Chesapeake Assessment Scenario Tool

CASTTOOL.ORG
MASTONLINE.ORG
VASTTOOL.ORG

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BENEFITS OF CAST FOR TRADING AND OFFSETS

- Quantify the impacts of various management actions
- Improve local management decisions
- Facilitate an iterative process to determine most effective practices to reduce loads—adaptive management
- Guarantee that calculations are consistent and replicable
- Create transparency

MOST EFFECTIVE URBAN BMPs

1. BMPs that convert the land use to Forest
   a. Urban Forest Buffers – land use change PLUS reduction of 25%-N, 50%-P and Sediment on urban
   b. Tree planting
   c. Forest conservation
   d. Abandoned mine reclamation
2. Impervious urban surface reduction-converts impervious urban to pervious urban land
3. Urban growth reduction-converts land to non-urban land uses

MOST EFFECTIVE URBAN BMPs (cont.)

4. Urban infiltration practices-reduction of 85%-N and P, 95%-Sediment
5. Bioswale-reduction of 75%-N, 70%-P, and 80%-Sediment
6. Bioretention-reduction of 75%-N, 70%-P and, 80%-Sediment

CONSISTENT WITH THE EPA TMDL

- Since it is based on the same model that was used to determine the TMDL and the allocations, it has internal consistency for loads, geographical scale and sectors
- Other available tools have assumptions that may be different from those used in developing the current TMDL

SOURCES AND LOADS

- Loads are calculated for all sources in the watershed
  - Urban, including MS4, Phase I & II municipalities
  - Agriculture, including CAFOs
  - Point sources, including WWTP and Industrial facilities
  - Forest

- Output includes the acres of each BMP and the loads of N, P, and sediment.

- Costs are being added to CAST as the cost per acre for each BMP

CAST – A PLANNING TOOL

- Specifies a load reduction strategy (by local area)
  - Identifies the BMPs that give the greatest load reductions
  - Specifies the extent these BMPs are to be implemented
- Indicates if allocations are met
- Compare among scenarios for modeled load reductions
- Produces TMDL water quality model inputs
- Accommodates WIPs, local TMDLs and Milestones

CAST FEATURES

- Serves as a data management system
- Facilitates stakeholder involvement
- Can accommodate many simultaneous users
  - Online with private log in
  - Private and public scenarios
  - Users can share scenarios with other specified users (access control)
  - County scenarios can be merged for the entire state

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