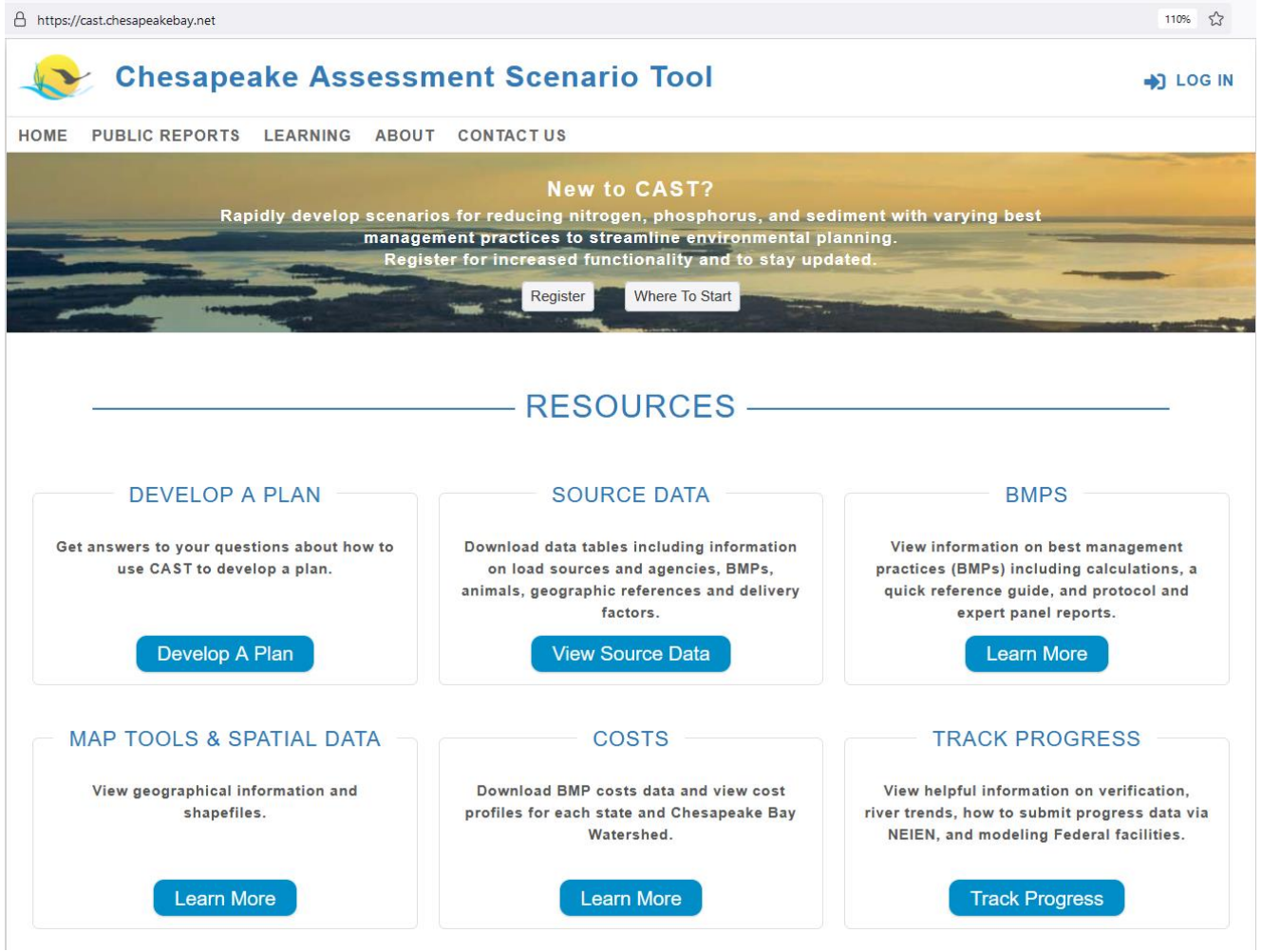


CAST-21 Input Data

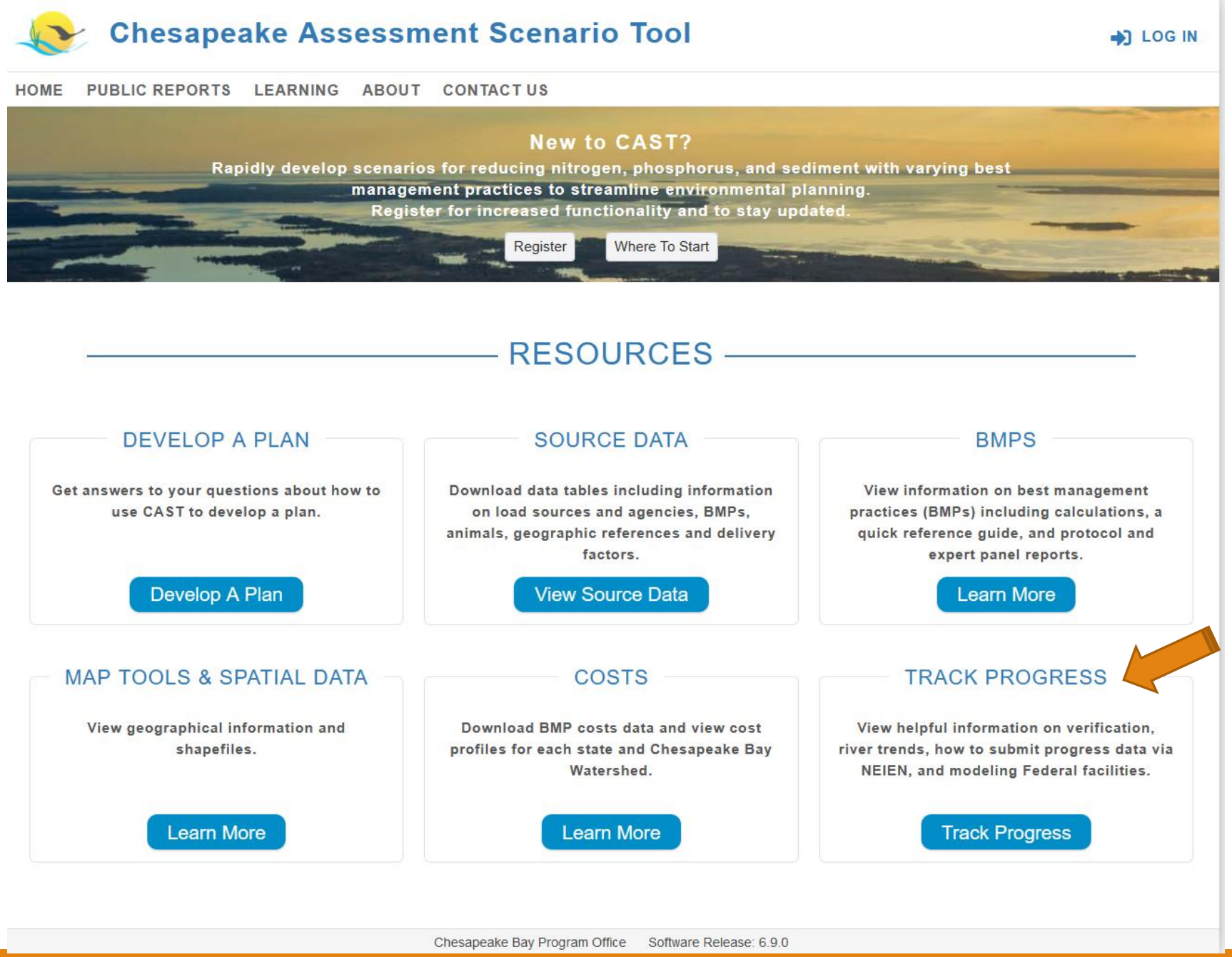
AGRICULTURE WORKGROUP

JUNE 17, 2021

OLIVIA DEVEREUX, DEVEREUX CONSULTING, INC.

Outline

- Accessing the information
- Data Types
- Deadlines
- Date Most Recently Submitted by State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The following information is available below:

- Phase 3 WIP BMP Information
- Trends Over Time
  - BMPs
  - Loads
  - Wastewater
  - Nutrients Applied
  - Animal Units
  - Septic
- Tributary Summaries
- River Trends
- Progress Reporting
  - Phase 6 NEIEN Appendix
  - Codes List and Tables
  - NEIEN Submission Instructions
  - Document Exchange Template
  - NEIEN Schema
  - CAST data update frequency
- Verification
  - Chesapeake Bay Basinwide BMP Verification Framework
  - Jurisdictions' BMP tracking and reporting leads
  - Chesapeake Bay Program Grant Guidance
  - Jurisdictional Quality Assurance Project Plans (QAPPs)
- Federal Agencies
  - Federal Facility User Guide for Frequently Asked Questions
  - Annual Progress Reporting Templates
  - Milestones

Phase 3 WIP BMP Information

BMP information for each Bay jurisdiction in Phase 3 WIPs were synthesized into charts to assess BMP effectiveness, BMP cost-effectiveness, and overall costs. The charts are available at the link below. View the most effective nitrogen and phosphorus BMPs in the WIP3 as measured by percent of total reduction in the BMP Effectiveness charts. Determine the most cost-effective nitrogen and phosphorus BMPs in the WIP3 as measured by cost/year to reduce a pound of each nutrient in the BMP Cost-Effectiveness charts. Costs of all BMPs for the most recent annual progress year and WIP3 by state and sector are presented in the Overall Costs charts.

