How Changes to the MA Water Management Act Can Help Achieve Resilience for Our Rivers

KEY POLICY MESSAGES

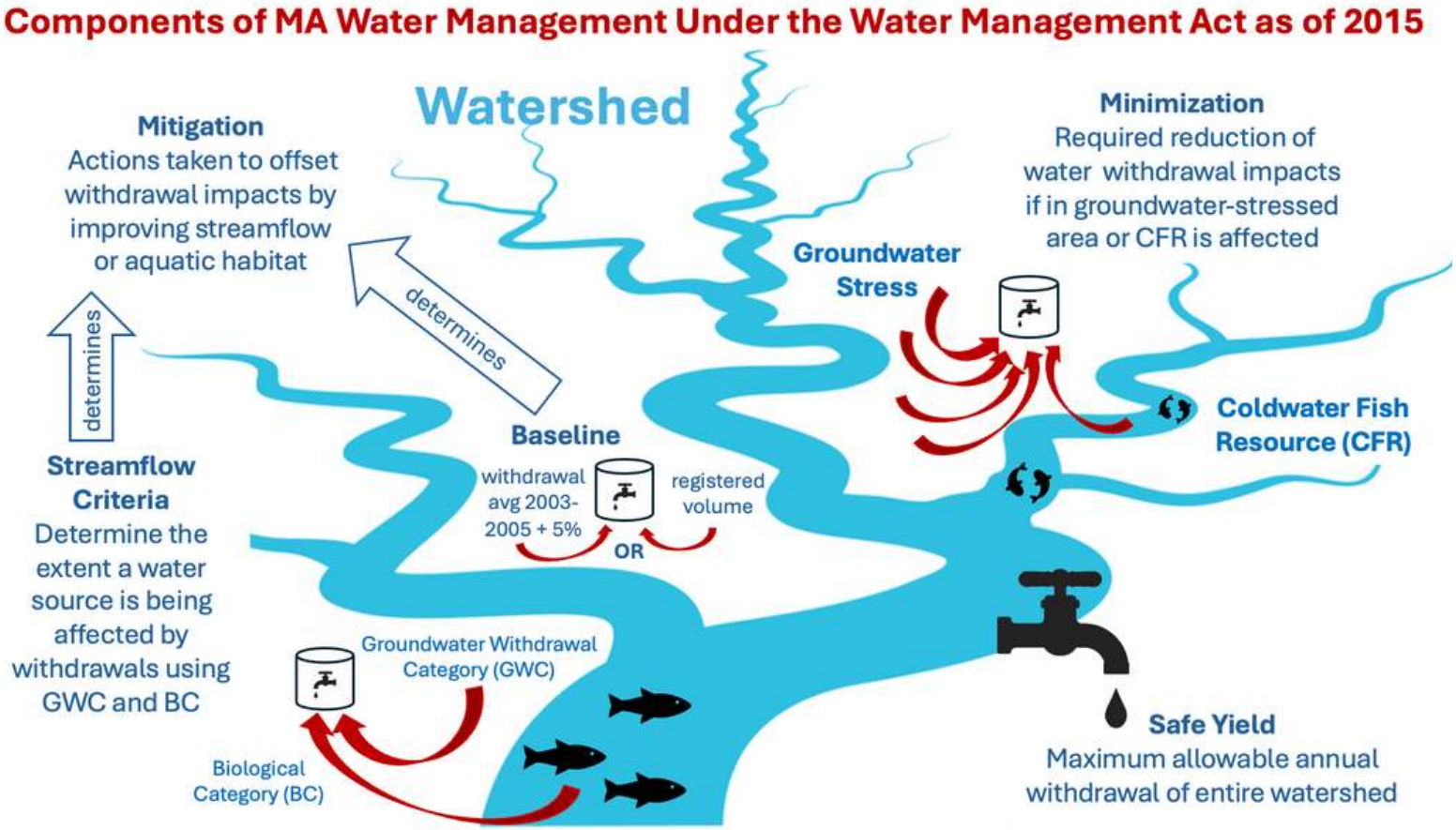
- **To achieve climate resilience, Massachusetts must employ science-based methods to manage water withdrawals from the Commonwealth's rivers. Achieving the state's goals of ensuring prudent and sustainable use of water requires the Massachusetts Department of Environmental Protection (MassDEP) to use its authority to put watersheds on a path to restoration.**
- **The Massachusetts Water Resources Commission should use its statutory authority to develop new principles, policies, and guidelines to ensure that the public water supply system meets all drinking water standards, protects the environment, and fulfills the water needs of communities.**
- **When water use permits are renewed every 20 years, water quality proponents and local watershed groups must seize the opportunity to get involved and advocate for more protective permit conditions for our watersheds.**

