DEQ Electronic Resources & Tools
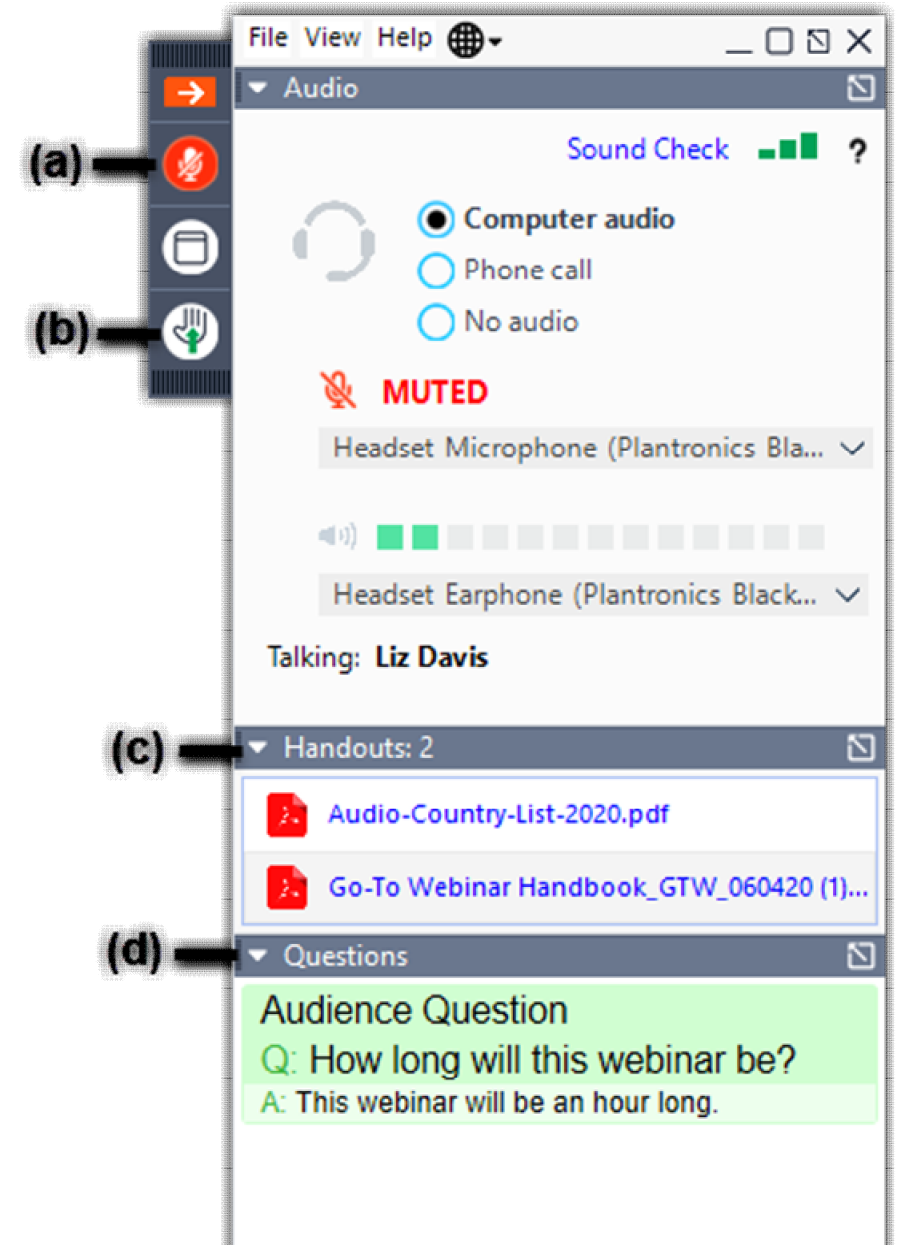
An Overview of GIS, Story Maps, and Data Tracking Tools

Virginia Department of Environmental Quality
October 22, 2024

How to Use GoToWebinar

(a) Mute button

(b) Raise hand button

(c) Handouts available to download

(d) Questions box

Please be sure to **mute yourself** during the presentation. Thank you!

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Agenda

- Purpose & Objectives
- Definitions and Acronyms
- GIS Mapping Tools Overview
- Story Maps Overview
- Database Tools Overview

Poll #1:

Have you ever used GIS before?

If so, what kinds of GIS applications have you used?

And what did you previously use GIS for?

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Definitions and Acronyms

GIS: Geographic Information System

Story Map: A GIS tool that tells a story

VPT: Virginia Permitting Transparency

PEEP: Permitting Enhancement and Evaluation Platform

Purpose & Objectives

Access GIS tools in the VA Environmental Data Hub

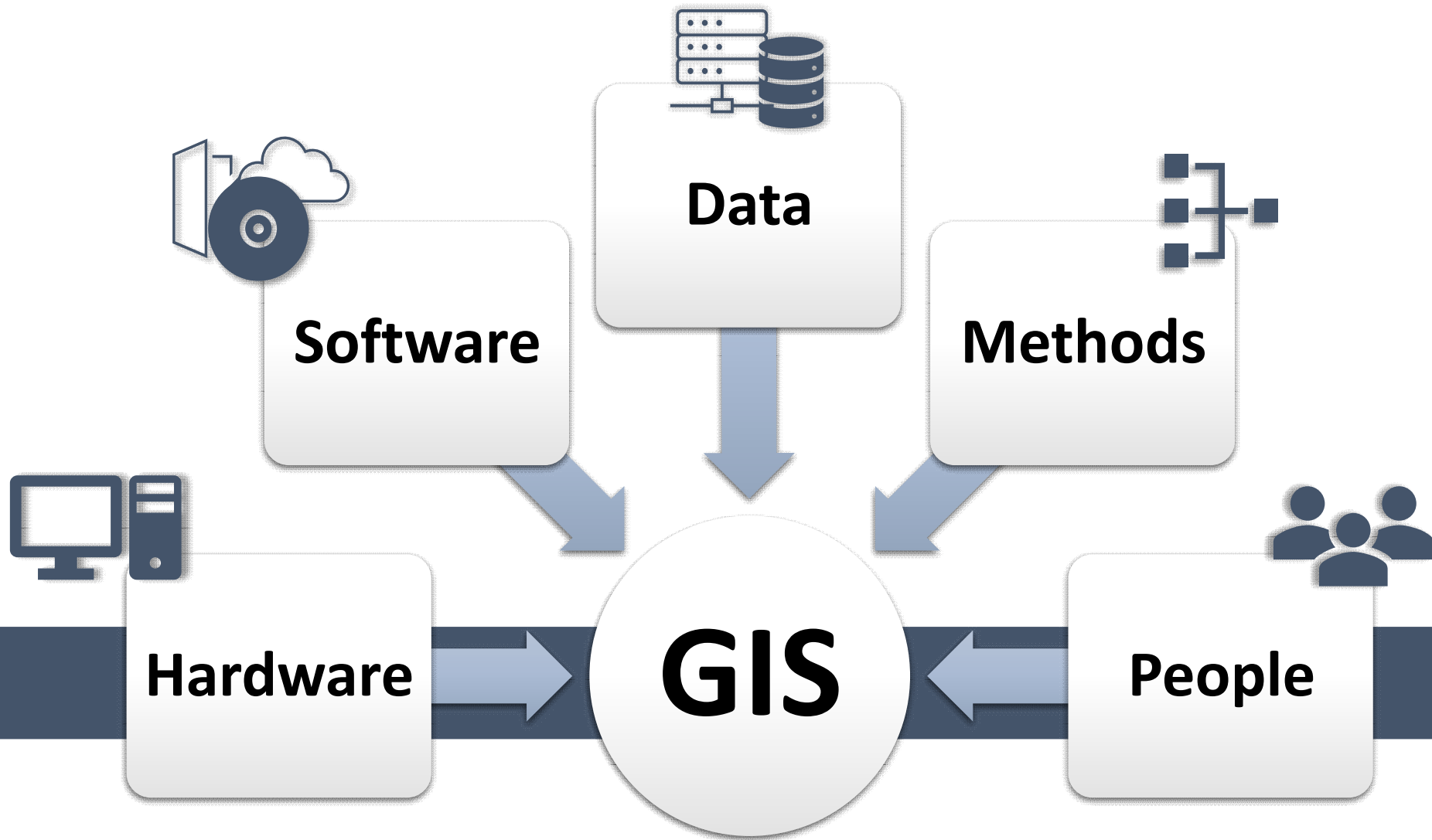Describe various uses for GIS mapping tools

