

The background of the slide is a light gray gradient. It is decorated with numerous water droplets and ripples. In the top left corner, there are several large, realistic-looking water droplets. A series of concentric ripples emanates from the top center. The bottom right corner features a large, irregular water droplet and several smaller ones scattered around it. The overall aesthetic is clean and nature-inspired.

# STREAM RESTORATION FAQ

URBAN STORMWATER WORKGROUP

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# NEW FAQ DOCUMENT RELEASED:



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**FREQUENTLY  
ASKED  
QUESTIONS:**

**URBAN STREAM  
RESTORATION BMP**

## What's in it?

- PROJECT ELIGIBILITY
- QUESTIONS ABOUT CALCULATING REDUCTIONS
- STREAM RESTORATION IN THE PHASE 6 MODEL

# WHY THE NEED FOR AN FAQ?

- **VERSION CONTROL** – AT LEAST 3 DIFFERENT VERSIONS OF THE PROTOCOLS RELEASED SINCE 2013
- **A LOT OF REPORTING OPTIONS:** DEFAULT VALUE, 3 PROTOCOLS OR CONDUCT ACTUAL MONITORING
- **MULTIPLE METHODS:** DIFFERENT WAYS TO DETERMINE PARAMETERS USED TO CALCULATE LOAD REDUCTIONS, ESPECIALLY FOR PROTOCOL 1
- **A CHANGING BAY MODEL:** CHANGES IN HOW STREAMS AND SEDIMENT ARE REPRESENTED IN THE WATERSHED MODEL CAN INFLUENCE REACH-SCALE REDUCTIONS



# ELIGIBLE PRACTICES

- NON URBAN STREAMS?
- ZERO ORDER STREAMS?
- OUTFALL STABILIZATION PROJECTS?
  - RSC?
- QUALIFYING CONDITIONS?





# CALCULATING REDUCTIONS

- HOW TO USE THE DEFAULT CREDIT?
  - EROSION RATE CURVES?
  - MONITORING DATA?
  - CAPS ON REDUCTIONS?
- ADDING THE PROTOCOLS TOGETHER?



