



Maryland
Department of
the Environment

Total Maximum Daily Loads: An Introductory Briefing

Water and Science Administration

March 24, 2022

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)

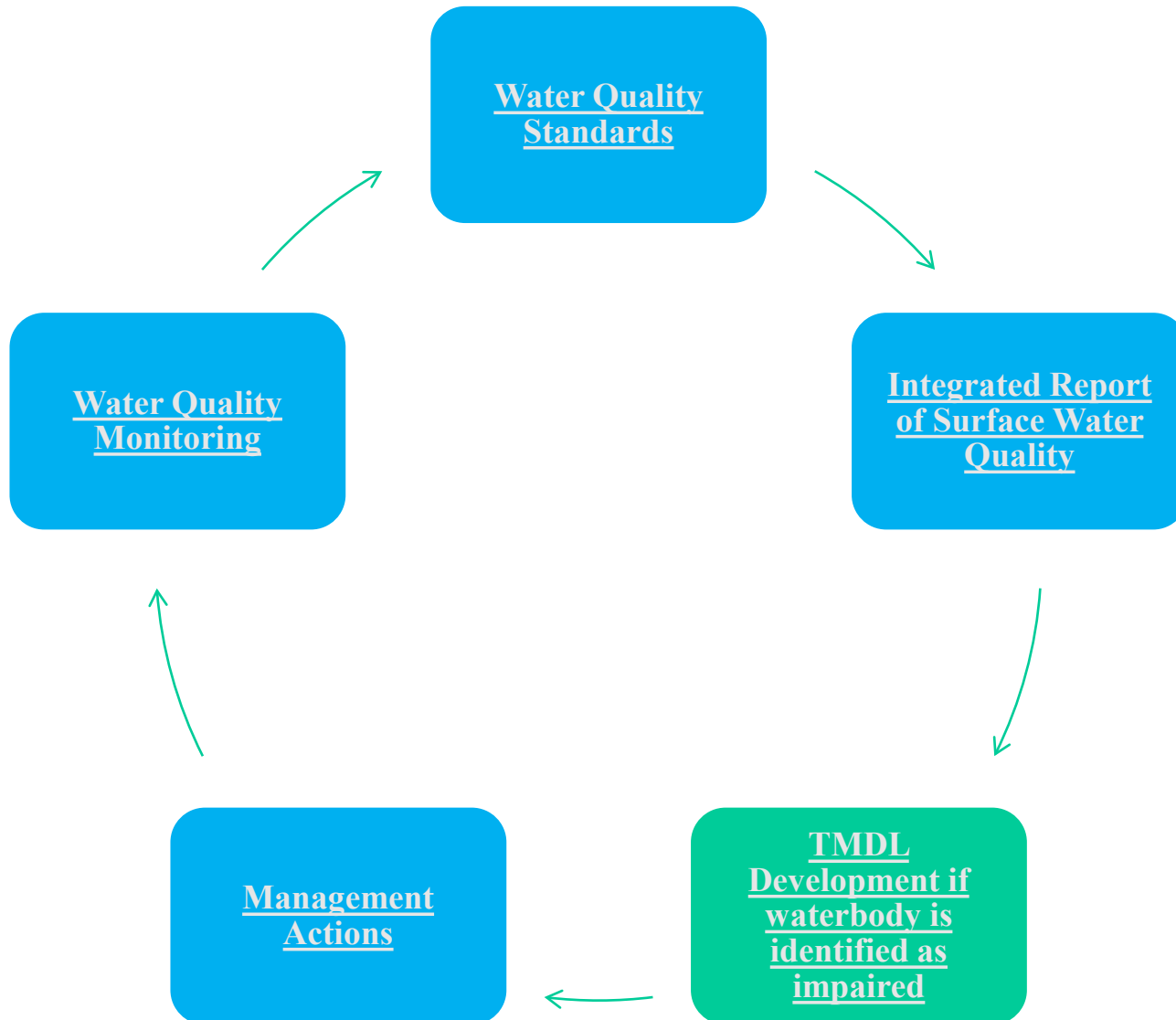


Which Waterbodies (cont.)

