

Legislative Water Commission- 2019 Legislative Recommendations:
Groundwater for the Future
June, 2018
DRAFT, for Discussion only, JRS

Minnesota is a water-rich state with a great deal of water stored in aquifers, lakes and streams. We are not running out of water. However, in many parts of the state we are using so much water that aquifer levels are declining and we are affecting our streams, lakes and wetlands and the ecosystems that rely on water. In those areas, we are approaching limits to water sustainability.

Water sustainability is a complicated topic. The sustainable use of water is based on an assessment of the consequences of withdrawals and human priorities for water. Like our personal bank accounts, any use of water has an effect on our balance. The real question we need to address is this: "What do we, as a state, want to sustain?" If the answer is to maintain the wetlands, lakes, and streams at un-impacted levels, less groundwater will be available for other purposes. Alternatively if we are willing to allow some degradation of our surface water, groundwater can be withdrawn from groundwater sources.

Much has been written about water sustainability in our state and many plans have been made. These plans are summarized in the document. State agencies, and their partners, have made good progress in collecting the information needed to understanding the effects of groundwater withdrawals on aquifers, surface waters, and on aquatic ecosystems. A great deal has been accomplished through funds from the Legacy amendment. However, agencies and the legislature could be doing more to ensure that we maximize benefits of water while minimizing adverse impacts by making changes to our legislative and regulatory systems to empathize the value of water. The document contains a short history of the state's progress on achieving progress toward having sufficient and clean ground water, for the future. The following list is intended to cover the most important steps forward. At this time this list does not represent the consensus of the Legislative Water Commission, state agencies, or our many partners and stakeholders.

1. **Data, Information and Analysis:** Maintain and enhance water information and monitoring programs. Continue and accelerate the County Geologic Atlas Program. Increase emphasis on collecting information to understand groundwater and surface water interactions. Prepare a strategy for generating and managing information needed to integrate water-sustainability assessment results into regulatory programs on a statewide basis. Support systematic water sustainability assessments by re-assessing data programs in order to collect the data that are needed.
2. **Water Bank Accounts:** Incorporate more robust water- budget information into water planning. Improve our understanding of statewide water balances (bank account) and water sustainability by enhancing the one watershed/one plan programs. Use existing information about groundwater recharge, streamflow, and water use to identify priority for sustainability implementation, based on objective criteria. Use this analysis to assess priority areas for future groundwater management area programs.
3. **Enhance the Water Appropriation Process:** Develop an automated water-appropriation tool that assesses streamflow deletion based on the cumulative effects of groundwater pumping (Michigan example). This could simplify the appropriation-permit process for small appropriators. Criteria could include pumping volumes relative to watershed size, median streamflow and stream thermal regime. Expand the DNR's authority to designate water-resources management areas. Expand the DNR's authority to adjust appropriations when needed.
4. **Groundwater Analysis and Modeling:** Increase efforts to construct and apply groundwater models, like the Metro Model, to assess regional groundwater availability and sustainability. Incorporate groundwater modeling into watershed planning in areas of groundwater concern. Enhance and expand the DNR's groundwater management program.
5. **Economic Analyses:** Assess the costs and benefits of ensuring water sustainability. Quantify the economic value of ecosystem services provided by adequately managed streams and lakes. *Assess problems and cost associated with of aging infrastructure and leaking water system.*
6. **Groundwater Recharge and Re-Use:** *Allow for managed recharge. Protect areas where enhanced recharge makes hydrologic sense. Assess and allow water reuse where appropriate.*

7. **Inter-jurisdictional water planning:** Support and encourage processes such as the Metropolitan Council's regional planning and coordination process and the DNR's groundwater-management area process. Use that process to explore options for conjunctive use and water
8. **Enhance our understanding of the connections between Hydrology and Aquatic Biology:** Increase programs to understand the interrelationships between hydrology and aquatic ecology as well as the associated eco-services. Continue to develop criteria for assessing the critical water levels or flow conditions required to support ecosystems. Include in these analyses habitat- and population-based minimum flow, high flow protection standards for habitat-forming and silt-flushing high flows, protections for downstream needs, and protection for natural variability of flows over time (hydrograph shape).
9. **Groundwater/Surface Water Interactions** Develop a program to better integrate groundwater/surface water interactions into rule. Increase programs to collect information to understand groundwater and surface water interactions.
10. **Increase program to understand the interrelationships between hydrology and aquatic ecology as well as the associated eco-services**
11. **Importance of Sustainable Water:** Dedicate a portion of Clean Water Funds for water sustainably efforts. Establish a Clean Water "Sustainability Committee"