Explain the difference between a GIS mapping tool and a Story Map

View the status of a permit application in VPT / PEEP

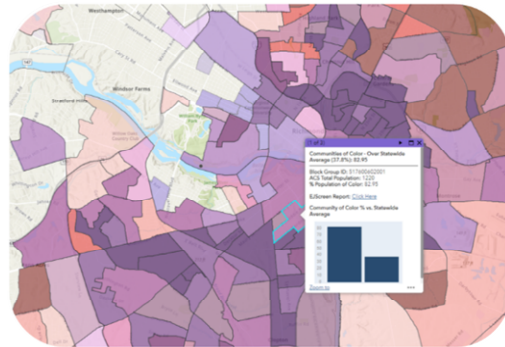Know the difference between PREP and emergency reports

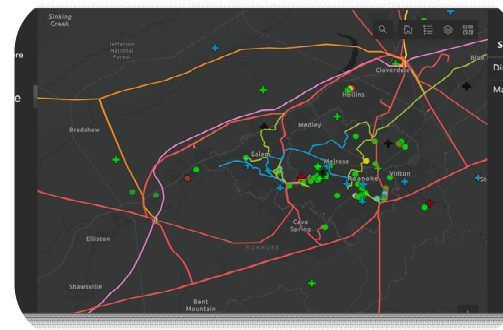**5 Parts of a Geographic Information System (GIS)**
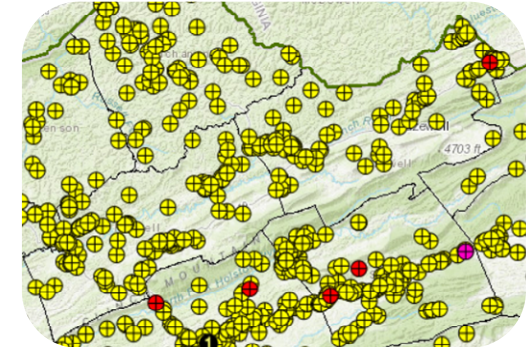
Overview of DEQ GIS Mapping Tools

Environmental Data Mapper (EDM)

Virginia EJScreen+
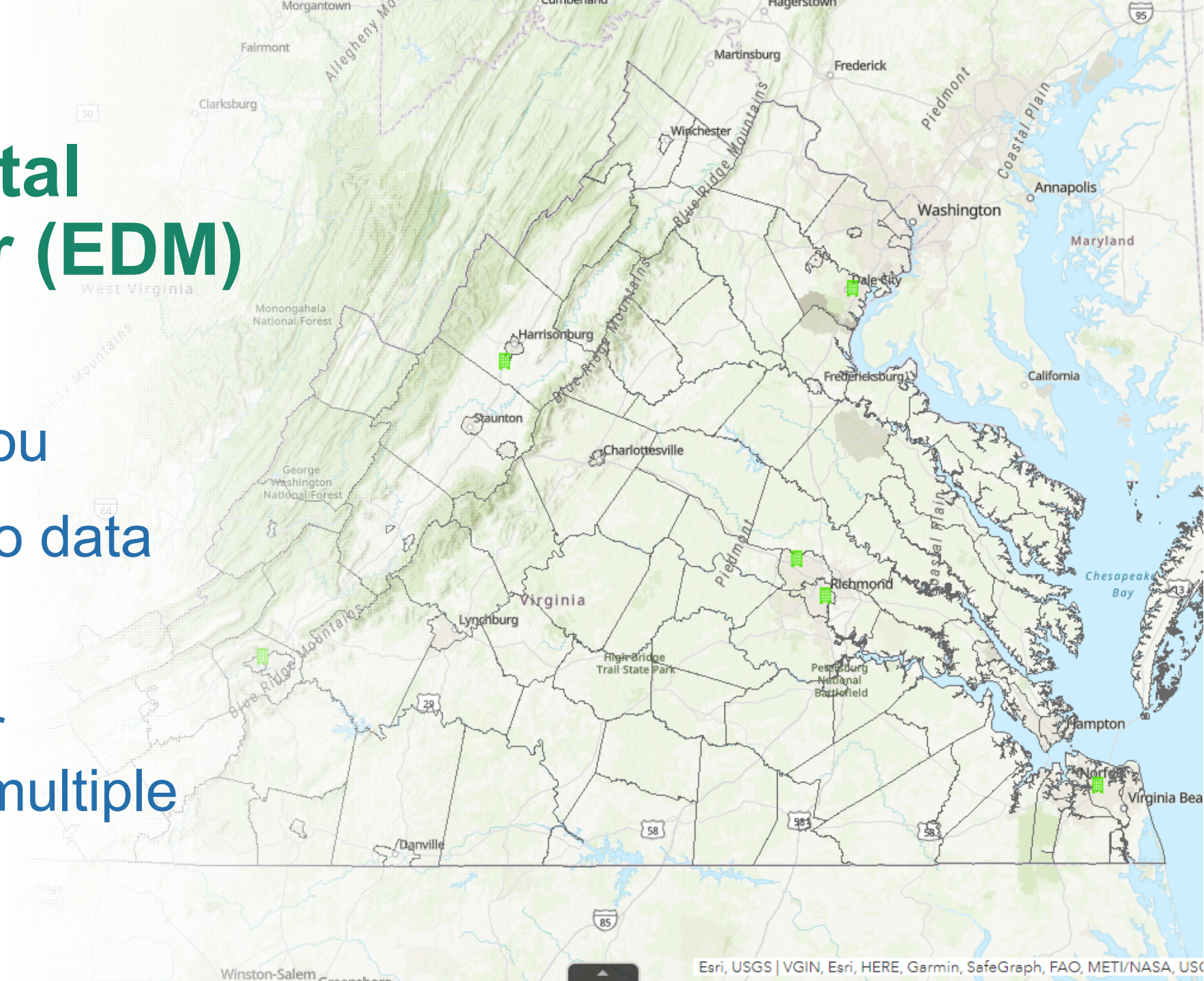

Virginia Brownfields Dashboard

Pollution Response & Preparedness (PReP)

# Poll #2 – Have you ever used any of these DEQ GIS Tools?

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Environmental Data Mapper (EDM)

- Designed for you

- Direct access to data

- Interactive

- Brings together datasets from multiple sources

Esri, USGS | VGIN, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USG

How Might You Use EDM?