- 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 2020-2022 Integrated Report with the list of impaired waters is approved and available on MDE website.



Water Quality Management

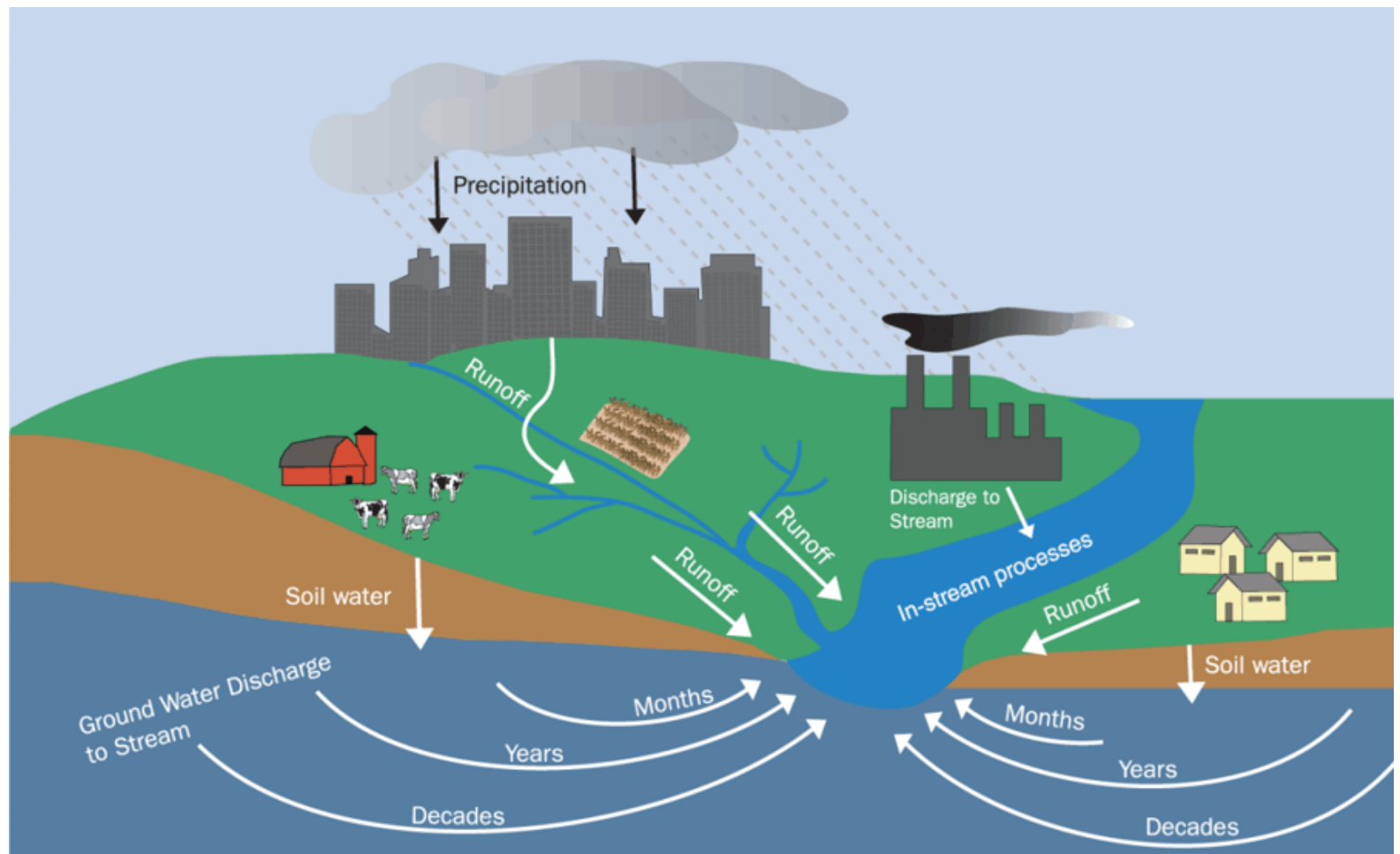


TMDL Development Process

- 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

