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# **Total Maximum Daily Loads: An Introductory Briefing**

**Science Services Administration**

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# What is a TMDL?

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- **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**



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# Which Waterbodies Require TMDLs?

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- **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)**



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# Which Waterbodies (cont.)

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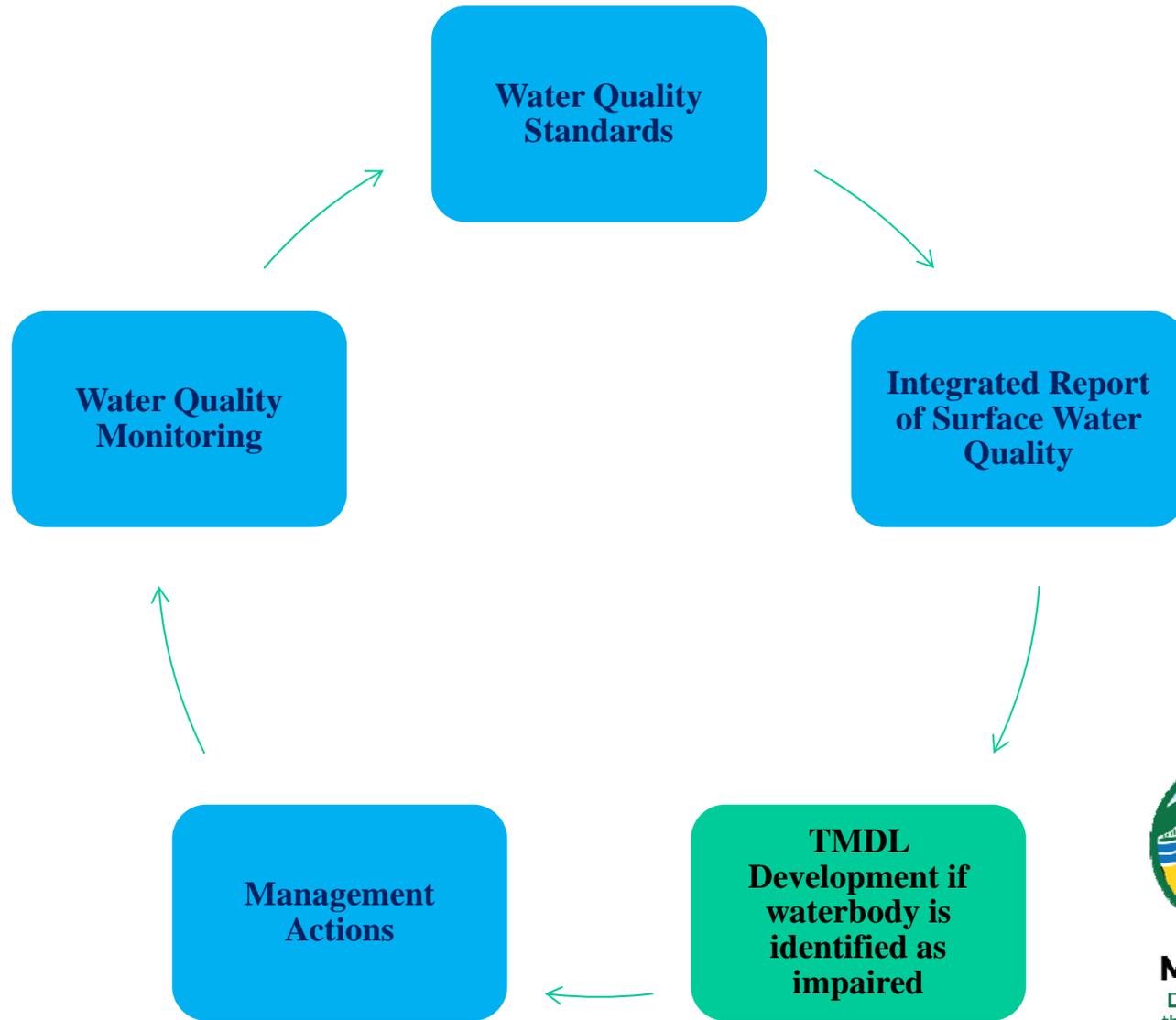
- **The Integrated Report of Surface Water Quality identifies impaired waterbodies [303(d) List]**
- **This list of impaired waterbodies is updated and reviewed every two years.**
- **MD Final 2014 Integrated Report with list of impaired waters is approved and available on MDE website.**