- Volunteer Water Quality Monitoring

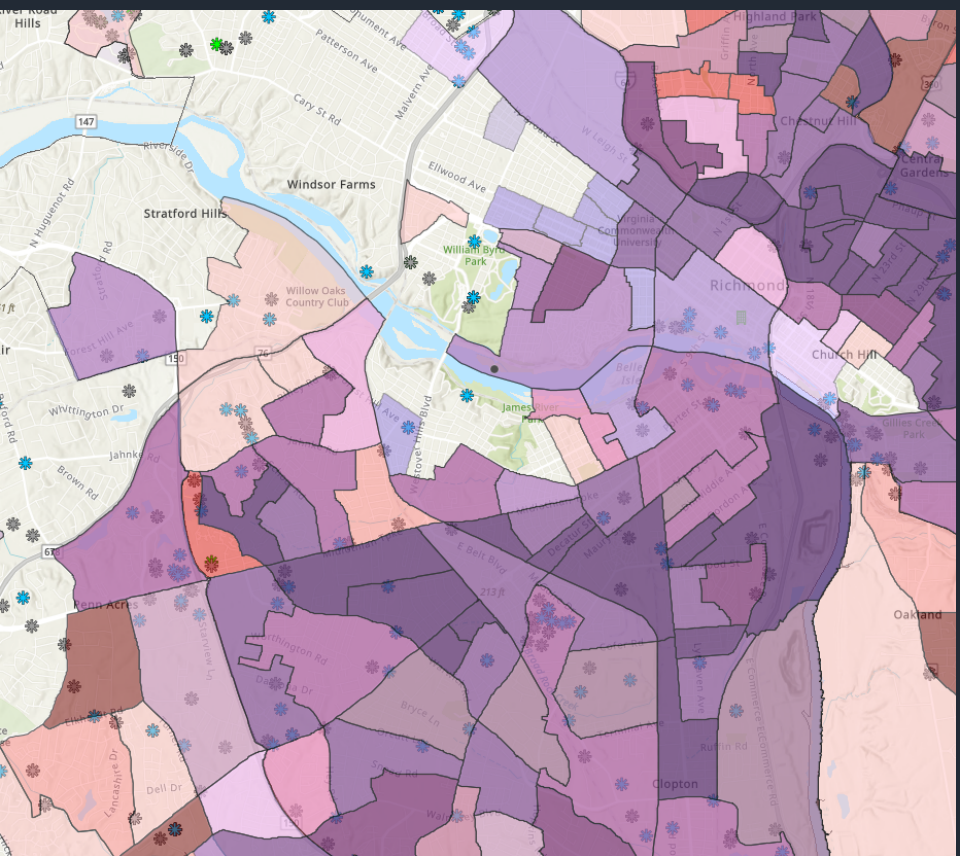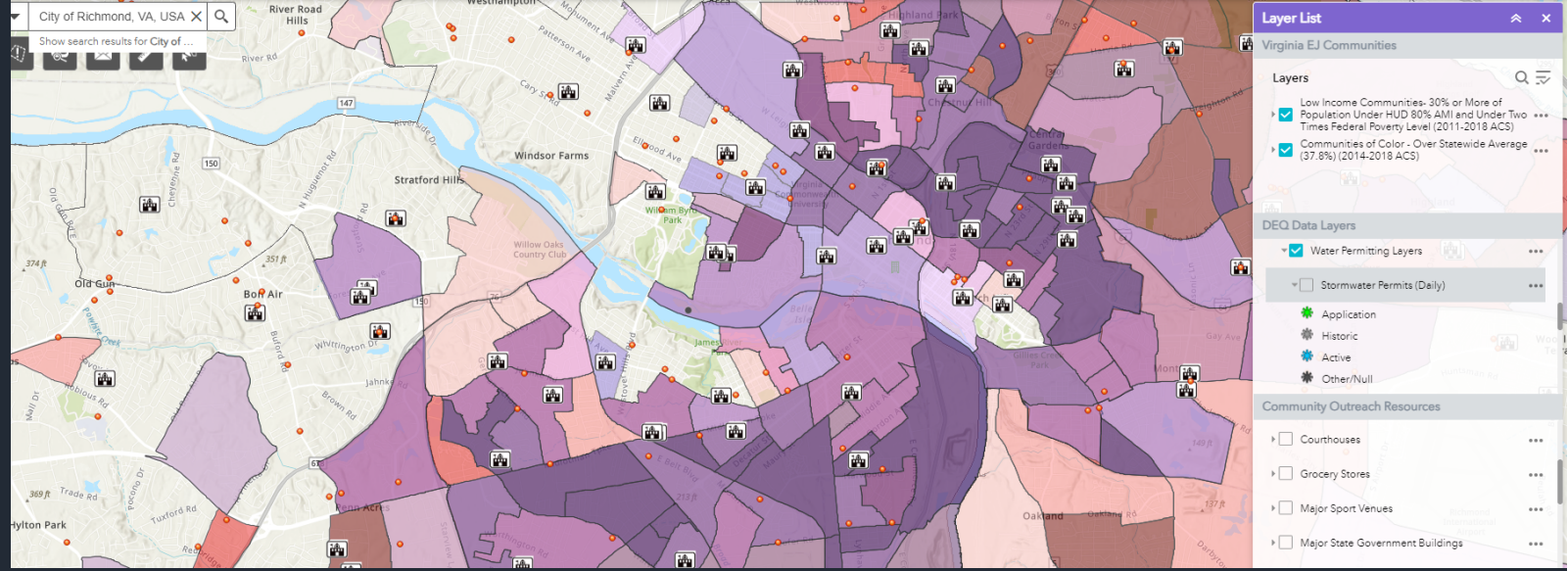- Finding information about permitted facilities

