



2007 State of Iowa Water Plan Proposal
Iowa Environmental Council

*“When the well’s dry, we know the worth of water.”
Benjamin Franklin*

2007 Water Workgroup

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The goal of implementing a State Water Plan is to establish a framework in which to restore, preserve, and enhance Iowa's ground and surface water resources. A State Water Plan is needed to provide improved coordination of government programs and private actions to maintain and enhance the quality of life, benefiting both people and the natural environment. Creation of a State Water Plan demonstrates firm leadership in water resource management and accountability for achieving the goals and objectives, as outlined in this document. **Further deterioration of Iowa's water quality is no longer acceptable to the citizens of Iowa. The public is demanding improved water management that will lead to improved water quality.**

Water is the lifeblood of Iowa. Water sustains healthy citizens, cities and rural communities, agriculture, business and industry and our natural environment. Water is also a source of inspiration for artists, writers, and musicians; and a source of recreation, entertainment and enjoyment for families and friends. The value of Iowa's waters is immense. Just as people depend on water for life, water depends on people. Water resource planning is imperative to improve and protect these resources for current and future generations of Iowans.

The last comprehensive state water plan in Iowa was completed in 1978. The *1978 State Water Plan*, funded by the state legislature, took three years to complete. The report addressed major water problems in nine functional areas and recommended policies and programs to solve current problems and to prevent future problems. This report was to evolve into Phase II, implementation of the plan. Some portions of this plan were implemented, but the plan did not provide a mechanism for ongoing water planning. Since the 1978 plan was completed, other plans and programs have been developed to update or build on the 1978 plan; however these plans and programs have not been integrated into a comprehensive plan for water management, and have not created the momentum or structure to prevent degradation of many ground and surface water sources in Iowa. These other plans and programs include:

- 1985 Water plan to address water quantity issues following several years of drought
- 1987 Groundwater Protection Act to protect the quality of Iowa's groundwater
- 2000 Water Monitoring Plan to update and expand the states surface and groundwater monitoring efforts
- 2001 Watershed Task Force Report to develop an integrated framework for watershed protection
- 2003 Governor's Water Summit to identify consensus solutions to Iowa's water quality problems and outline steps Iowa can take to achieve the goal of eliminating impaired waters
- 2005 Watershed Improvement Review Board developed to support local watershed projects
- 2007 Watershed Water Quality Taskforce to recommend voluntary approaches to improve water quality

While progress has been made since the 1978 Water Plan, these actions have not resulted in the needed improvements in water quality and water conservation. These efforts to address Iowa's water resources will be more effective if they are integrated into a systematic approach to water management. Gaps in our water management system need to be identified and incorporated into a comprehensive water management plan. This document is presented as a recommended framework for a comprehensive, integrated approach. Such an approach is especially needed now as demands on Iowa's ground and surface water resources continue to increase. Iowans have put a significant amount of resources toward reducing point source pollution from industries and municipalities. A plan to deal with non-point sources of pollution from agricultural and urban runoff is now needed, at a similar scale, to make progress in this area. A sustainable water management plan is needed to better understand water resources and the current and future demands on these resources.

Water resource planning requires the application of scientific principles of hydrologic and environmental engineering, economics, system analysis, and information management for the purpose of predicting the availability and managing water resources. Management involves a process of planning, implementing, evaluating, reacting, and altering the process as appropriate. Management processes will provide credible information to assist in identifying, comparing, and evaluating optimal standards and alternative solutions to ensure adequate water quantity of acceptable quality at all times.

As guardians of Iowa's water resources, the Governor and Legislature are accountable for managing these resources to meet or exceed all state and federal regulatory requirements. The State Water Plan would be the framework for water resource planning and management that will ensure regulatory compliance and achieve the following objectives for the benefit of all Iowans.