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# Clean Water Act

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# TMDL Development Process

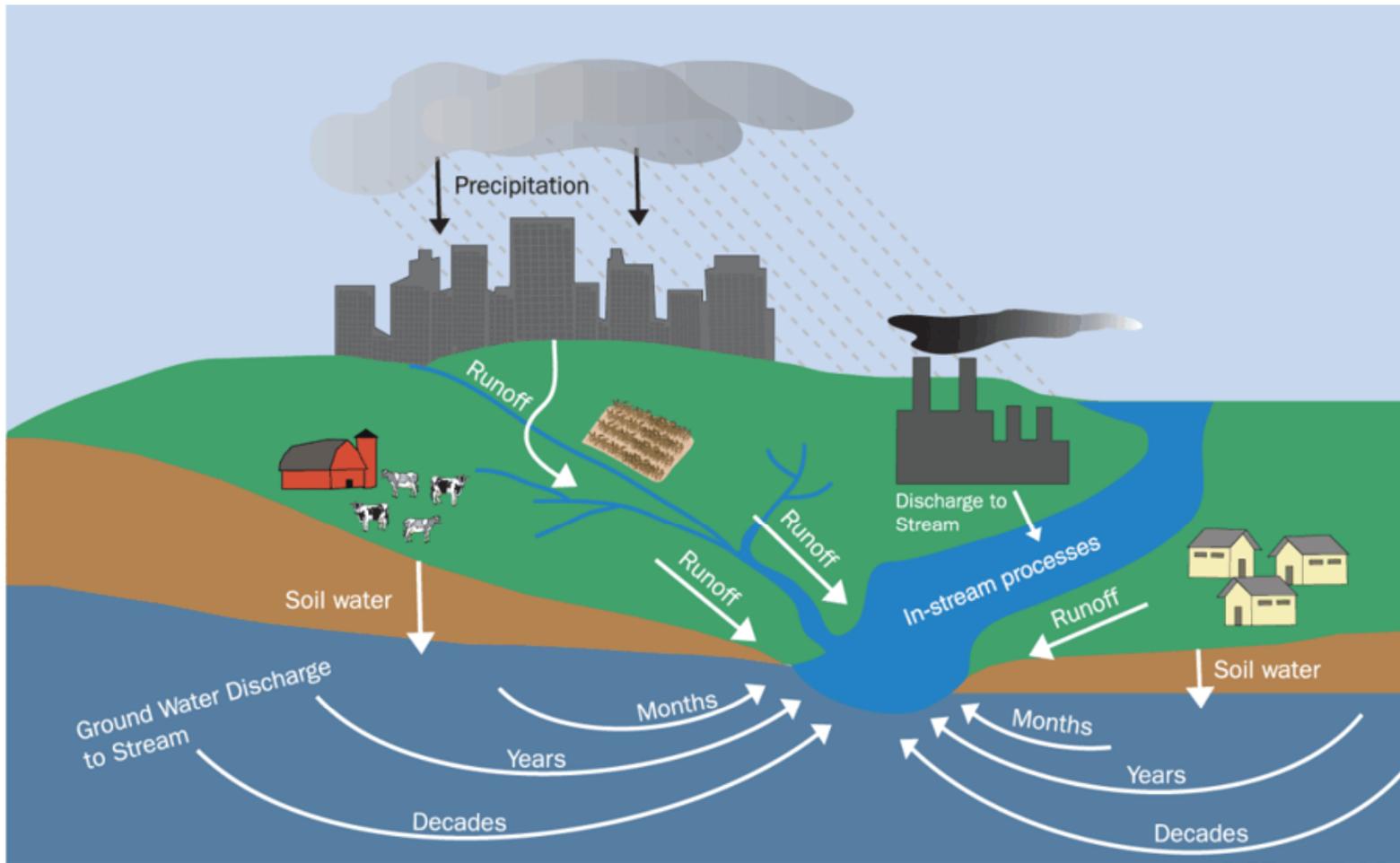
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- **Data collection**
  - **Five-year cycling strategy, additional sampling for TMDL purposes, data solicitation**
- **Data analysis**
- **Selection of an assessment tool**
  - **Depends upon system, complexity of problem, available data, etc.**
-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