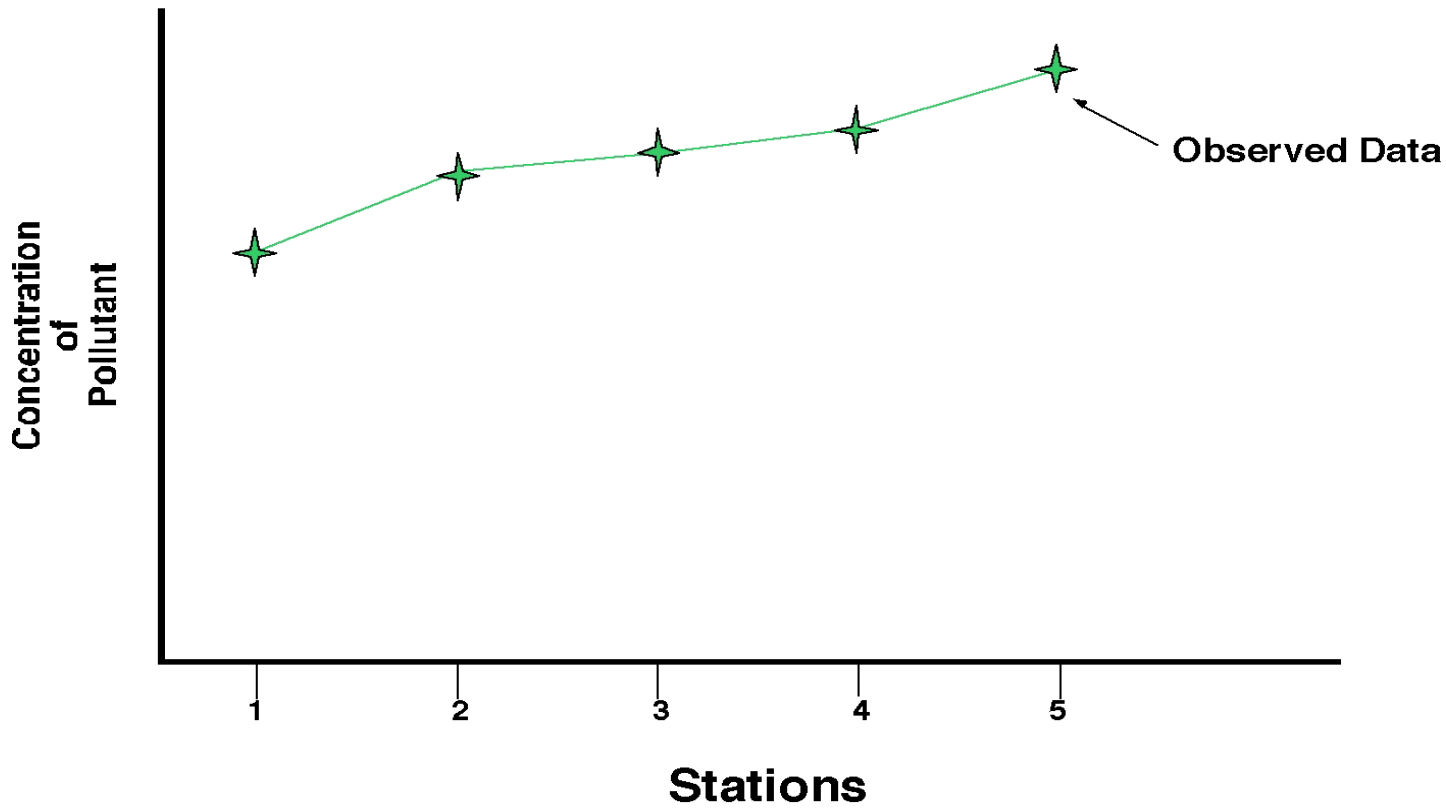


Source: http://ndep.nv.gov/bwpc/source_water_graphic.htm

