



Maryland
Department of
the Environment

Total Maximum Daily Loads: An Introductory Briefing

Water and Science Administration

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What is a TMDL?

- **Total Maximum Daily Load**
- **Required under the federal Clean Water Act**
- **Establishes the maximum amount of an impairing substance or a stressor that a waterbody can assimilate and still meet water quality standards**
- **Allocates load among pollution contributors (i.e., point and nonpoint sources)**
- **Essentially a pollutant budget**



Which Waterbodies Require TMDLs?

- **State waters that do not meet water quality standards after all technology-based controls and/or other required pollutant controls are in place**
- **May develop more than one TMDL per waterbody if multiple impairing substances identified (i.e., more TMDLs than number of impaired waters)**

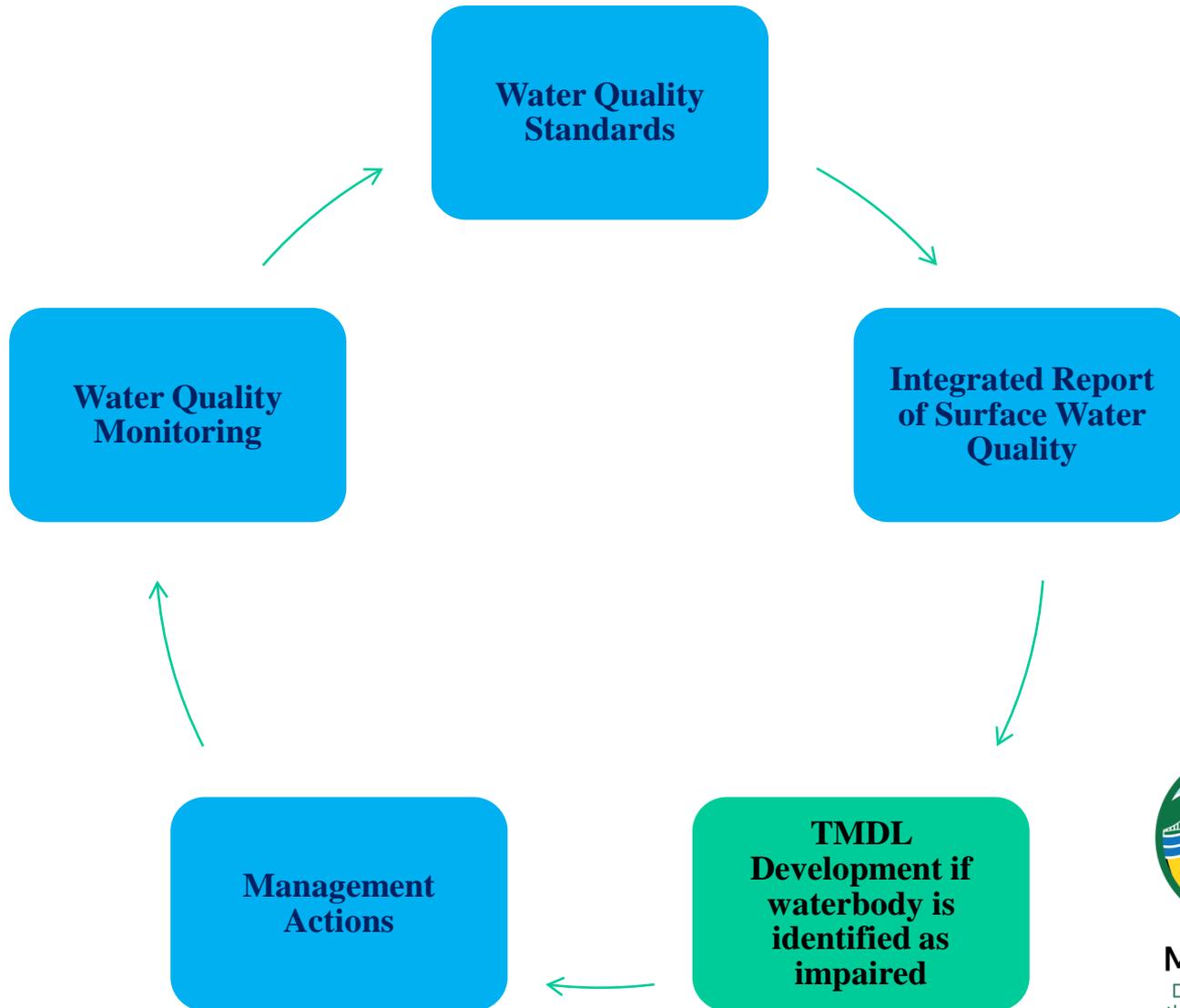


Which Waterbodies (cont.)