- Near Me tool
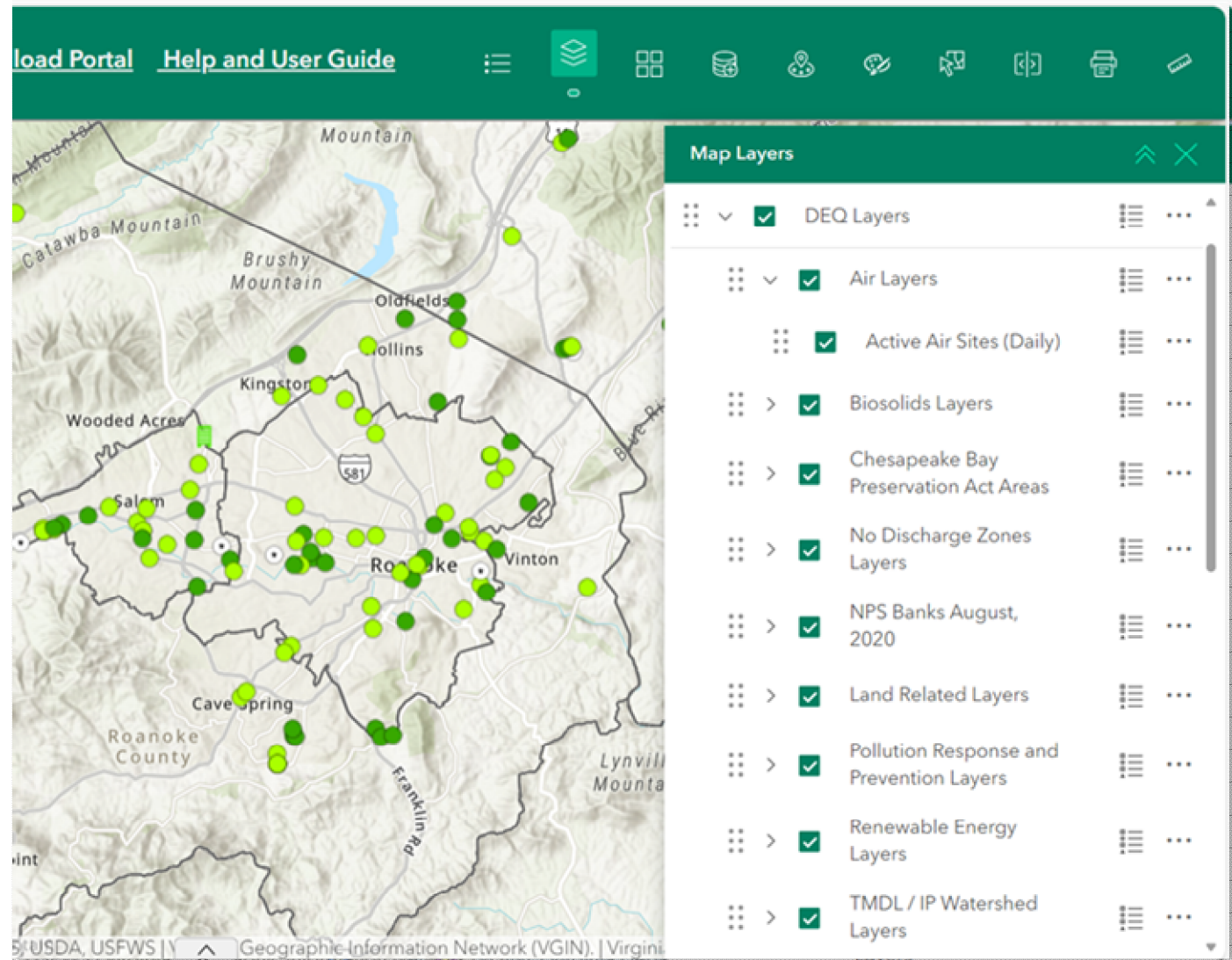
Virginia EJScreen+

- Screening tool to look at EJ layers along with other environmental data

- Federal agency tools
  - EPA EJScreen
  - CDC EJ Index Map
  - White House Council on Environmental Quality CEJST

- DEQ's version has Virginia-specific data and layers
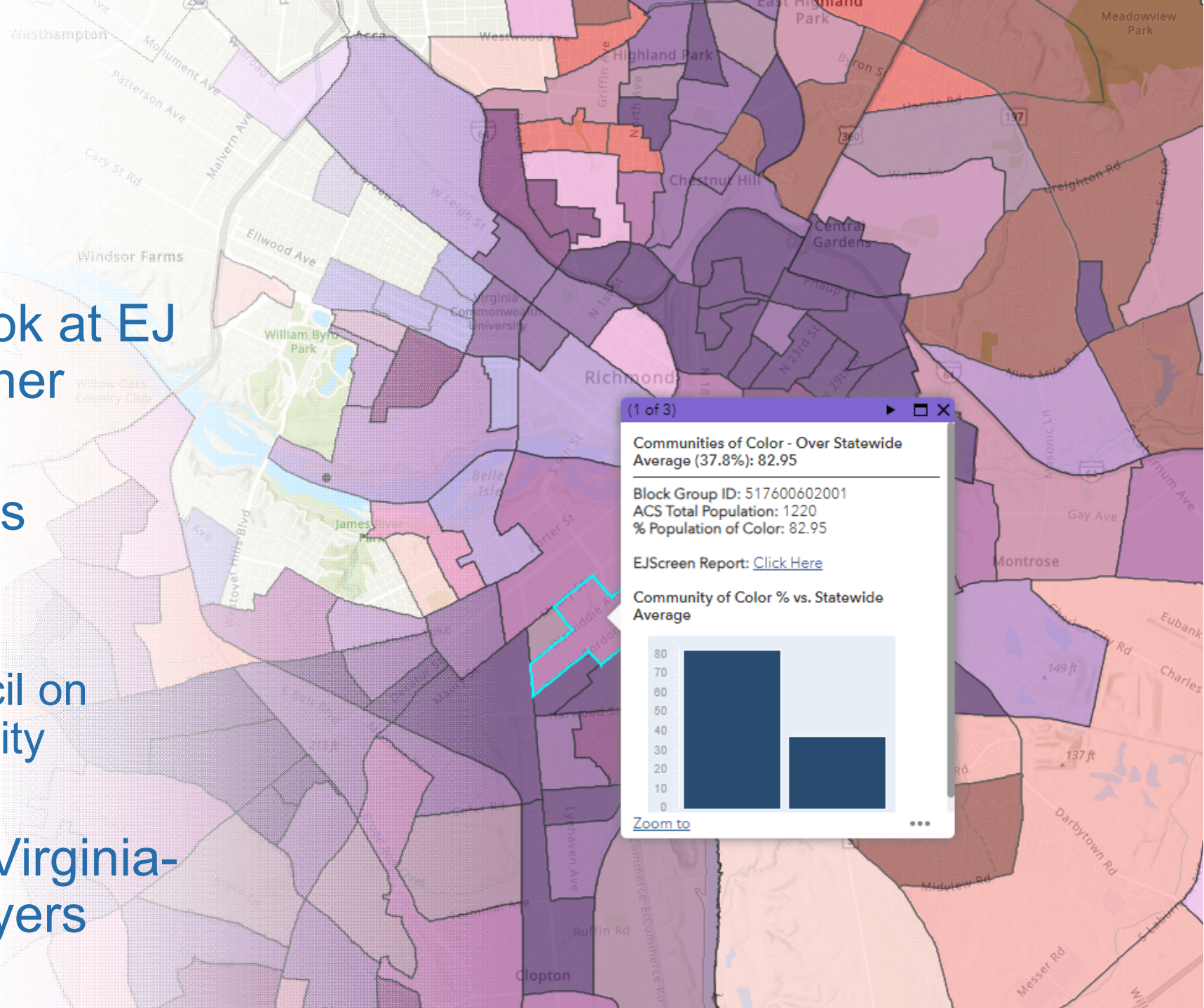
Virginia EJScreen+ Layers

There are four categories of layers in EJSCREEN+

- Virginia EJ Communities
- DEQ Data Layers
- Community Outreach Resources
- EPA EJScreen Data Layers and Reference Layers

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Poll #3:

What do you think brownfields are?