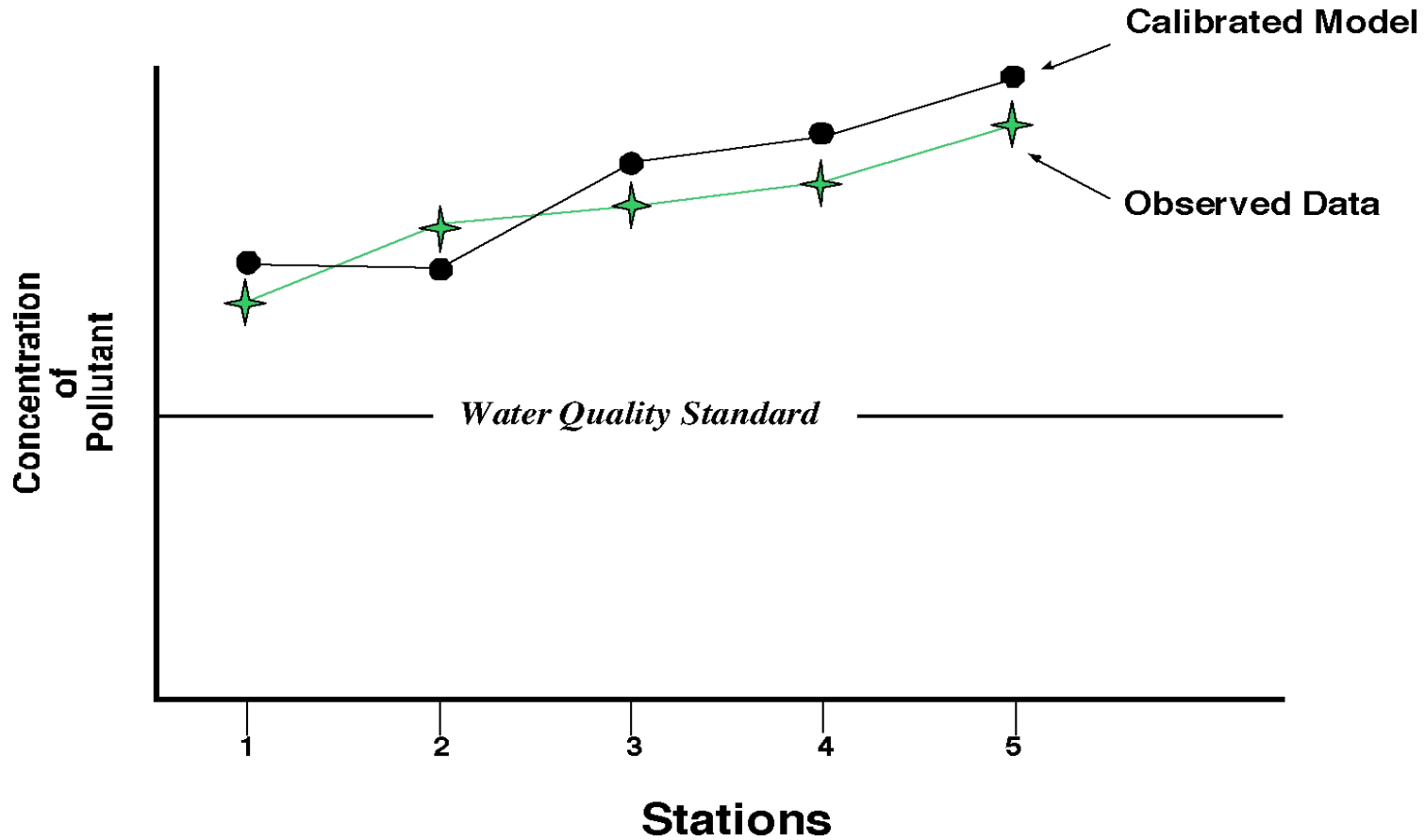


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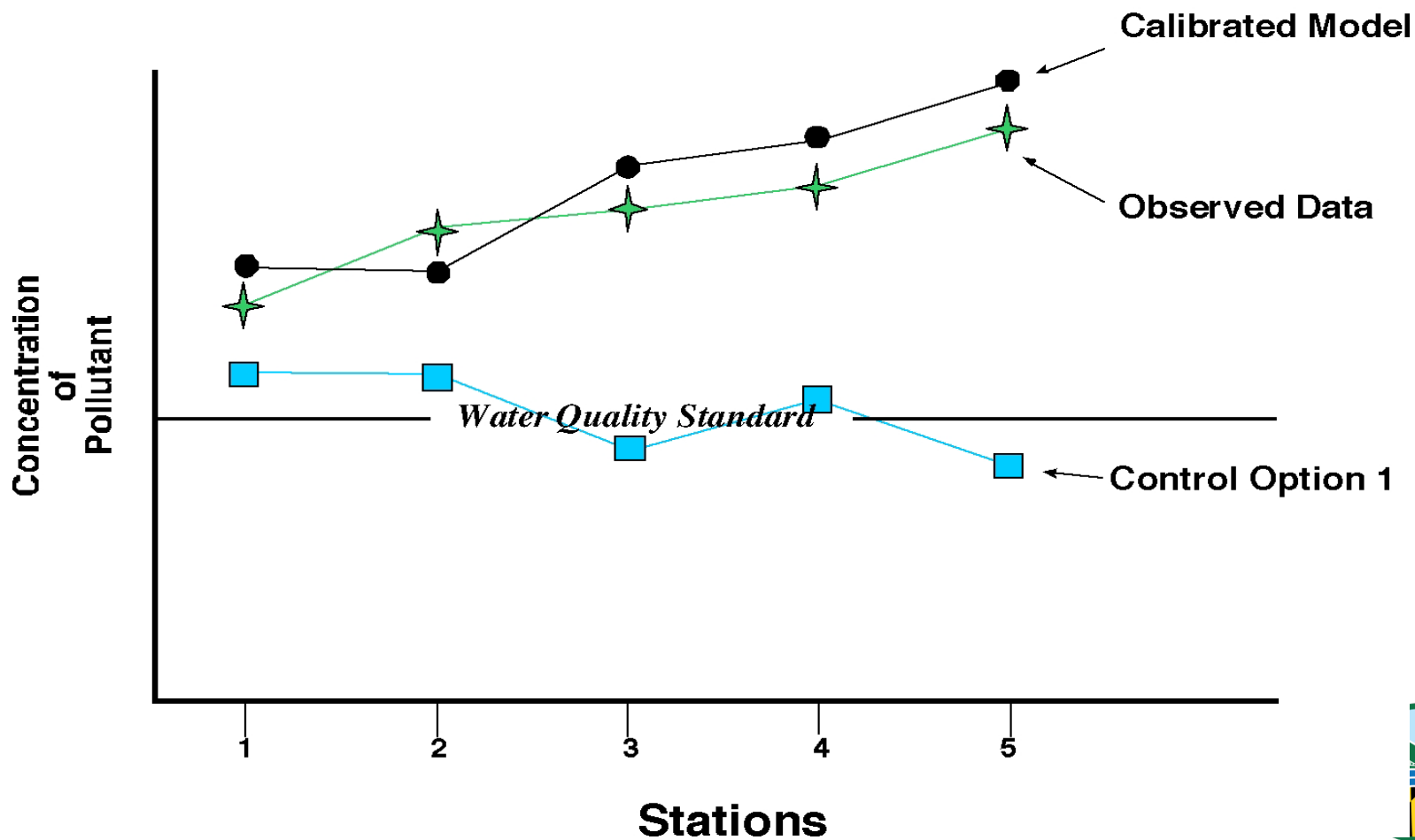
TMDL Modeling Process



