



Water Quality Standards

Water Temperature Policy for Bay
Jurisdictions?

State Water Quality Standards = Water Temperature Policy

WQS 101:

- All Bay jurisdictions have Water Quality Standards, approved by U.S. EPA under the Clean Water Act
- WQS protect “beneficial uses” of all waters
- Numerical water quality criteria protect uses
- Examples are water temperature, dissolved oxygen, water clarity and many pollutants.

WQS System for Water Quality Protection

Use designations such as: coldwater and warmwater aquatic life protection

...**Numerical criteria** to protect the use: temperature...

.....Narrative criteria: e.g. “free froms” [toxic amounts...nuisance species]

Monitoring to determine whether WQS are attained

...305(b) reports every 2 years

.....303(d) lists of “impaired waters”

Antidegradation policy for protection of high quality waters

TMDLs: pollutant limits and plans to restore impaired waters

Example: Maryland

Class Water Type	Temperature
Class I Waters: Water Contact Recreation and Protection of Nontidal Warmwater Aquatic Life.	May not exceed 90 degrees F (32°C) or the ambient temperature of the surface waters, whichever is greater
Criteria for Class III Waters: Nontidal Cold Water.	May not exceed 68°F (20°C) or the ambient temperature of the surface waters, whichever is greater.*
Criteria for Class IV Waters: Recreational Trout Waters.	May not exceed 75°F (23.9°C) or the ambient temperature of the surface waters, whichever is greater.*

- Ambient temperature is the water temperature that is not impacted by a point source discharge.
- Ambient temperature shall be measured in areas of the stream representative of typical or average conditions of the stream segment in question.
- **It is the policy of the State that riparian forest buffer adjacent to Class III, IV waters shall be retained whenever possible to maintain the temperatures essential to meeting this criterion.*

Example: DC

- Class C streams shall be maintained to support aquatic life and shall not be placed in pipes.
- 1104.8 Unless otherwise stated, the numeric criteria that shall be met to attain and maintain designated uses are as follows

	Temperature (°C)
Maximum	32.2
Maximum change above ambient	2.8

- At temperatures greater than 29°C, in tidally influenced waters, an instantaneous minimum dissolved oxygen concentration of 4.3 mg/L shall apply.

Temperature WQS Were Set Long Ago...

- The focus was to regulate power plants and other heated discharges.
- THE SYSTEM IS THERE... BUT THE PROBLEM HAS CHANGED
- Climate-driven air temperature increases and land use patterns are driving water temperature
- HOW DO WE “MODERNIZE” THE WQS SYSTEM TO MEET THIS NEW REALITY?

Modernizing WQS- Management

- Emphasize WQS as state water temperature policy for climate-changing times.
- What to review and modernize? Use zones? Criteria? Monitoring methods?
- Coldwater streams designated as “exceptional quality” would benefit from stronger anti-degradation policies
- How could interstate cooperation in the CBP help?

Modernizing WQS-Science

- Climate-smart temperature monitoring networks and methods
- Fine-scale mapping to identify priority monitoring areas (e.g. ID where land uses worsen water temperatures)
- Federal-state cooperation on assessment methods
- WHAT MORE?