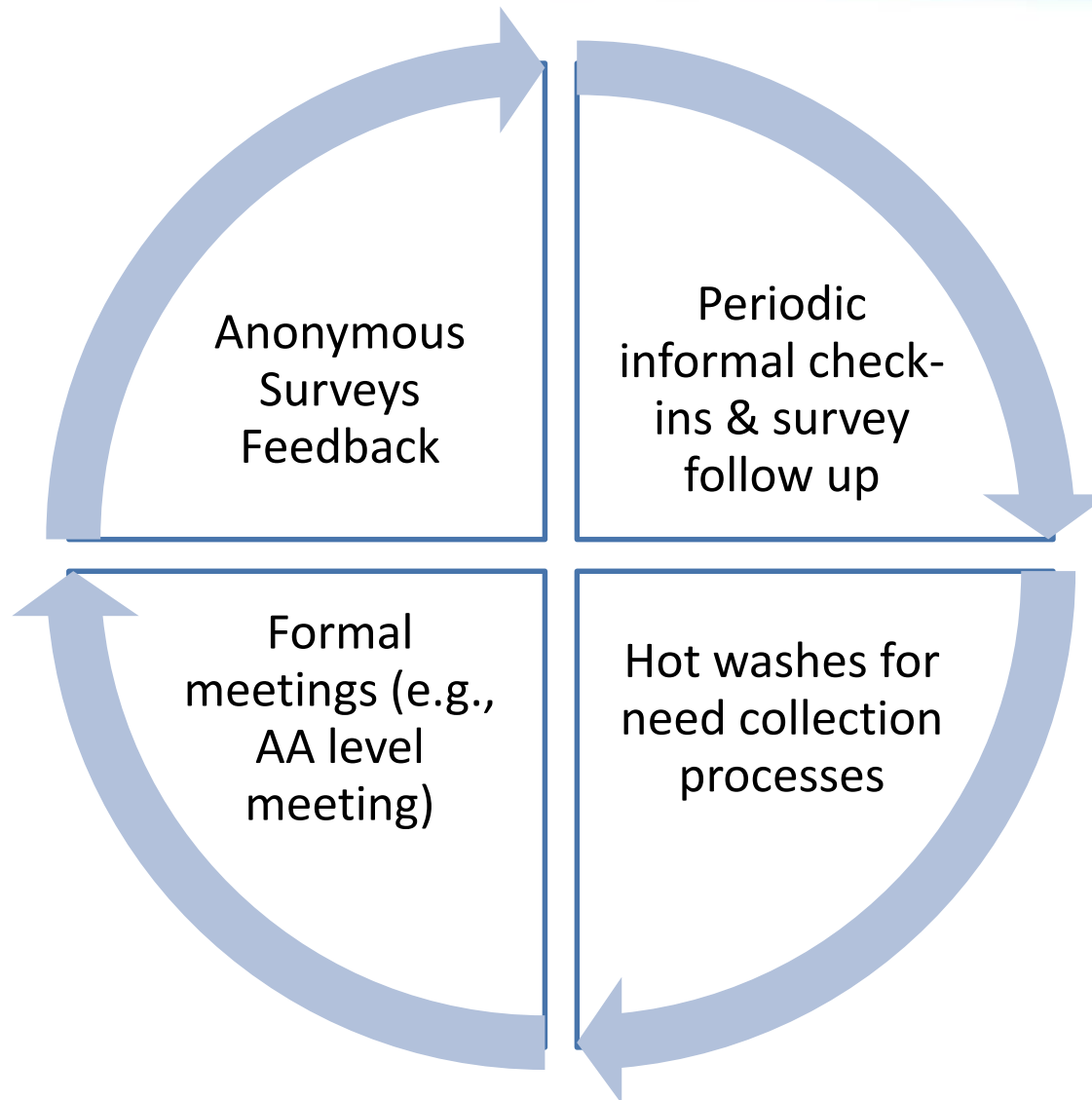
Biannually to annually

- Meetings with partners to identify and prioritize needs (division to branch/staff level)
- Program update Webinar/Meeting with partners (division to branch level)
- Assistant Administrator-level Briefing
- Participate at annual meeting of ORD regional liaisons

ASSESSING OUR ENGAGEMENT

Assessing Engagement

- It is important to assess with your partners
  - What is not working so should stop or be modified
  - What new engagement efforts are needed
  - What efforts are working so should continue
- It is important to listen to their input and be transparent on how their input will be used

Anonymous Surveys Feedback

Periodic informal check-ins & survey follow up

Formal meetings (e.g., AA level meeting)

Hot washes for need collection processes

END OF SLIDES