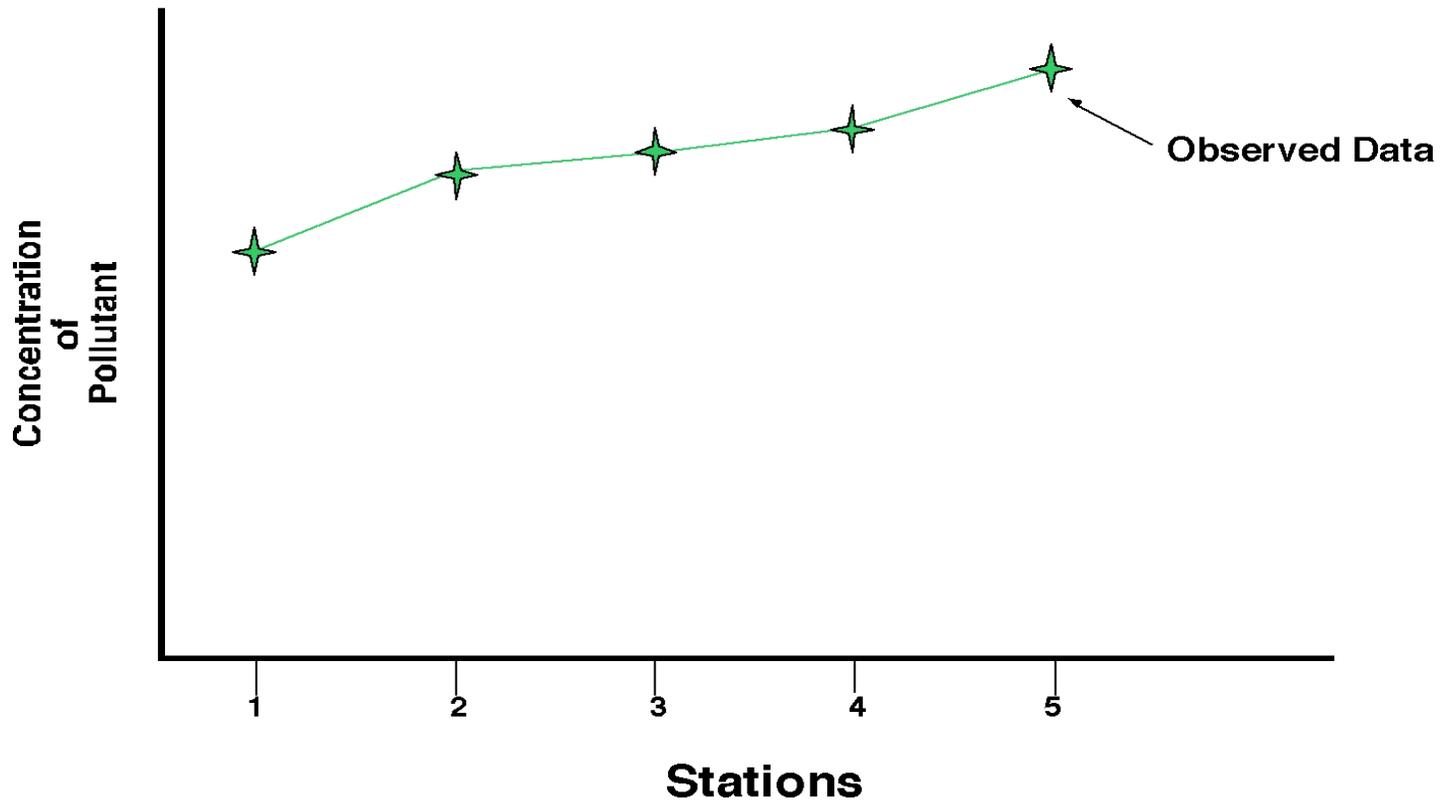
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# Sources of pollutant loads