- **The Integrated Report of Surface Water Quality identifies impaired waterbodies [303(d) List]**
- **This list of impaired waterbodies is updated and reviewed every two years.**
- **MD Final 2016 Integrated Report with list of impaired waters is approved and available on MDE website.**



Clean Water Act



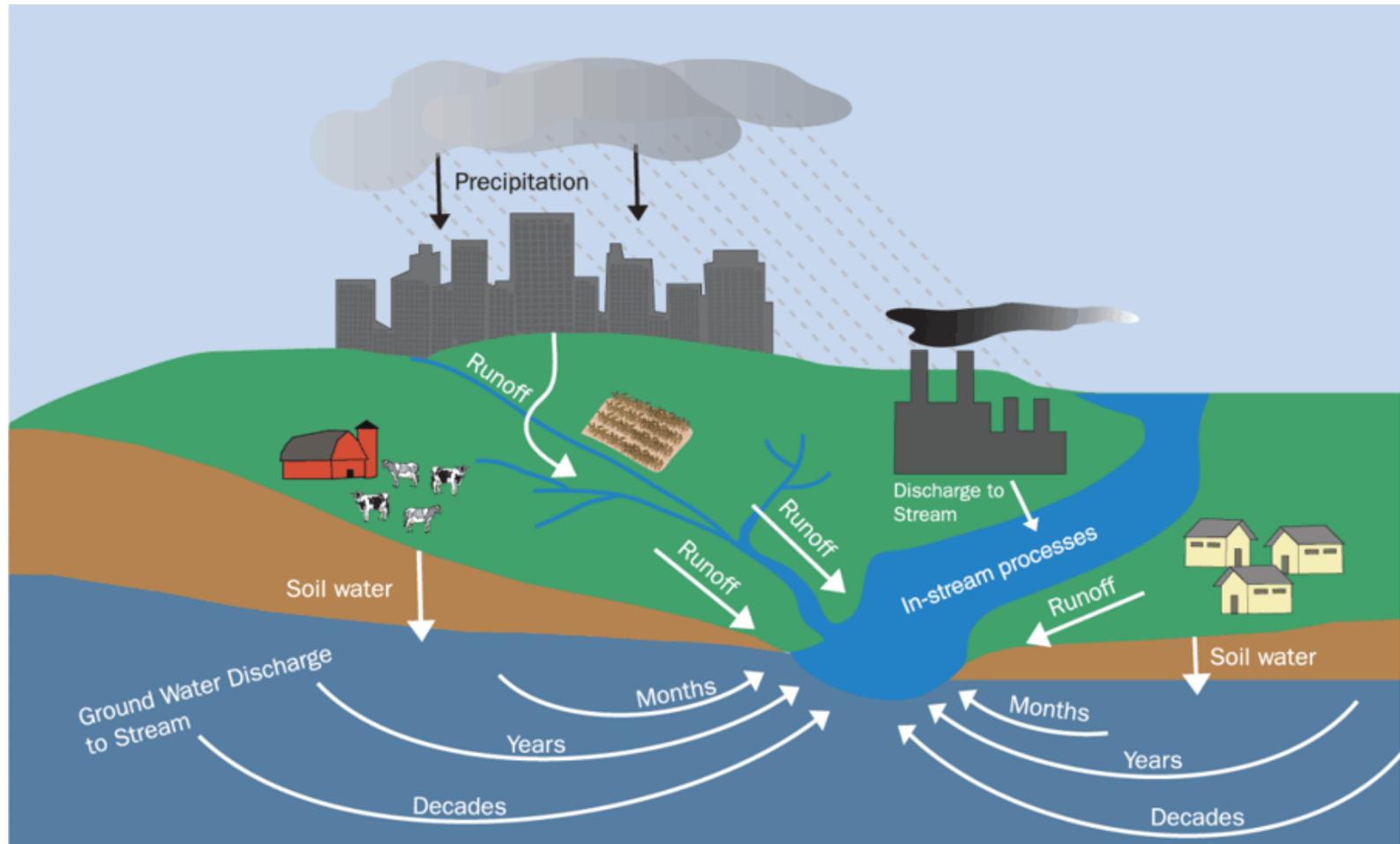
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TMDL Development Process