View WIP BMP Charts Compare Planning Targets

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Progress Reporting

As of December 2010, all BMP information submitted to the Chesapeake Bay Program Office must be in a format compatible with the National Environmental Information Exchange Network (NEIEN) protocols that dictate the use of BMP-specific fields and units. Such information is utilized by CAST for the estimation of nutrient and sediment loads generated by different source areas within the Chesapeake Bay watershed.

National Environmental Exchange Network (NEIEN)

BMP information is submitted by the major jurisdictions to the Chesapeake Bay Program Office using NEIEN. NEIEN protocols dictate the use of BMP-specific fields and units. Such information is utilized by CAST for the estimation of nutrient and sediment loads generated by different source areas within the Chesapeake Bay watershed.

- Phase 6 NEIEN Appendix (includes BMP credit duration)
- USDA Practices, NEIEN, and CAST BMPs
- Codes List Tables
- NEIEN Submission Instructions
- Document Exchange Template
- NEIEN Schema
- CAST Data Update Frequency

TMDL Tracking Reports

Verification

The 2010 Chesapeake Bay TMDL for Nitrogen, Phosphorus and Sediment set allocations for the Bay. Major jurisdictions create Watershed Implementation Plans for how to achieve the allocations. The Phase III W atershed Implementation Plans are under development and Interim Expectations have been established. BMPs are expected to be verified. Information on verification is below.

- Chesapeake Bay Basinwide BMP Verification Framework

Animals

Due date: August 31st annually and methods approved by the WQGIT by September 1, 2021 for CAST-21

Permitted and nonpermitted feeding space

- The proportion of animals in permitted and nonpermitted feeding space. Submit the number of animals in each area or the proportions. If numbers are submitted, they will be converted to proportions.

Fraction animals in land-river segments for counties bisected by the Bay watershed boundary

- Some counties are partially in the Bay watershed and drain to Atlantic Ocean basins or bays, the Ohio River Basin, or other places outside the Chesapeake Bay. Submit the percentage in or out to indicate those animals that are in or out of the Chesapeake Bay portion of the county.

Animal per animal unit

- Submit at least a three-year trend of animal type and the numbers of animals in an animal unit. This trend will be applied to alter the mass of animals per animal unit. This trend will be applied to existing data for the duration of Phase 6.

Manure or litter produced per animal

- The mass of animals may change over time resulting in a change in manure produced per animal. Submit at least a three-year trend of animal type and the dry weight of manure or litter per animal. This trend will be applied to existing data for the duration of Phase 6.

Nutrient concentration for animals

- The concentration of nitrogen and/or phosphorus in animal manure or litter may change. Submit at least a three-year trend of animal type and the nitrogen and/or phosphorus per animal. This trend will be applied to existing data for the duration of Phase 6.

Data Description	DE	MD	NY	PA	VA	WV
Animals in permitted/non-permitted feeding space, number or percent	2013 or earlier	2013 or earlier	2013 or earlier	2013 or earlier	2013 or earlier	2013 or earlier
Animal fraction of county in land-river segments	none submitted, uses CBP default	none submitted, uses CBP default	none submitted, uses CBP default	none submitted, uses CBP default	2017	2017
Animals per animal unit	2013	2013	2013	2013	2013	2013
Manure or litter mass produced per animal (minimum of three-year trend needed to alter trend in modeled manure or litter production)	2013	2013	2013	2013	2013	2021
Nutrient concentration for animals (minimum of three-year trend needed to alter trend in modeled nutrient concentrations)	2013	2013	2013	2013	2013	2013

Animal Data from Jurisdictions

Agricultural Data

Data collected by the Chesapeake Bay Program's Integrated Analysis Team

AAPFCO fertilizer sales

- The Chesapeake Bay Program purchases these data for agricultural and urban sectors. There is a several year lag before they are available for purchase.
- Purchased every two years in milestone years as new data becomes available.

Soil Phosphorus data

- These data were collected from land grant university labs and private labs for Phase 6. The data will again be collected for Phase 7.
- Due date anticipated 2023.

USDA-NASS data

- Poultry sales, crop yield, crop acres, animal numbers
- Every two years in milestone years from annual NASS data and from the five-year Agricultural Census.

BMPs

Planning BMPs

- Anytime

New and approved BMPs

- Methods need to be approved by 9/1/2021 for CAST-21.

BMP Costs

- Updated periodically by EPA via a contract

Other Data Types

Atmospheric deposition

- Updated as part of the calibration only using the CMAC model and regressions of observed deposition

Land use and populations

- Harvested forest and construction acres updated annually by jurisdictions
- Other land use data is updated in Milestone years for new versions of CAST

Wastewater all updated annually for current year and in milestone years for new versions of CAST:

- Biosolid
- Agricultural spray irrigation mass and nutrient applications
- Septics
- Rapid Infiltration Basins
- WWTP data

Questions?

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