THE WATER MANAGEMENT ACT AND SUBSEQUENT REGULATIONS

Since 1986, MassDEP has been responsible for striking a balance between the water needs of people and the health of the environment under the state's Water Management Act (WMA). The WMA authorizes MassDEP to grant large water users, like municipalities and industrial sites, **10-year registrations and 20-year permits** to withdraw water for municipal water supply or other commercial, agricultural, or industrial uses. After recognizing that the WMA and its regulations were failing to protect stream flows across the Commonwealth, the state conducted the Sustainable Water Management Initiative (SWMI) from 2010-2014 to improve water protections in Massachusetts through revisions to the WMA (*see figure for WMA components and mechanisms produced by SWMI*). However, the SWMI process stopped short of achieving the twin goals of science-based water management and climate resilience. As a result, aquatic resources across Massachusetts are still heavily impaired by water withdrawals, and will continue to be so unless policy changes are made.

WMA Problems Identified: Mass Rivers' Water Withdrawal Permit Assessment

Mass Rivers conducted an in-depth review of WMA permits issued since 2015 to determine the extent of compliance with the SWMI regulatory pathways (for a fuller explanation of SWMI regulatory pathways, see Mass Rivers' Research Brief). Mitigation tracking logs obtained from MassDEP were utilized to analyze the permitting program and to cross-check the data retrieved from the permit review. What follows is a quick guide to our assessment of how the permit system functions by each of its components.

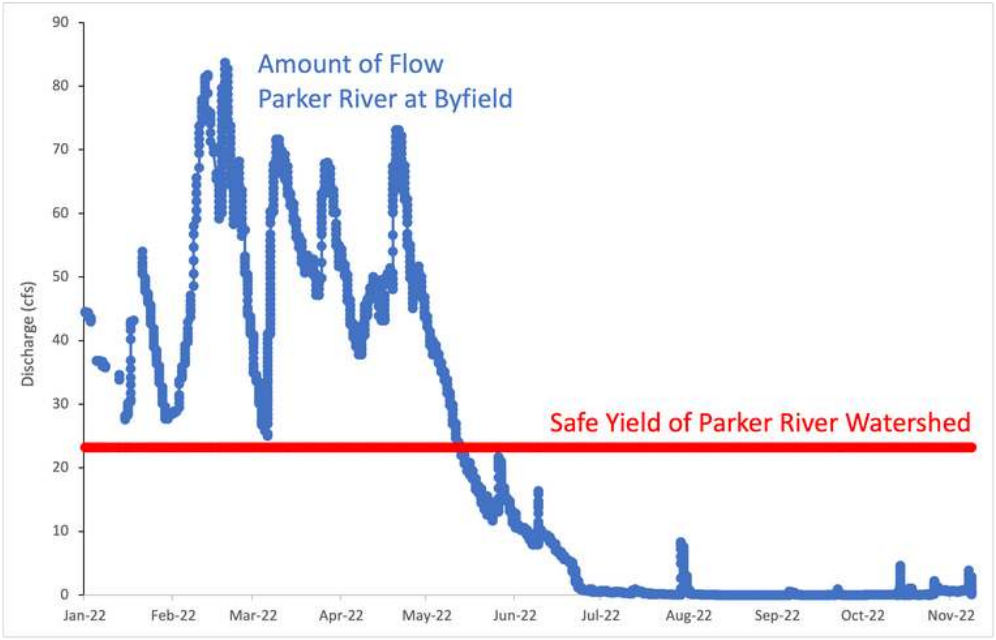


Infographic designed by Lydia Olson, Technical Specialist

Safe Yield

Water can be withdrawn by a user at any location in one of the 27 watersheds of Massachusetts on any day of the year, if total withdrawals of all water users for the entire watershed do not exceed the calculated Safe Yield. However, water supply can vary widely both by source within the watershed and by season. This discrepancy results in a safe yield that can be greater than the entire amount of water in a water source at certain times of the year (see Parker River figure).

Safe Yield should instead be determined on a localized, sub-basin scale (hydrological subset of a watershed).