- **Data collection**
 - **Five-year cycling strategy, additional sampling for TMDL purposes, data solicitation**
- **Data analysis**
- **Selection of an assessment tool**
 - **Depends upon system, complexity of problem, available data, etc.**
- **Evaluation of various load reduction scenarios**

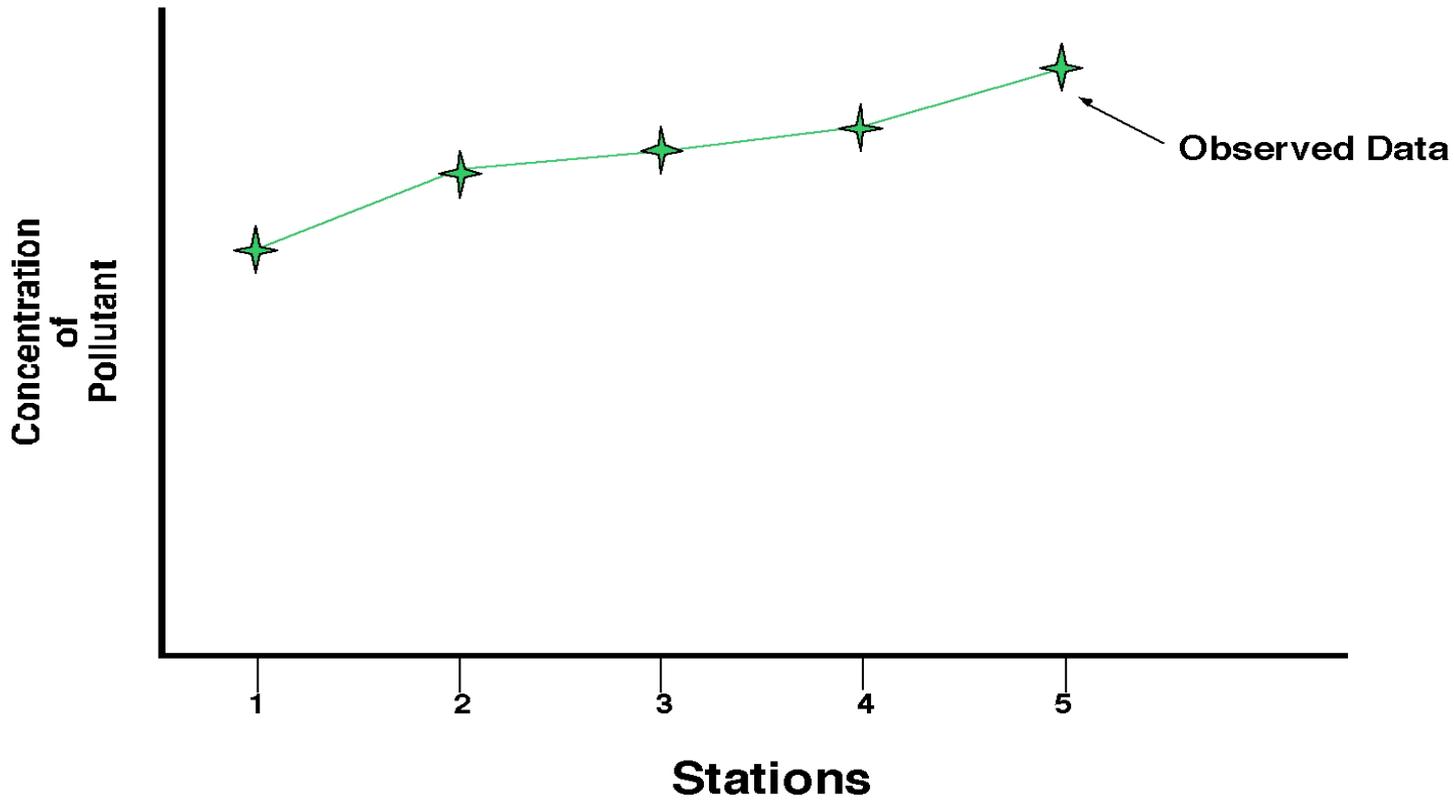


Sources of pollutant loads



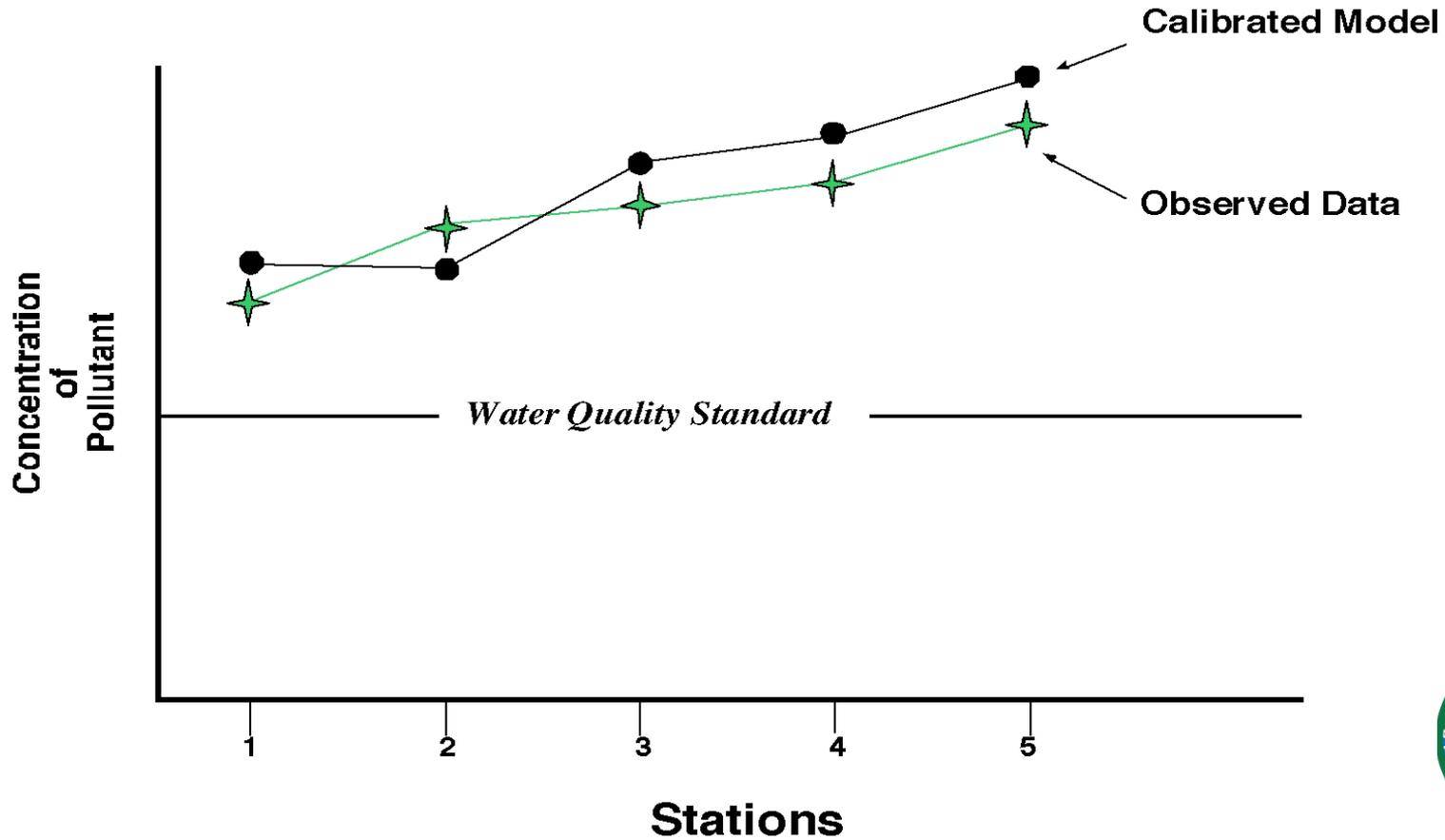
Source: http://ndep.nv.gov/bwpc/source/water_graphic.htm

