

Indiana Water Shortage Task Force

Final Report

September 9, 2009

Indiana is generally considered to have adequate water resources state wide to satisfy domestic, industrial, and environmental water supply needs. Average annual rainfall in Indiana is approximately 40 inches, ranging from about 35 inches near Lake Michigan to 45 inches along the Ohio River. Indiana is blessed with access to substantial water resources in Northwestern Indiana with Lake Michigan, and along the southern border of the state with the Ohio River and associated alluvial deposits, including a significant state owned ground water resource near Charlestown, Indiana. In addition to these resources, more than one-half of the state contains ground water resources capable of supplying wells with capacities greater than 100,000 gallons per day. Moreover, Indiana in conjunction with the U.S. Army Corps of Engineers provides for 282 million gallons per day (MGD) dedicated water supply storage in three reservoirs in southern Indiana (Brookville, Monroe, and Patoka) of which approximately 45 MGD (16%) are currently committed through state contract.

Despite this diverse and abundant array of resources, Indiana can and has experienced single season and multi-year periods of low rainfall that can greatly diminish these natural resources and stress the state's water delivery and management systems. The 1988 drought, while well short of the drought of record, had significant impacts in Indiana. In response, the Indiana General Assembly in 1991 through HEA 1260 charged the Department of Natural Resources (DNR) with the development of a plan to respond to future shortages. DNR with input from a wide variety of stakeholders prepared the 1994 Water Shortage Plan. In 2006, the Indiana General Assembly through SEA 369 added [Indiana Code 14-25-14](#) creating a new [Water Shortage Task Force](#) to revisit and update the 1994 Plan as needed. As was the case with the 1994 Plan, SEA 369 specified the appointment of a diverse and experienced group of professionals for the project.

To facilitate public awareness and involvement in the development of the plan update, the Task Force created a web site (<http://www.in.gov/dnr/2423.htm>) which was regularly updated with meeting summaries, Task Force actions, plan drafts, and links to a wide variety of information relevant to the charge to the Task Force.

Completed Tasks

The Water Shortage Task Force has completed the following tasks as required by IC 14-25-14:

1. A review of the [1994 Indiana Water Shortage Plan](#) was completed. The plan was found to be well organized and documented. The Task Force elected to revise the existing plan in selected areas.
2. A [review of monitoring information](#) available has been completed. The Task Force noted there has been a decline in financial support for maintaining and installing new [stream gages, lake stations, and observation wells](#). Such a decline can limit effective evaluation of water availability and thus complicate efforts to implement effective resource planning. The Task Force also reviewed the ongoing [Water Withdrawal Facility](#) data collection and trend analysis generated by the Division of Water under [IC 14-25-7-15](#) and found the information provides insight on the general availability of

surface and ground water across Indiana. The Task Force also noted the data are generally superior to information available in other states in the Midwest. Annual summaries of water use reported by withdrawal facilities are available on the DNR Division of Water webpage. No areas of chronic water availability shortfalls were found, as areas of lesser ground water benefit from the reservoirs identified above. Some areas do have systems that are stressed during even short periods of hot dry weather, often exacerbated by increased usage of finished water for lawn and garden irrigation during dry summer periods. For example, withdrawal records for the City of Indianapolis show average daily withdrawals of about 140 MGD, with minimum flows of 120 MGD typically occurring in early spring and a peak withdrawal of 228 MGD registered during the summer of 2007. This underscores the ongoing need to heighten awareness of the importance of conservation practices, especially in times of raw or finished water shortages.

3. A [review of conflicts](#) over [surface](#) and [ground water](#) allocation was conducted. The Task Force concluded that the incidents appear to be isolated, with no discernable pattern or indication of long term allocation issues.
4. The Task Force developed and distributed a [Suggested Model Ordinance](#) for consideration by local units of government to provide a mechanism for them to promote conservation and to establish priorities of usage during droughts or periods of water shortage. The model ordinance was utilized as a template for the Water Conservation Ordinance for the City of Indianapolis and Marion County, and is also reportedly being used as a template for other utilities throughout the State. The Indiana Utility Regulatory Commission (IURC), through its rate orders, has endorsed the efforts of the Office of the Utility Consumer Counselor (OUCC) to encourage public water supply utilities to promote water conservation. Also, under the provisions of the Great Lakes Compact, the State is developing water conservation and efficiency goals and objectives. In addition, rules regulating the sale of water from State-financed reservoirs require the submission of a conservation plan as a component of the contract approval process.
5. The Task Force in conjunction with the [Indiana State Climatologist](#) has reviewed and modified the [drought trigger mechanisms](#) utilizing [readily available information](#) that is more reliable and will also foster increased public awareness and understanding.
6. The Task Force has reviewed consumptive use coefficients including a presentation on a recent compendium of [consumptive use factors](#) prepared by the U.S. Geological Survey (USGS). Consumptive use values are best generated on a site specific basis. Consideration of consumptive use is encouraged in establishing priority of use under adverse conditions, in addition to water sale regulations and the statute and implementation of the Great lakes Compact.
7. The Task Force has defined Water Shortage Identification Areas to coincide with the existing [climatic divisions](#) of the state. The Task Force recognizes that long range water management planning might also include watershed and planning districts based on other considerations.

8. The Task Force has reviewed relevant policies and procedures regarding water conservation and efficiency, and has developed [Indiana's Water Management Policy](#) promoting water conservation.
9. The Task Force utilized the recommendations of the 1991 Purdue study regarding base flow and the 1994 Water Shortage Plan to establish a [Baseline Streamflow Policy](#) for Indiana water resource planning projects that utilizes the 80% flow duration stream discharge to be used as a trigger to initiate a local action process.
10. The Task Force examined existing statutes and rules, water use, and management in Indiana while considering the potential implications of water shortages, and has determined [Water Use Priorities](#) . The Task Force finds that public health and safety represent the highest priority of uses and therefore recommends that public agencies and private purveyors implement policies to encourage water users to make wise decisions regarding water management during water shortages, as well as during periods of normal water supply.

Summary of Findings

The Task Force summarized their findings and suggested items for future consideration in the following table in the form of Goals, Actions, and relevant entities for Implementation:

Goals	Actions	Implementation
1) Coordinate regional water supply and demand planning, and data collection efforts.	Encourage the Legislature to establish a sustainable Water Planning Task Force.	Water supply providers, IDNR, IDEM, IURC, USGS
2) Improve regional water conservation, allocation and management throughout Indiana.	Establish regional water supply and demand planning districts to develop water management and allocation policies for normal and abnormal water supply conditions for their respective areas, consistent with statewide goals and criteria.	Water supply providers, IDNR, IDEM, IURC *Establish a Division of Local Assistance to provide support for regional water planning per appropriate funding mechanism.
3) Protect public health and safety during water shortages.	Establish policies that allocate water to public health and safety uses as a matter of priority during water shortages.	Water supply providers, IDNR, IDEM, IURC
4) Encourage efficient allocation and conservation of water.	Implement policies and programs that encourage efficient use, including conservation of water in wet, normal, and dry years, and allocation during water shortage.	Water supply providers, IDNR, IDEM, IURC
5) Improve understanding of long-term water supply and demand in Indiana.	Establish water use databanks developed, standardized and shared through metering and reporting requirements.	IDNR, IDEM, IURC, USGS
6) Improve understanding of water use in Indiana.	Promote installation of accurate water metering devices at all withdrawal and/or end use points.	Water supply providers, IDNR, USGS