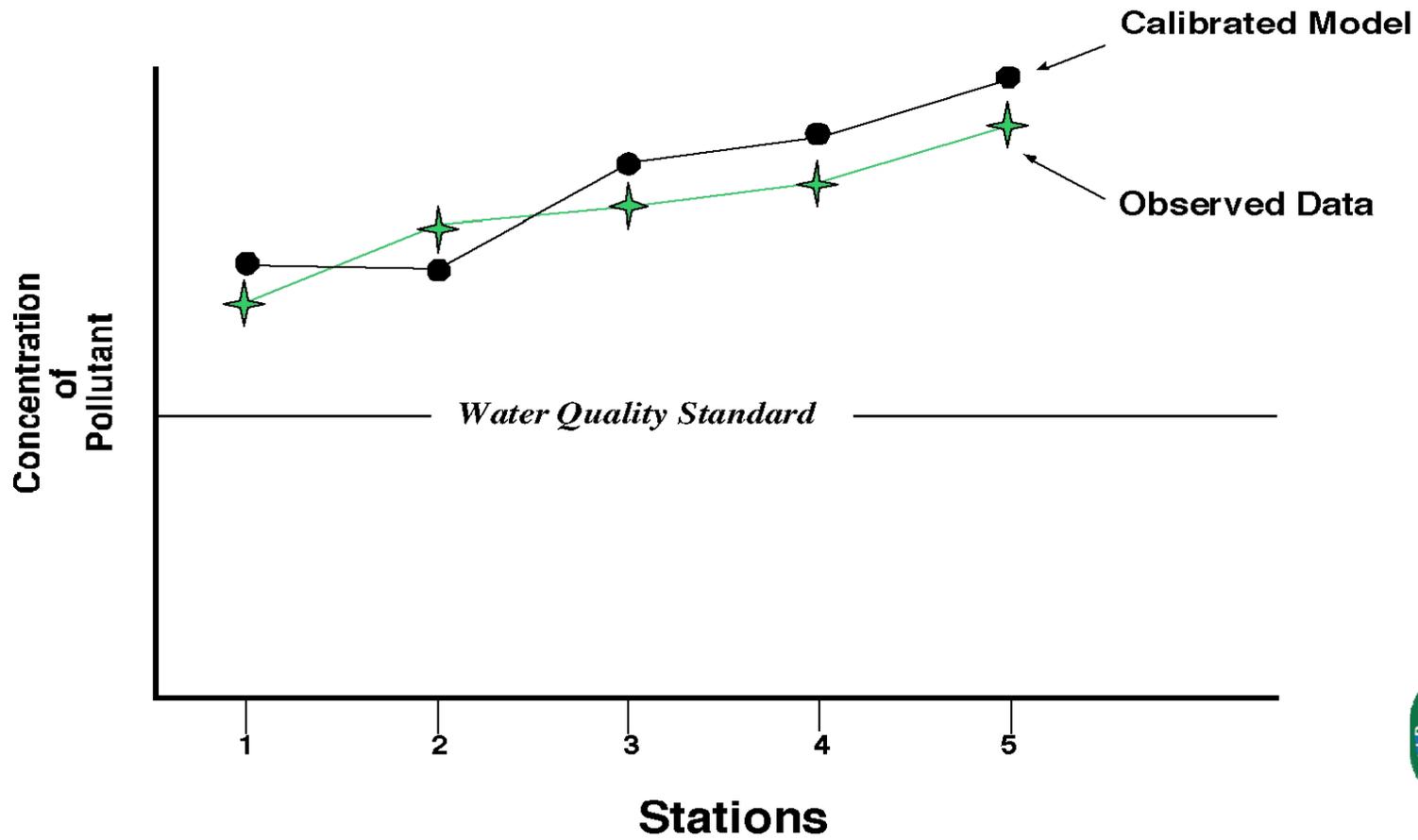
Source: [http://ndep.nv.gov/bwpc/source\\_water\\_graphic.htm](http://ndep.nv.gov/bwpc/source_water_graphic.htm)