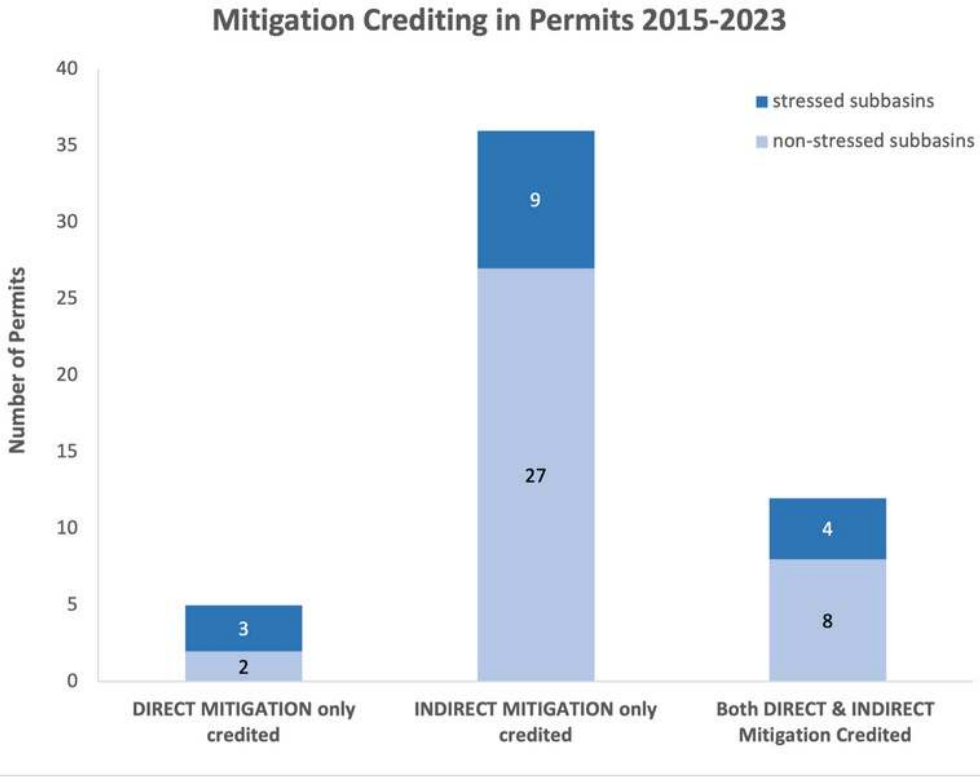


2022 Streamflow vs. Safe Yield for the Parker River at Byfield

Baseline

If water withdrawals are greater than a permittee's baseline (*see WMA Components figure*), a permittee is required to implement mitigation. High water use in the early 2000s determined that baselines were set much higher than current use levels, resulting in little to no mitigation in many cases statewide. Additionally, new permittees are exempt from mitigation requirements since they have no baseline against which to measure mitigation, as they were not withdrawing during the baseline period from 2003-2005.

Mitigation Credits



The revised regulations give permittees discretion to determine how to meet mitigation requirements. The prevalence of indirect mitigation use (activities that benefit the aquatic environment but do not enhance streamflow) to meet regulatory requirements impedes streamflow improvement. In addition, permittees can use mitigation activities completed since 2005 to meet the prescribed requirements.