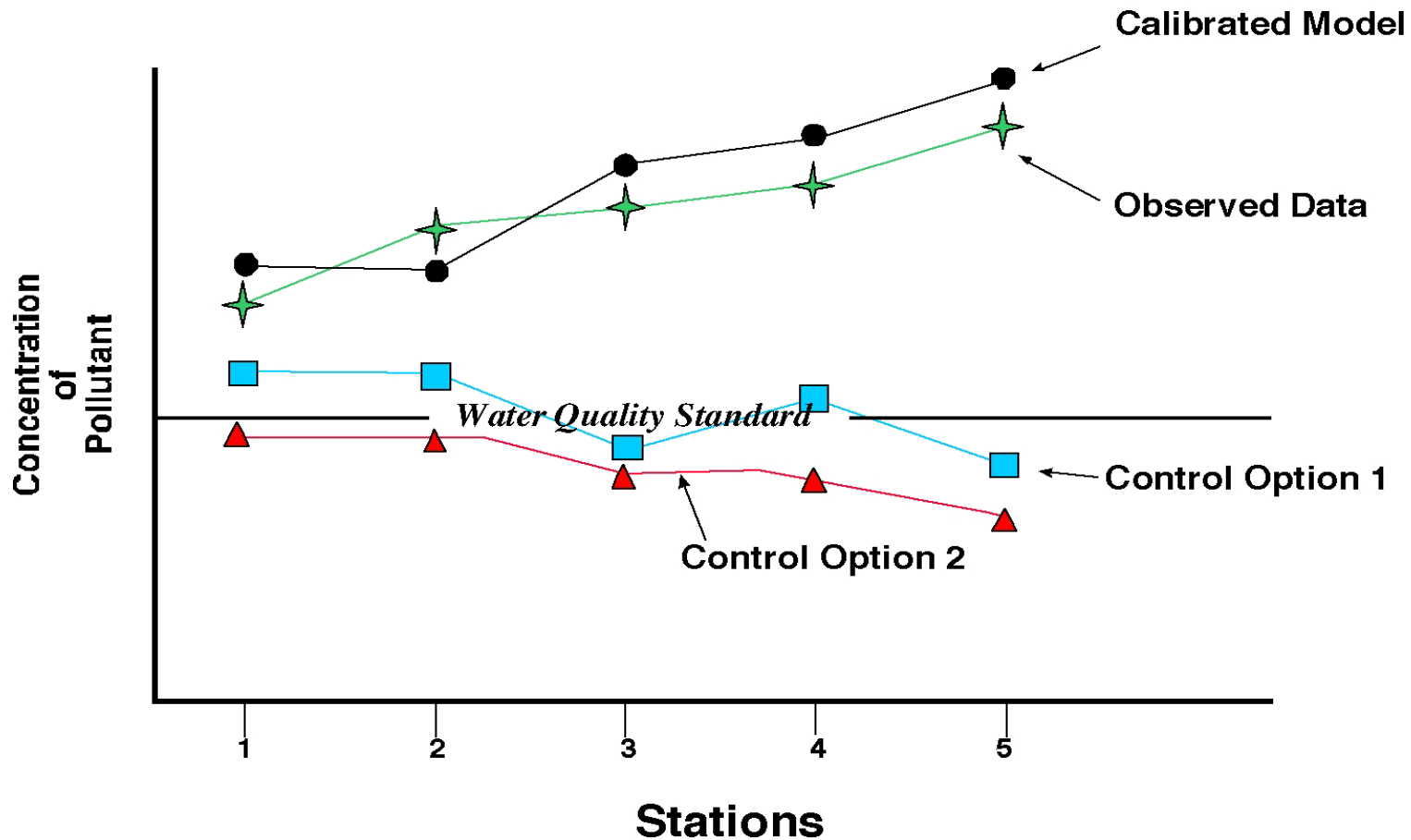
TMDL Modeling Process



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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