# TMDL Modeling Process



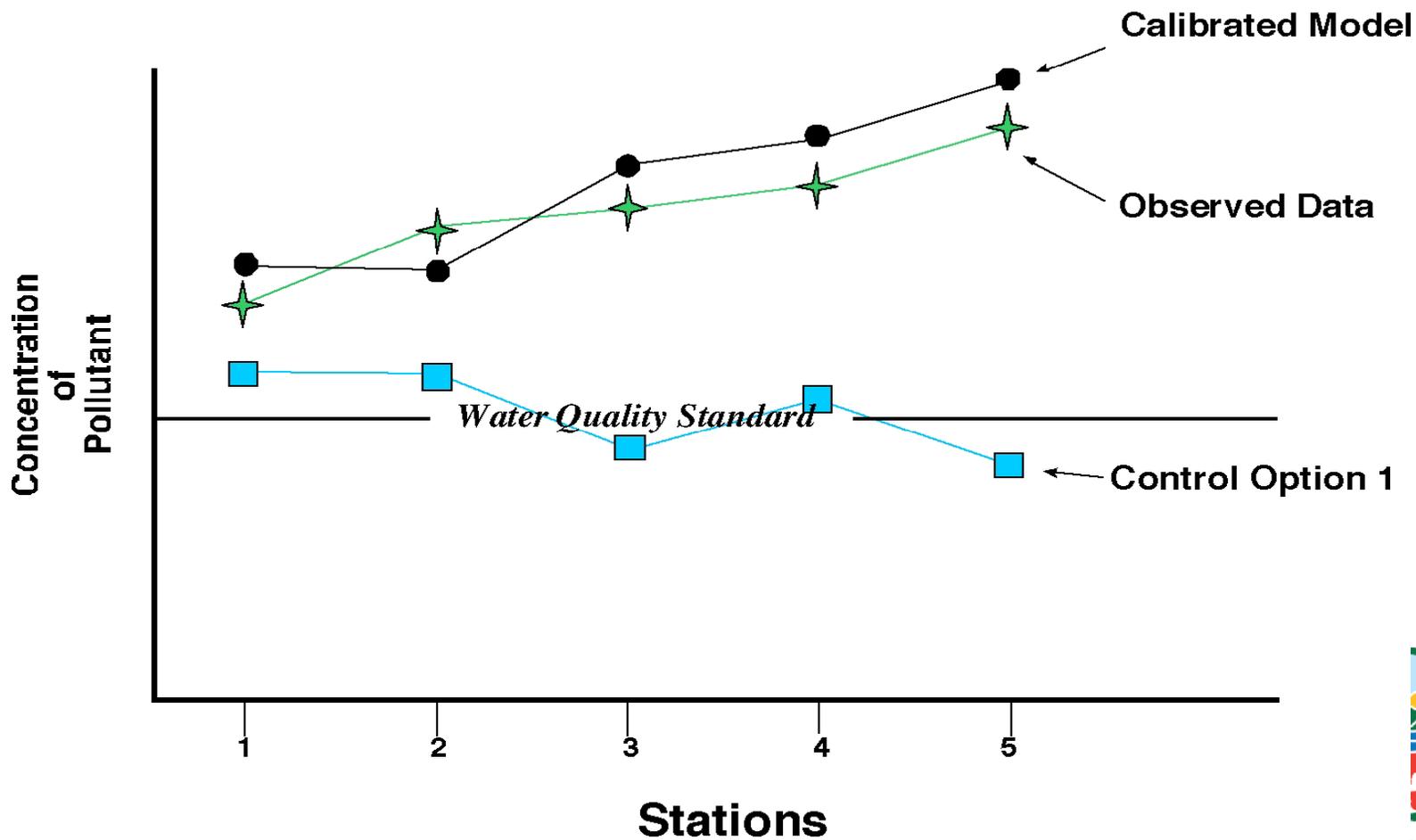
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# TMDL Modeling Process