0.068 lbs TP//ft/yr =



0.068 lbs TP/ft/yr =



0.068 lbs TP/ft/yr

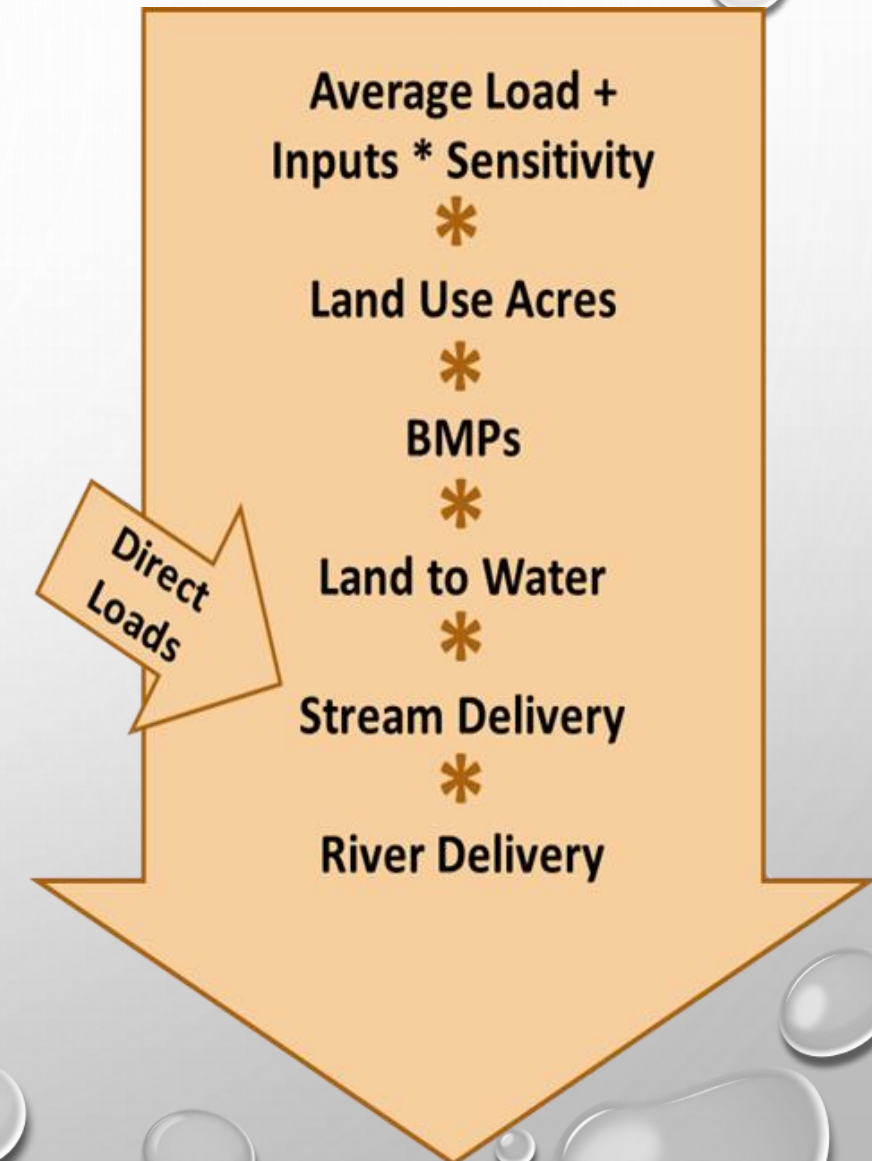
# PHASE 6 MODEL

- CHANGES TO REPORTING?
- SEDIMENT DELIVERY FACTOR?
- EFFECTS OF IMPERVIOUS COVER?
- PLANNING TOOLS?

The screenshot shows the homepage of the Chesapeake Assessment Scenario Tool (CAST). At the top is the logo and title. Below is a navigation bar with links: HOME, SCENARIOS, RESULTS, COST PROFILES, HOW TO, ABOUT, and CONTACT US. A subtitle reads: "Frequently requested data and information associated with water quality monitoring and modeling." The main content area is divided into six sections, each with a title, description, and a button:

- MODEL DOCUMENTATION**: Find additional information about the Phase 6 model, its documentation and links to model review webinars and files. Button: [Learn More](#)
- DEVELOPING PLANS**: Get answers to your questions about how to use CAST to develop a plan. Button: [Develop A Plan](#)
- SOURCE DATA**: Download data tables including information on load sources and agencies, BMPs, animals, geographic references and delivery factors. Button: [View Source Data](#)
- CALIBRATION INPUTS**: Find graphs and maps of inputs to the Phase 6 Watershed Model Calibration for all versions. Button: [View Inputs](#)
- BMPs, MODELS & GEOGRAPHY**: View additional information on BMPs, CBP Partnership Models, Shapefiles and Geographical Information. Button: [Learn More](#)
- TMDL TRACKING**: Information on how to submit progress data via NEIEN and view implementation data on meeting the Chesapeake Bay TMDL. Button: [TMDL Tracking](#)

At the bottom, there are three more section headers: **OPTIMIZATION**, **RIVER TRENDS**, and **PLANNING GOALS**.





# OTHER KEY QUESTIONS IN STREAM RESTORATION PROTOCOL APPLICATION

- Choose best methods to estimate reach-wide sediment loads
- Proper use of the bancs method
- Which regional curve should be used?
- Measure bulk density or soil phosphorus?
- Stream restoration inspection/verification



**MORE ON VERIFICATION**



# DURATION OF STREAM RESTORATION CREDIT

- Duration for the removal credits is 5 years
- Can be renewed based on a field performance inspection
- Duration of the credit is shorter than other urban BMPs, as these projects are:
  - subject to catastrophic damage from extreme flood events
  - have requirements for 3 to 5 years of post-construction monitoring to satisfy permit conditions
- If a project does not pass inspection, there is 1 year to take corrective action prior to loss of credit

# INITIAL VERIFICATION OF PERFORMANCE

- Prior to submitting the load reduction to the state tracking database, the installing agency will need to provide a post-construction certification that the stream restoration project:
  - Was installed properly,
  - Meets or exceeds its functional restoration objectives
  - Hydraulically and vegetatively stable,
- Initial verification is provided either by the designer, local inspector or state permit authority



# CHALLENGES

- Regulators may not necessarily have experience reviewing some styles of stream restoration practices.
- Stream restoration projects can fall between the cracks- landowner, local government and regulatory agency
- Post construction monitoring is typically required for 3-5 years to satisfy permits – mostly for channel stability.
- To ensure that the projects still exist and are operating as designed, field inspections are needed to renew the credit for the next 5 years

# RECOMMENDATIONS

- Assess function based on design and conduct rapid monitoring to evaluate pollutant removal
- Use existing MS4 and 404 permit/401 certification inspection and maintenance framework and local ESC regulations as foundation of any stream restoration verification system
- Maintenance and inspection requirements included in state and federal agricultural cost-share programs can help support verification of non-urban stream restoration projects



# Questions and Discussion



Photo: Kip Mumaw, Ecosystem Service