- **Objective 1:** Ensure all citizens are served by adequate supplies of potable water for drinking and safe water for recreation to protect and enhance their quality of life, by fully implementing, enforcing and monitoring a State Water Plan.
- **Objective 2:** Provide a sustainable cost-effective management system to ensure appropriate control, utilization, and protection of the quality and quantity of surface and groundwater resources of the state that will serve the best interests of all Iowans and assure the ecological integrity of Iowa's natural areas.
- **Objective 3:** Develop emergency contingency plans and prepare Iowans to modify their level and pattern of water usage during times of flood, drought, or other disasters.
- **Objective 4:** Enable expeditious evaluation and implementation of new technology that improves and protects water resources.
- **Objective 5:** Provide flood plain management that protects life and property, and minimizes impacts to important natural areas.
- **Objective 6:** Include a public education campaign to generate positive and lasting support for water quality protection and water conservation practices at all times.

The State Water Plan objectives will be accomplished by identifying, funding and implementing the policy and program elements outlined below:

1. Water Resource Planning

- Establish the **Water Resources Coordinating Council**, as recommended by the legislatively appointed Water Quality Task Force and charge them with the development and implementation of the state water plan. The Water Resources Coordinating Council should seek input from a panel of technical and scientific experts (Technical Advisory Group) who can review and assist in the development of the State Water Plan. Established professionals in the following fields should be appointed to the Technical Advisory Group.

Hydrology	Agronomy
Geology	Public Health
Geography	Sociology
Chemistry	Economics
Biology/Zoology	Sustainable land use
Planning	Sustainable water use

- Open all meetings and provide for comments from the public
- Quantify current and projected population and development trends
- Quantify current and projected weather patterns
- Quantify projected major changes in water use

2. Watershed Planning

- Address quantity and quality issues throughout the hydrological cycle (groundwater, surface water, precipitation and evaporation).
- Provide a statewide evaluation of water quantity and quality for local or regional planning areas and provide this information to local planning entities. (may be Hydrologic Unit Code 8 (HUC8) for watersheds or regional aquifer areas for groundwater)
- Integrate, fund and implement watershed management plans
- Require public involvement
- Address the relationship between surface activities and water quality and quantity.
- Ensure adequate quantity and quality to meet short and long term needs

3. Watershed Management

- Consider implementing a watershed management approach (similar to the old 208 planning effort) to improve and protect the state's water resources
- Develop watershed-specific plans on a regional basis using HUC 8 streams as the special framework (approximately 50 watersheds). This will provide a broad picture of Iowa's water resources and address regionally important issues.
 - A specific watershed management plan should, at a minimum, identify:

- Water needs, including identification of reasonable and beneficial use, including, but not limited to public water supplies, business and industry uses, recreation uses, and ecosystem uses.
- Current water management entities within the watershed
- Potential concerns and conflicts
- Public water and waste water facilities
- Floodplain mapping and protection
- Urban and agricultural storm water management
- Defined areas sensitive to groundwater re-charge, run off and water quality
- Presence of “biological species of concern”
- Land and water management
- Conservation practices
- Modeling to understand water resources
- Drought management
- Water re-use protocols
- A watershed management plan should place an emphasis on and address:
 - Quality
 - Quantity
 - Ecological integrity
 - Aquatic and riparian habitat
 - Sediment control
 - Regulatory compliance with the Safe Drinking Water and Clean Water Acts
 - Restoration
 - Projected water demand
 - ... Environmental
 - ... Hydrologic
 - ... Social and
 - ... Economic impact
 - Existing programs
 - ... Overview
 - ... Evaluate and eliminate redundancies
 - ... Coordination
 - ... Future planning
 - ... Management

4. Public involvement

- Establish in the Plan, a framework and implementation strategy for a public relations campaign to:
 - Foster a sense of public accountability and pride in protecting all of Iowa’s surface waters and ground water
Resources that belong to all Iowans for current and future generations
 - Encourage the wise use of water to protect this resource for current and future needs

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- Teach the importance of water resources to the public's health and economic growth
- Involve the public in local water restoration and enhancement projects
- Develop a conservation ethic within the general population
- Inform the public about areas sensitive to over use, floods, droughts, and water quality degradation

5. Water quantity and quality

- Protect the quality of surface and groundwater for the beneficial uses of all Iowans and support the ecological integrity of natural areas
- Use water resource models to assist in managing water resources. The model should be designed to understand:
 - Sustainable water quantity available
 - Water quality available
 - Quantify and assess current and potential sustainable water use
 - Interaction between atmospheric, surface, and ground water
 - Ground water re-charge areas and rates
 - Evapotranspiration rates
- Maintain a flexible system that incorporates re-evaluations of water quality and quantity after major changes in land use and hydrology.