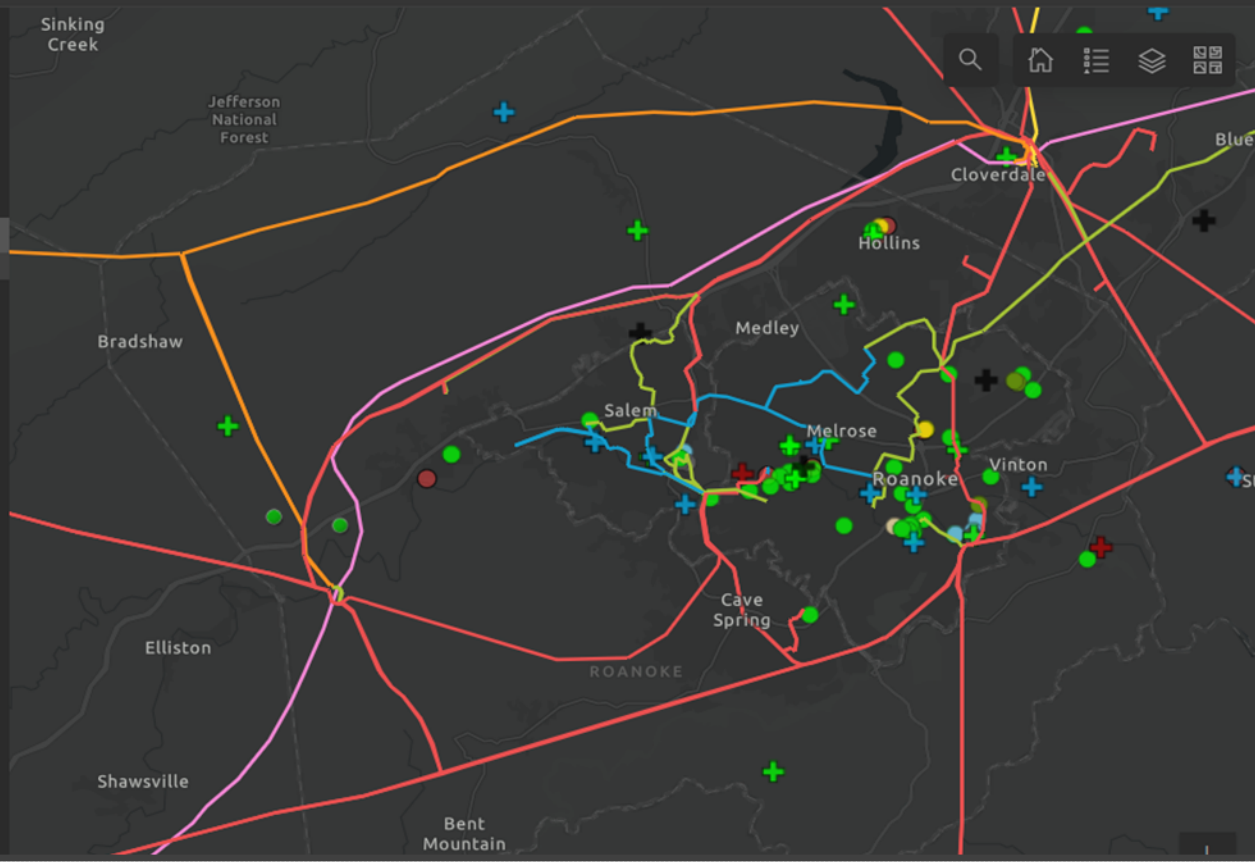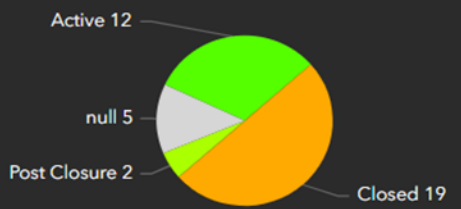| A – Empty areas with dead vegetation or bare soil.	B – Lots that have been vacant a long time.	C – Property with contamination that makes it hard to redevelop.	D – Special farms where chocolate milk cows are raised.

Virginia Brownfields Dashboard

- In development by DEQ and the Virginia Department of Energy, with data from both agencies

- In beta (early release) so feedback on the tool is welcome! What would you like to see?

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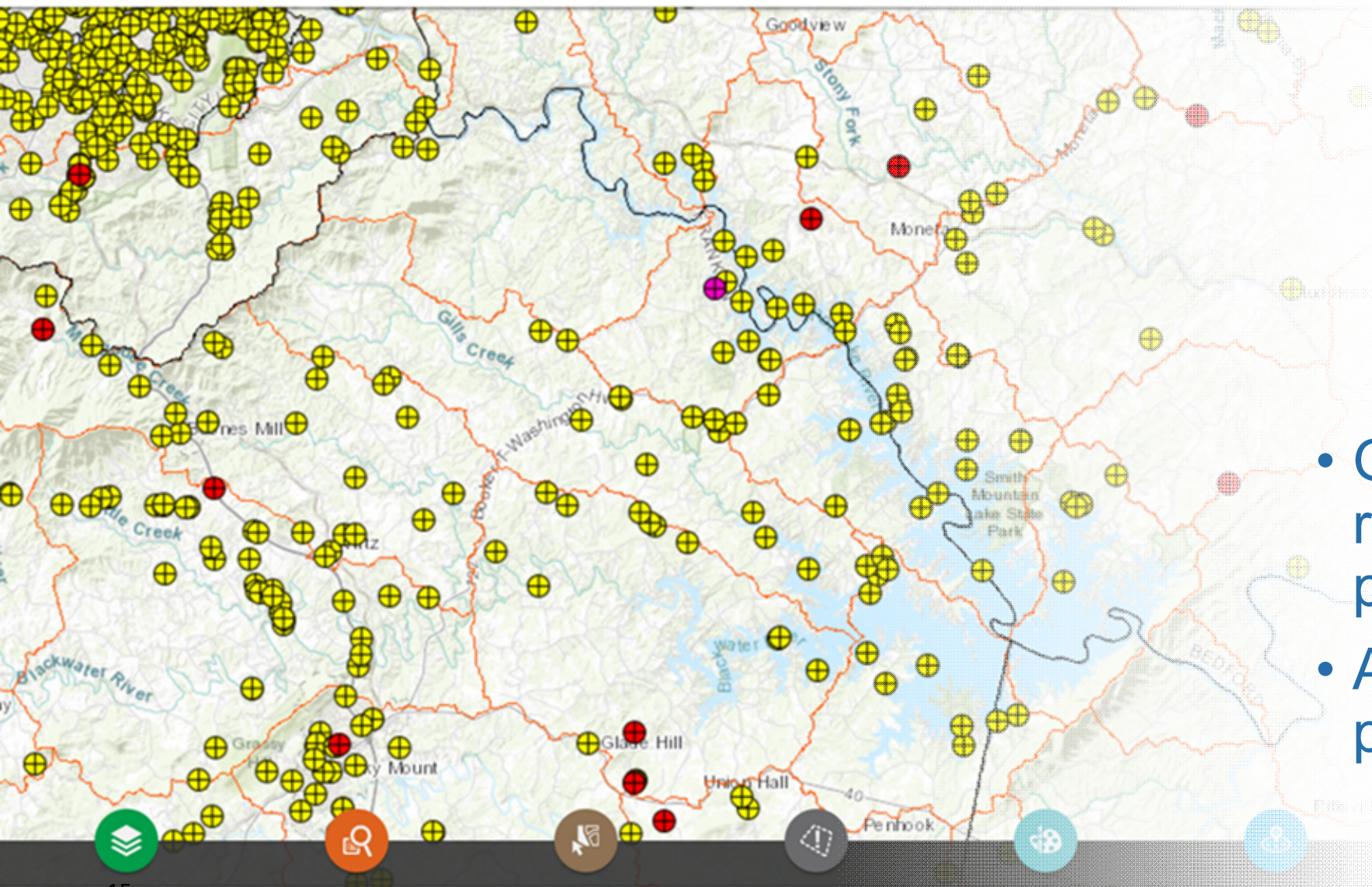
Pollution Response & Preparedness (PREP)

- Geospatial representation of all pollution reports
- Anyone can file a pollution report