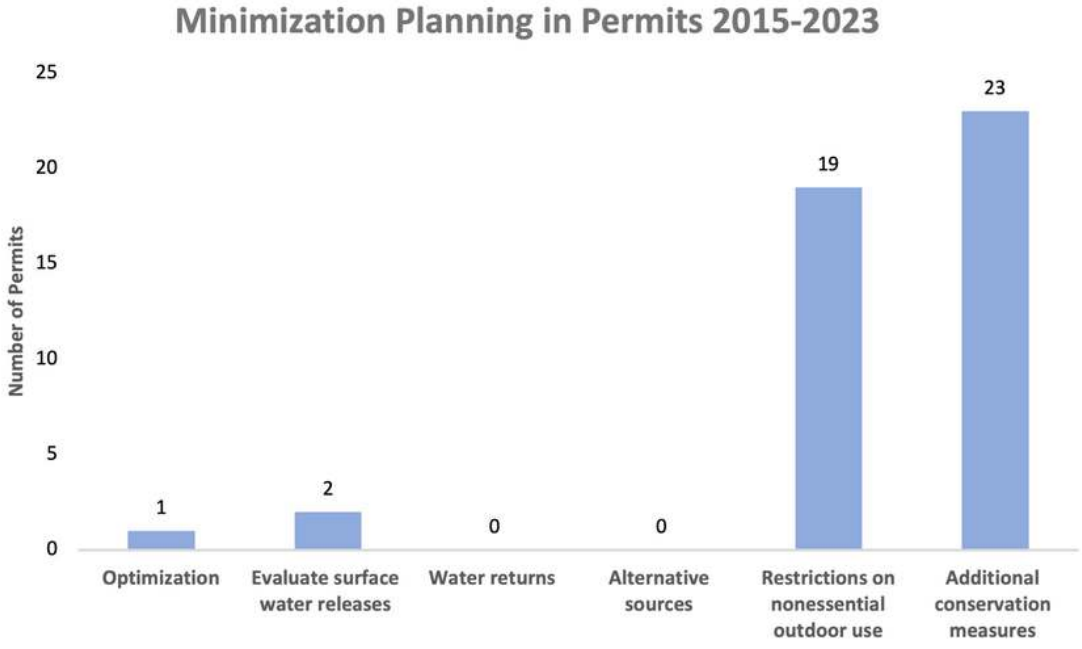
Under these flexible crediting parameters, the majority of mitigation activities implemented have been retroactive and indirect; there have been minimal actions that provide direct improvement to stream flows.

Minimization Plans and Alternative Sources

Nearly all minimization plans rely heavily on water conservation. While conservation measures will help lessen withdrawal impacts, groundwater stress will not be minimized solely through demand management.

Additionally, half of water users have no minimization requirements because the state has never established streamflow criteria data for groundwater-driven coastal watersheds.

Minimization plans also specifically neglect to require implementation of alternative sources, even though most withdrawals are occurring in areas that are classified as depleted.



Even when alternative sources are analyzed, the current practice only obligates permittees to explore existing sources and interconnections, which disregards potential new sources from being evaluated.

RECOMMENDATIONS TO IMPROVE WATER MANAGEMENT IN MASSACHUSETTS

The Massachusetts Rivers Alliance believes that we must achieve the original restorative promise of the Sustainable Water Management Initiative. Achieving this goal will require significant improvements in the implementation of the WMA program. As the regulations stand today, MassDEP has the authority to address the impacts of withdrawals by imposing additional or alternative requirements through its water allocation permitting. This authority must be exercised to the greatest extent possible to restore streamflow and improve resiliency in degraded watersheds. To that end, changes to the WMA program must do the following:

General

- **Incorporate anti-degradation provisions for healthy sub-basins such that no further degradation of categories is allowed.**
- **Include requirements to improve the condition of stressed sub-basins over the 20-year permit period such that the impacted subbasin is restored. This condition should include: decreasing water withdrawals, using alternative sources outside of the subbasin, implementing future direct mitigation activities to return water and enhance streamflows, and/or minimizing existing impacts beyond actions to conserve water or reduce demand.**

Safe Yield and Baseline

- **Revise the safe yield methodology to be applicable by season and subbasin, rather than an annual, major-basin scale.**
- **Eliminate the baseline provision and utilize the most current water use data available when making mitigation and allocation decisions.**
- **Develop streamflow criteria for groundwater-driven watersheds, and revise streamflow criteria for all watersheds, to properly account for the impact groundwater has on streamflow.**

Mitigation and Minimization

- **Eliminate retroactive crediting for mitigation.**
- **Require the implementation of new direct mitigation actions over the 20-year permit period through an earn-as-you-go approach for users (i.e. users must show they've made progress with mitigation before increasing their allocation).**

In conclusion, while the WMA and its regulations are complicated, the problem with them is simple – they do not protect the health of our rivers and streams. **The regulations allow too much water to be withdrawn, at the wrong times of year, from the wrong places.** The regulations should instead ensure that the public water supply system meets all drinking water standards, protects the environment, and fulfills the water needs of communities. By requiring additional conditions of both permitted *and* registered water users in stressed subbasins, the state will put watersheds across the Commonwealth on a path towards restoration. An essential restorative path is even more urgently needed as the pace of climate change accelerates, bringing increases in the frequency and intensity of both droughts and floods.

This policy brief was prepared by Lydia Olson, Technical Specialist and Monica Driggers, Deputy Director at the Massachusetts Rivers Alliance. Any questions or comments can be directed to info@massriversalliance.org.

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