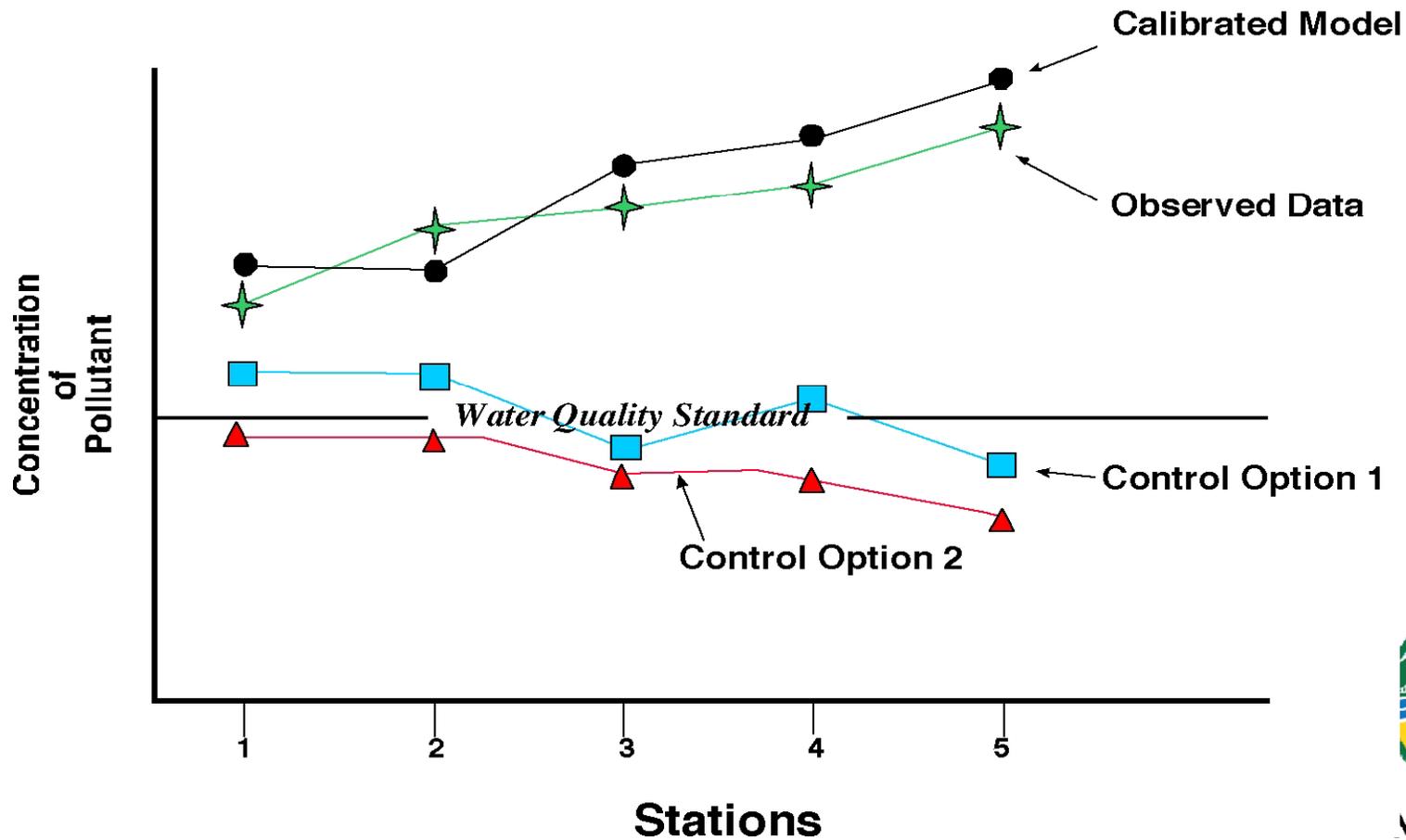


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# TMDL Modeling Process



# TMDL Modeling Process



# Development Process (cont.)

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- **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**



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# TMDL Review Process

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



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# TMDL Outreach

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- **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**



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# For More Information

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## **TMDL Technical Review and Coordination**

**Melissa Chatham, 410-537-3937**

**Melissa.Chatham@maryland.gov**

**<http://www.mde.state.md.us/tmdl>**

1800 Washington Boulevard | Baltimore, MD 21230-1718  
410-537-3000 | TTY Users: 1-800-735-2258  
[www.mde.state.md.us](http://www.mde.state.md.us)



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