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# PReP Reports vs. Emergency Reports

- Report to DEQ and/or your locality
  - Small quantity oil spills
  - Fish kills
  - Non-emergency hazardous materials releases
- Report to 911
  - Fires
  - Vehicle accidents
- Report to Virginia Emergency Operations Center (1-800-468-8892)
  - Release or discharge of motor vehicle fluids from **commercial** vehicles
  - Release of **cargo** containing oil or hazardous materials

Still unsure? Contact your local DEQ Office!
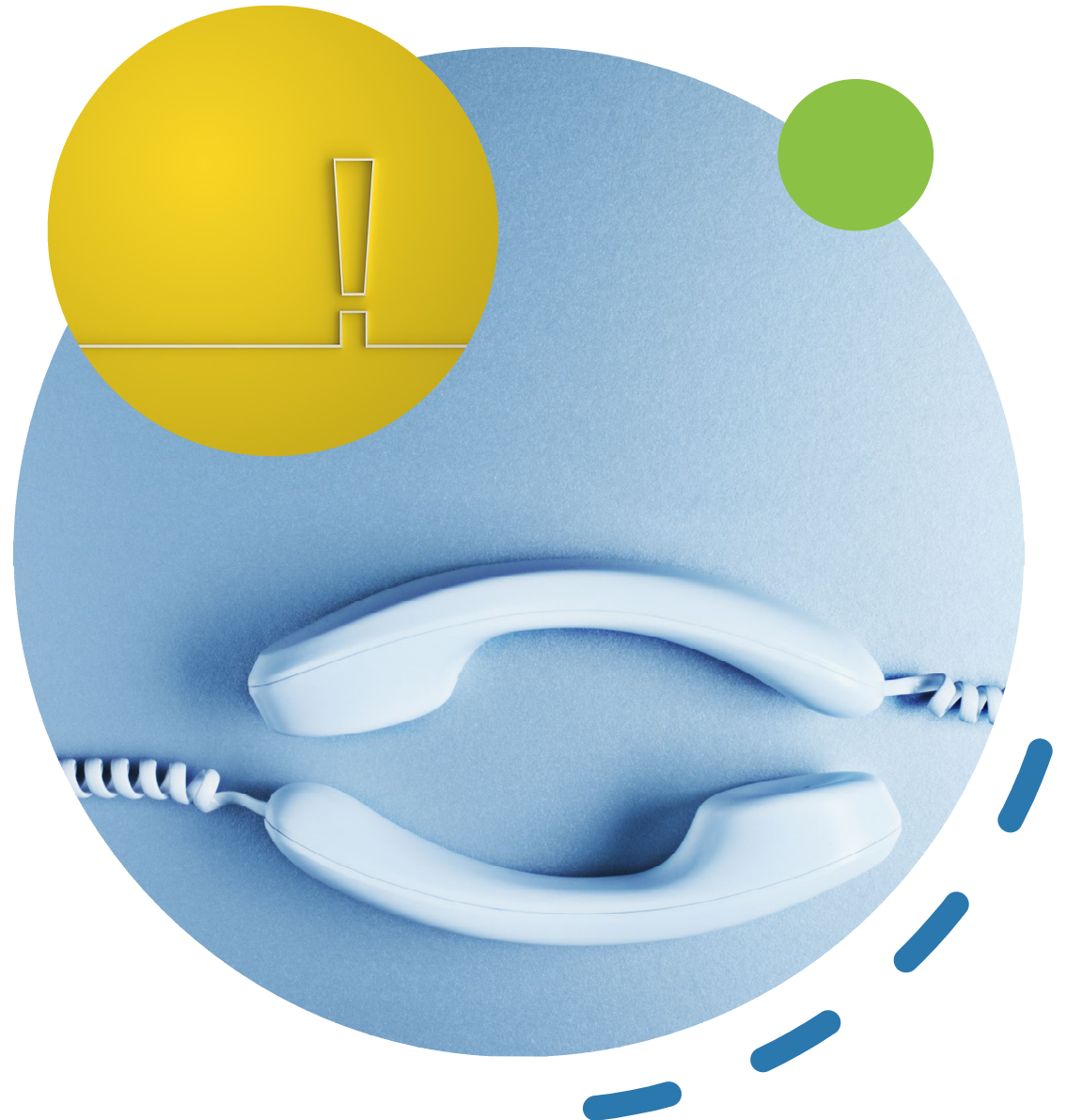
Poll #4 – Which GIS Tool would you like us to demonstrate?

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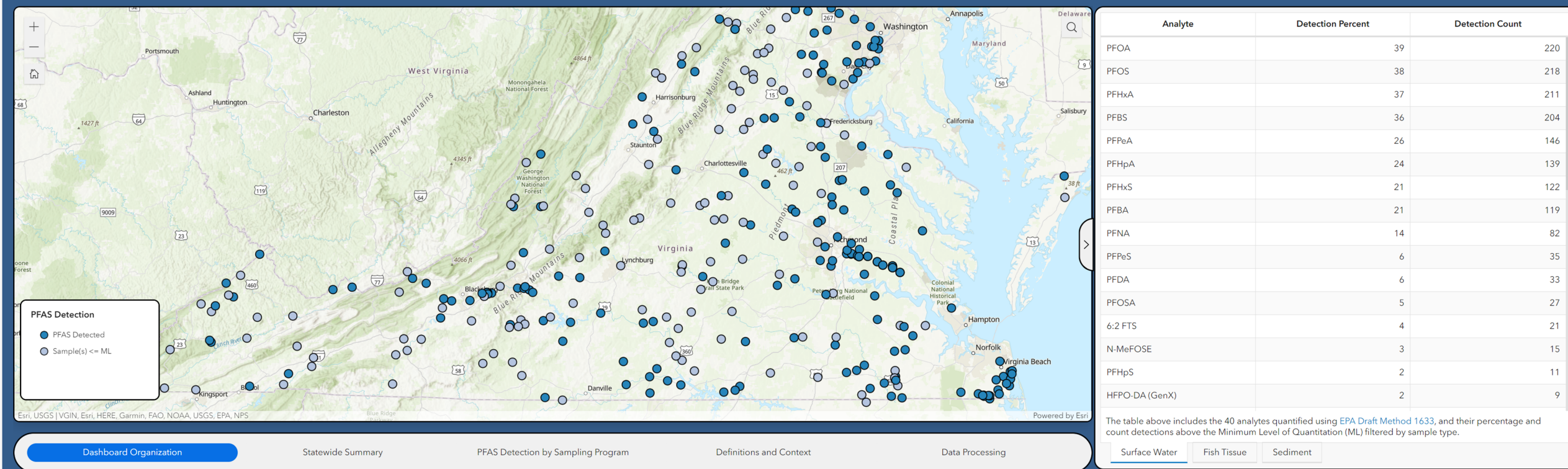
Statewide PFAS Sampling Dashboard

- **PFAS:** Per- and Polyfluoroalkyl Substances ("forever chemicals")

- Presents PFAS detection and concentrations

- Will be updated to reflect how sampling results relate to water quality criteria *once they are developed by EPA and adopted by Virginia*.