6. Economic Value and Viability

- Quantify current and projected water demands for public water systems, industrial uses, agricultural uses, energy uses and natural areas to meet present and future needs
- Enhance water quality through management and conservation of Iowa's water land, and soils
- Improve and protect the aesthetics and aquatic life of Iowa rivers and lakes to allow and promote healthy water recreational opportunities
- Restore and enhance the quality of border river corridors for recreation, commerce, cultural, natural, and ecological value

7. Monitoring

- Evaluate and quantify current ground and surface water quantity, availability, and quality by:
 - Measuring ambient water quality for surface and ground water sources
 - Establishing a stream gaging network
 - Establishing a ground water level network
- Include mechanisms to provide for targeted monitoring for project purposes (watershed restoration etc), research monitoring for emerging issues, and compliance monitoring for regulatory programs
- Review current systems used for collection of data by all state departments, federal agencies, utilities, volunteers, etc. and identify if and where data gaps occur
- Through collaboration, move to fill monitoring gaps and establish a statewide sustainable monitoring system
- Ensure ease of access to monitoring data by the public

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8. Integrate, fund and implement flood plain management plan

- Minimize urban and rural occupancy and development of flood plains
 - Protect against the loss of life and property from flooding
- Manage floodplains to preserve important ecological, recreational, water quality, and water storage services provided by floodplains

9. Evaluate and recommend administrative, regulatory, and legislative changes

- Evaluate all policies, laws and institutional practices to assure they are protective of the water resources of the state
- Link various permitting and monitoring programs for streamlined and efficient operation. This should include, but not be limited, to water withdrawal, wastewater, storm water, and wetland “dredge and fill” permits.
- Make data easily accessible to all program areas and the general public.
- Provide accountability by requiring the Water Resources Coordinating Council to regularly report the condition of the state’s water resources to the Governor, Legislature, and citizens of the state. To ensure measurable progress in improving and protecting water resources, the report should include a scorecard of approximately 3-5 easily understandable parameters in which the state measures changes to water quality and quantity. The report should also include, but not be limited to:
 - Summary of water quality including known issues (every 2 years)
 - Summary of water quantity including known issues (every 2 years)
 - Successes and failures in the plan (every 2 years)
 - Inventory of water resources (every 5 years)
 - Projected growth demand (every 5 years)
 - Updates on any economic gain or loss associated with water quality or quantity issues (every 5 years)
 - Any other emerging water resource related issues (as needed)
- Continue to seek funding for development, implementation and updating of the water plan

10. Water Research Program

- Develop a long-term research program that answers water resource questions uniquely important to the State. Essentially all water research in the State of Iowa is currently funded directly or indirectly by Federal agencies or industry groups. Federal funds are generally expended to understand issues important to the Federal government and may not address issues of local concern. Credibility is in question when an industry provides the funds for the research of their own industry.
- Implement a dual research program that includes in-house and competitively funded projects.

- The in-house water research program can develop the capacity to study solutions to existing problems and answer those questions that directly affect policy decisions through research scientists employed by the State.
 - A competitive water research program has the flexibility to complement longer-term in-house research with the capacity to understand emerging issues through shorter-term projects.
- Renew research priorities annually through a Technical Advisory Group
 - Maintain a water research information system that includes but is not limited to:
 - An annual water research conference
 - Links to current water research projects
 - Library/bibliography of published water research in Iowa
 - Links to unpublished final research conclusions

Summary

Iowans deserve and demand plentiful, safe, clean water. It is imperative that we establish a management system that recognizes the value and precarious state of Iowa's water resources; and establishes policies and procedures that will improve, protect and sustain these resources for today and into the future. Iowa must strive towards sustainability.

Sustainability requires managing our economy, society, and the environment in ways that ensure we are not destroying the natural environment upon which we all depend.

Legislative Recommendations:

1. Pass legislation to adopt and implement a state water plan for the management of all ground and surface water resources in Iowa.
2. Incorporate in the legislation the Water Resources Coordinating Council, recommended by the Water Quality Planning Task Force, as the entity to manage the state water plan.