TMDL Modeling Process

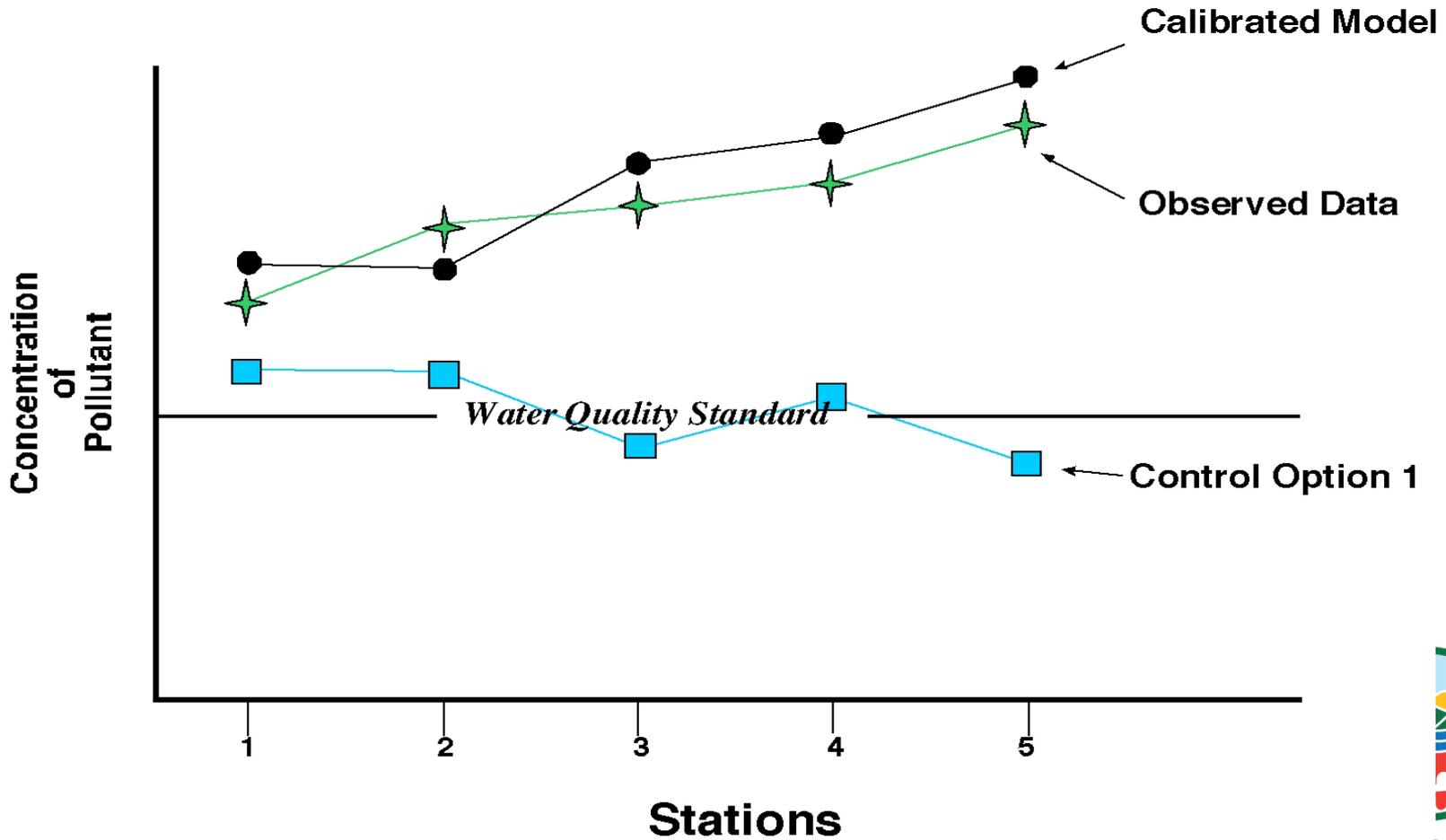


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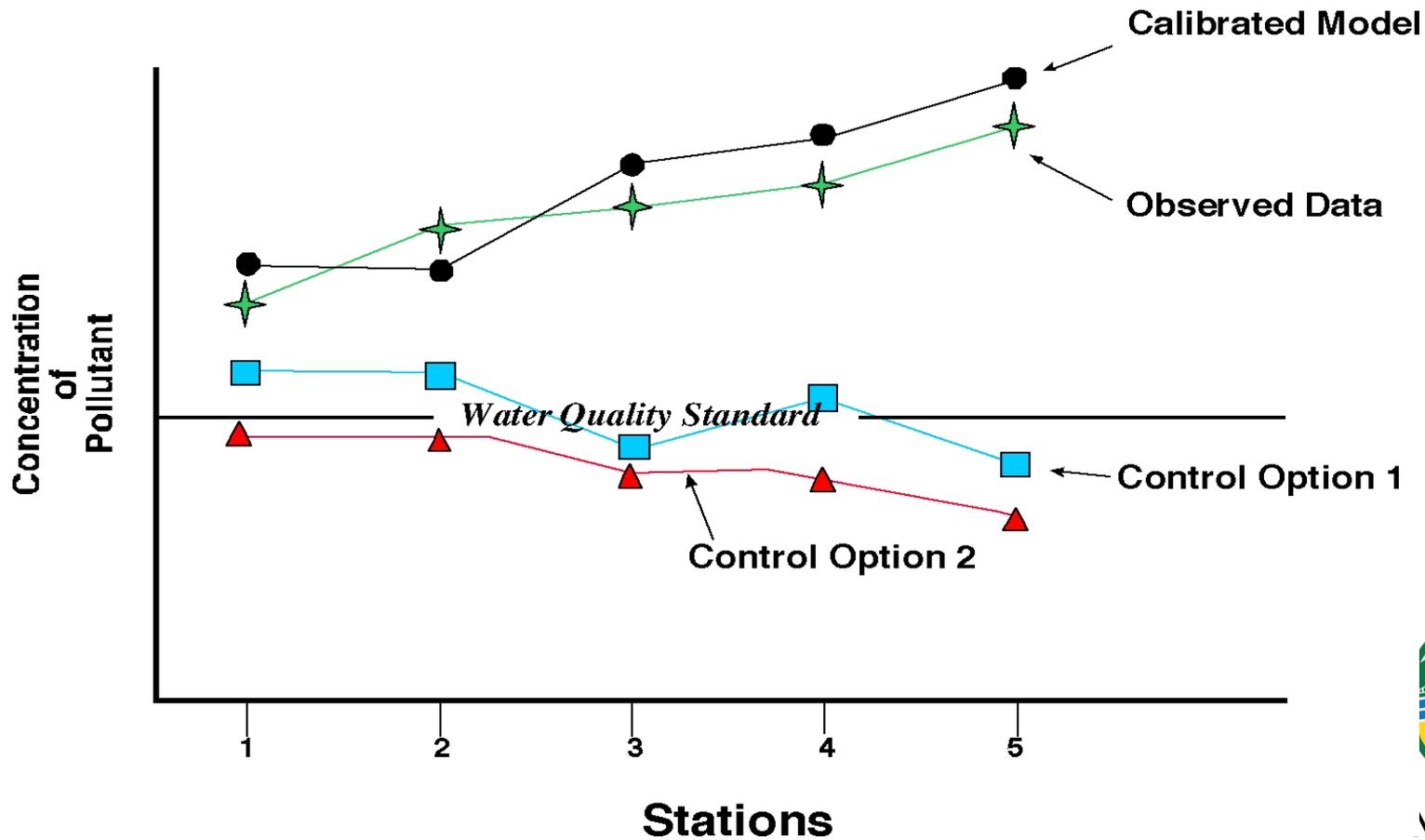
TMDL Modeling Process



TMDL Modeling Process



TMDL Modeling Process



Development Process (cont.)

- **TMDL = WLA + LA + MOS (+ FA)**
 - WLA = Wasteload Allocation to Point Sources (e.g., WWTPs and Regulated Stormwater)**
 - LA = Load Allocation to Nonpoint Sources**
 - MOS = Margin of Safety**
 - FA = Future Allocation (included when applicable)**
- **Currently expressed as a “mass per unit time, toxicity, or other appropriate measure” (40 CFR 130.2(i))**
- **Documentation**



TMDL Review Process

- **Internal MDE review**
- **Interagency review**
- **Preliminary EPA review**
- **Stakeholder/public review**
- **Submission to EPA for review and approval**



TMDL Outreach

- **Notice of Intent to Develop TMDL**
- **Pre-release Notification**
- **30-day Public Comment Period**
- **Notifications of Submittal and Approval**

- **Briefings**
 - **Involvement at request of stakeholders**



For More Information

TMDL Development, Review and Coordination

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