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Coastal GEMS

- Developed by the Virginia Coastal Zone Management Program

- Resource data and maps

- Laws and policies

- Resource facts

- Includes data such as
  - Wildlife
  - Conservation Planning
  - Coastal Populations
  - Shellfish Management
  - …much more
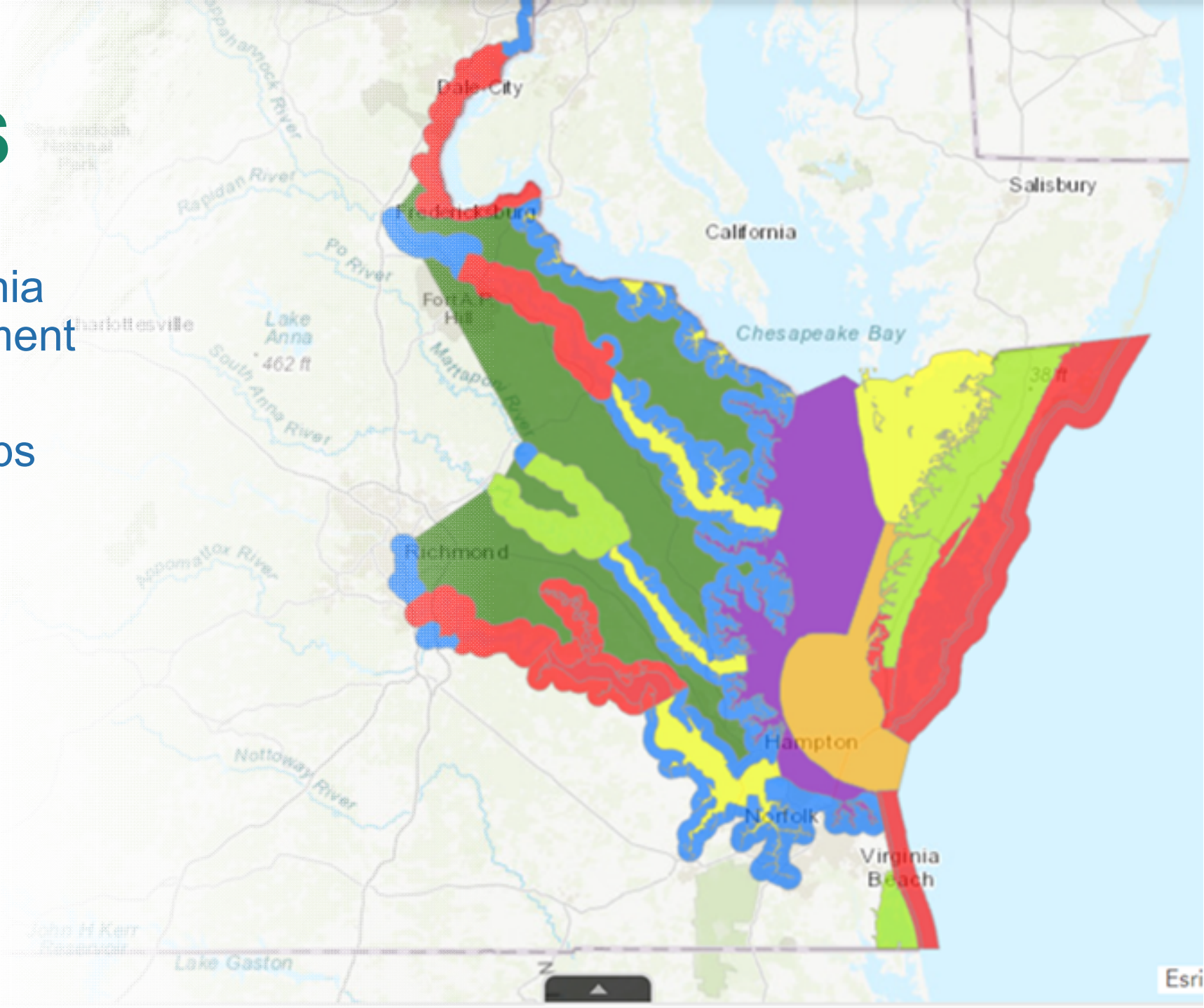
Overview of DEQ Story Maps

- **Story Map**: Interactive tool that includes GIS maps and embedded data that helps tell a story, provides important context and shares content that matters in a more meaningful way.

Middle Chickahominy PFAS Study

Water Quality Success Stories of Virginia

Virginia Draft Watershed Implementation Plan (WIP) III

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Overview of DEQ Database Tools

Enforcement Case Documents

Pollution Reports

Virginia Permitting Transparency

Permitting Enhancement and Evaluation Platform

Enforcement Cases on myDEQ Portal

- Enforcement actions and records database
- myDEQ Portal
- Filter and download results

Search Pollution Reports on myDEQ Portal

- Pollution Report data
- myDEQ Portal
- Filter and download results

Virginia Permitting Transparency (VPT)

- Permit tracking system for the Commonwealth of Virginia
- Over 50 types of permits
- Multiple Commonwealth agencies (currently six)

Application or Permit Number, Applicant Name, Agent Name, or Facility Name

Application Received Date Range

| Start mm/dd/yyyy | End mm/dd/yyyy |

| Agency Name | Program Type | Permit Type | Locality | | |
| None Selected | None Selected | None Selected | None Selected | Search Permit Applications | Reset |

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What is PEEP?

- Permitting Enhancement and Evaluation Platform
- Award-winning initiative
- Transparency in permitting
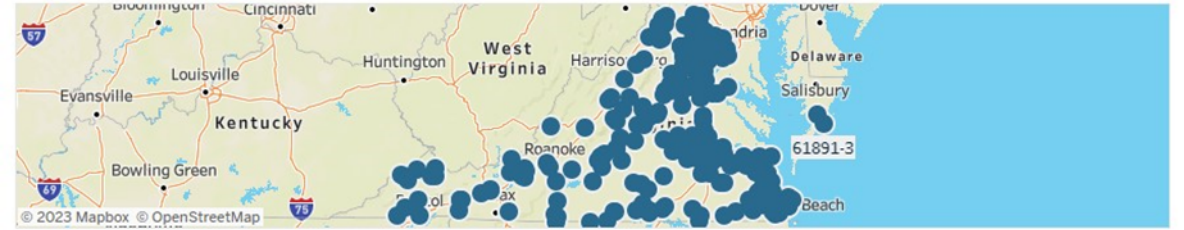- Efficiency in permitting

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PEEP Tracking

- Virginia Water Protection Permit (VWPP) Program
- Wetland and Stream Channel Mitigation Banking
- Air Permitting
- Surface Water Withdrawal
- Nutrient Banking
- Municipal Separate Storm Sewer System (MS4) Permitting
- Stormwater and Erosion and Sediment Control Plan Review
- Virginia Pollution Abatement (VPA) Permitting
- Virginia Pollutant Discharge Elimination System (VPDES)
- Renewable Energy Permitting
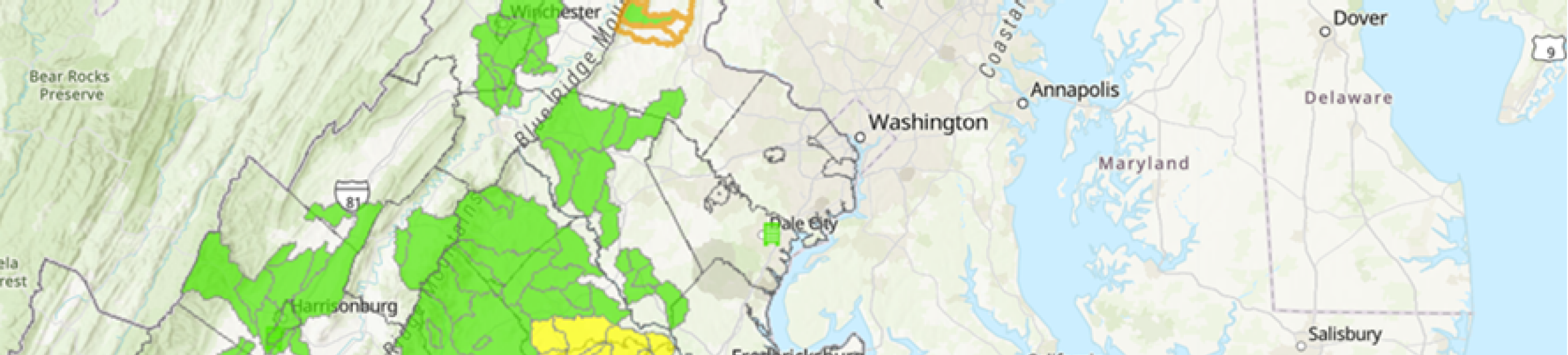- Land Protection / Waste Permitting
- Groundwater Withdrawal Permitting

Poll #5 – Which Database Tool would you like us to demonstrate?
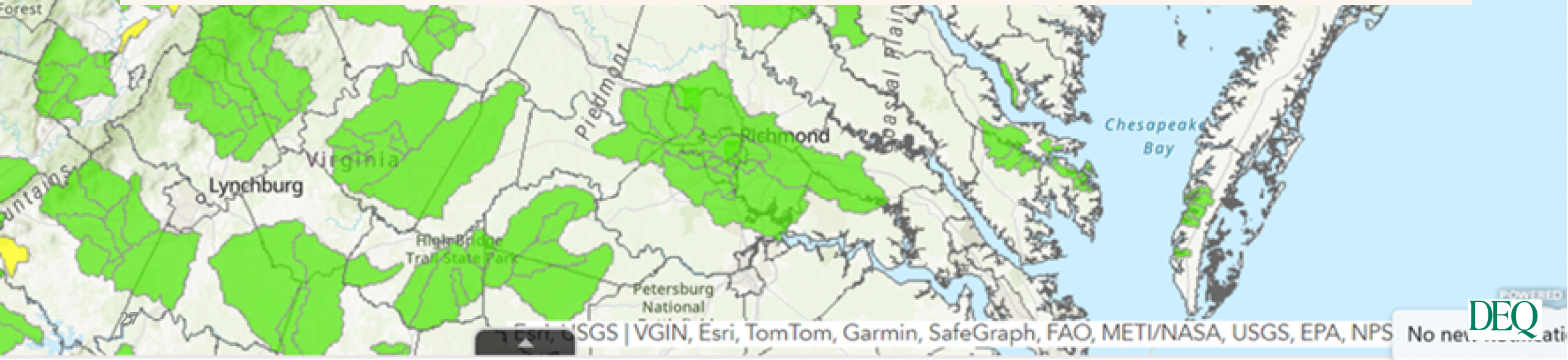
Open Data Portal

- Provides a DEQ Data Catalog with datasets and their associated fact sheets

- There are data sets specific to:
  - Air
  - Land
  - Pollution Response and Prevention
  - Water
  - Renewable Energy

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DEQ Data Sets by Media

Air

- Active Air Sites
- Air Sites Emissions (Totals) Current Reporting Year
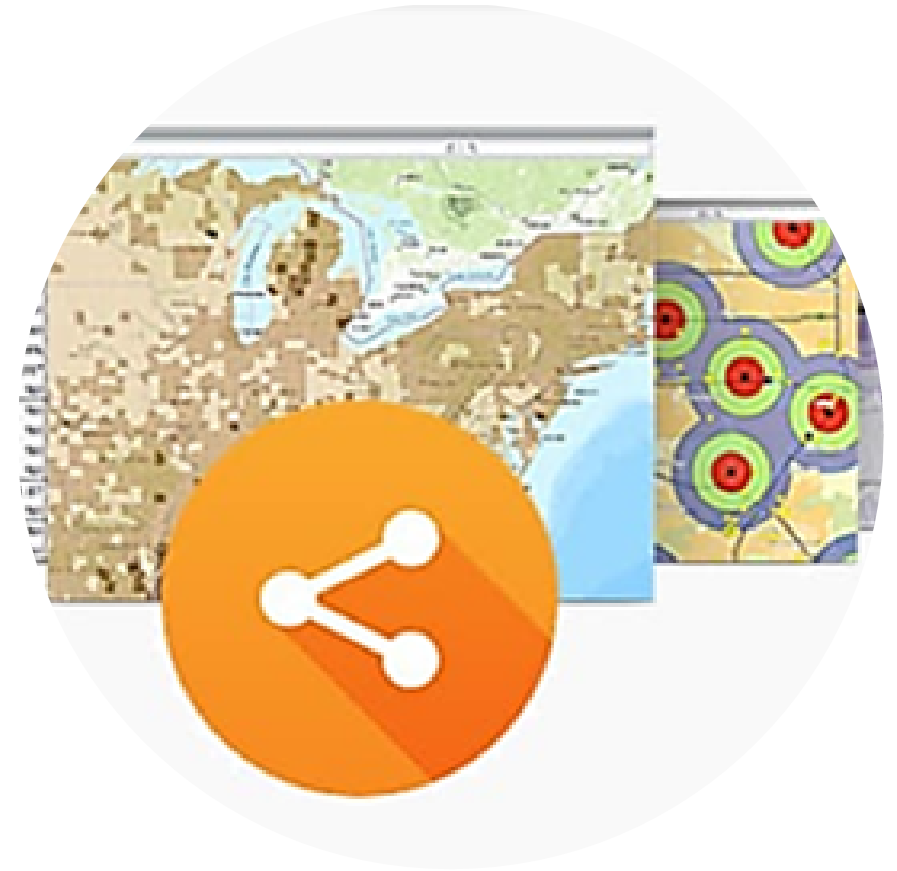
Renewable Energy

- Renewable Energy Permits
- Coastal Avian Protection Zones (CAPZ)

Land

- Alternate Water Supplies – CFU (Carbon Filtration Unit) Sites
- Non-NPL (National Priority List) Federal Facilities
- Petroleum Release Sites
- Petroleum Registered Tank Facilities
- Solid Waste Permits
- VRP (Voluntary Remediation Program) Site Addresses

Pollution Response & Prevention

- PREP (Pollution Response Program) Reports
- VEEP (Virginia Environmental Excellence Program) Facilities

Water (Data Set Categories Only)

- Implementation (IP) Watershed and Total Maximum Daily Load (TMDL)
- Land Application / Beneficial Reuse (Biosolids)
- NPS Banks and Virginia Watershed
- Water Permitting
- Water Quality Assessment (WQA) Integrated Report (IR)
- Groundwater Monitoring / Characterization
- Water Quality Monitoring and Water Quality Standards (WQS)

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Purpose & Objectives (recap)

Access GIS tools in the VA Environmental Data Hub

Describe various uses for GIS mapping tools

Explain the difference between a GIS mapping tool and a Story Map

View the status of a permit application in VPT / PEEP

Know the difference between PREP and emergency reports

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Poll #6:

Which of the tools we went over tonight do you think you might use?

- Which DEQ Resources were new to you?
- Are there any DEQ Resources you would like to see featured in a more in-depth webinar or presentation?

Final Questions?