

ATTACHMENT 1



Arkansas Geographic Information Office

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February 15, 2013

Arkansas Natural Resources Commission
Attn: Arkansas Water Plan
101 East Capitol, Suite 350
Little Rock, Arkansas

RE: State Water Plan Comments

The Arkansas Geographic Information Systems Board is pleased to submit comments regarding the Arkansas Water Plan. The Board was originally created in 1997 by Arkansas Code 15-21-501. The Board supports economic development and an improved quality of life for Arkansas citizens by providing basic spatial data infrastructure, coordinating geographic information activities, and creating short- and long-term strategies that will result in improved decision making, effective asset management, and reduced costs. The Board provides oversight to the Arkansas Geographic Information Office (AGIO). One of the premier activities of the Board and the AGIO is the oversight and operation of GeoStor, the State's Official GIS platform. GeoStor provides access to GIS applications, data and web services in the state. Water planning can use a variety of GIS data and analysis to support the creation of the plan. The following comments are provided to enlighten water planning officials on the availability of GIS data that may prove useful in the planning process.

GeoStor houses a variety of framework spatial data that is readily available. For base mapping purposes, features such as the county boundaries, city boundaries, road centerlines, soils, geology and other data can be easily obtained through the system. There may be instances where some data is not published but portions may be usable. If there are unique data needs the AGIO staff is available to answer data related questions.

Foremost, the GIS Board encourages the use of the National Hydro Dataset (NHD) as the basis for all water planning activities related to surface water. The NHD is a national framework for assigning reach addresses to water-related entities, such as industrial discharges, drinking water supplies, fish habitat areas, wild and scenic rivers. Reach addresses establish the locations of these entities relative to one another within the NHD surface water drainage network much like addresses on streets. Once linked to the NHD by their reach addresses, the upstream or downstream relationships of these water-related entities and any information about them can be analyzed using software tools ranging from spreadsheets to geographic information systems (GIS). Since 2008 the Arkansas Department of Environmental Quality has worked as the State Steward in partnership with the AGIO and the U.S. Geological Survey to maintain and improve this data. The latest status on the stewardship effort can be found at http://www.gis.arkansas.gov/Programs/nhd_stat.html

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The GIS Board encourages the use of the following data as supplemental data sets, a brief description and potential analysis is provided. A link to the data location on GeoStor is also included.

1) Extraordinary Resource Water and Lakes. This data includes segments of Arkansas streams and lakes that have been designated as Extraordinary Resource Waters, as indicated by Regulation No. 2 of the Arkansas Pollution Control And Ecology Commission.

<http://www.geostor.arkansas.gov/G6/Home.html?q=extraordinary>

2) Natural and Scenic Waterways. This data includes segments of Arkansas streams that have been designated as Natural and Scenic Waterways, as indicated by Regulation No. 2 of the Arkansas Pollution Control And Ecology Commission.

<http://www.geostor.arkansas.gov/G6/Home.html?q=natural+and+scenic>

3) Stream Order Classification. This data represents stream Order Classification and is a popular additive to the NHD. The purpose of this dataset is to help others in the state determine which streams are the starter streams, and which streams are the higher order streams. The starter streams are the first order streams, and are located in the upper parts of a watershed. Water enters the first order streams from over land, seeping groundwater, or springs. Second order streams are fed by two or more first order streams. Third order streams are fed by two or more second order streams. This continues through to the highest order stream, which is the Mississippi River. This order classification process is important to most state agencies, because the higher the order, the more likely the stream is influenced by events occurring higher up in the watershed.

<http://www.geostor.arkansas.gov/G6/Home.html?q=stream+order>

4) 8 Digit Hydrologic Unit. The Watershed and Subwatershed hydrologic unit boundaries provide a uniquely identified and uniform method of subdividing large drainage areas. The smaller sized 6th level sub-watersheds (up to 250,000 acres) are useful for numerous application programs supported by a variety of local, State, and Federal Agencies. This data set is intended to be used as a tool for water-resource management and planning activities, particularly for site-specific and localized studies requiring a level of detail provided by large-scale map information.

<http://www.geostor.arkansas.gov/G6/Home.html?q=8+digit+hydrologic>

5) Trout Streams and Lakes. This data includes streams lakes of Arkansas that have been designated as Trout Waters, as indicated by Regulation No. 2 of the Arkansas Pollution Control And Ecology Commission.

<http://www.geostor.arkansas.gov/G6/Home.html?q=trout>

6) Impaired Streams and Water bodies. The purpose of this dataset is to provide a cartographic representation of the streams on the Impaired Waterbodies 303(d) list in Category 4a. Additional information can be found Part IV of the 2008 Integrated Water Quality Monitoring and Assessment Report (305(b)).

<http://www.geostor.arkansas.gov/G6/Home.html?q=303>

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7) Nutrient Surplus Areas. Nutrient Surplus Areas as defined by the Arkansas 84th General Assembly and modified by the 85th General Assembly. These were delineated by using the 12 digit HUCs as described by the Arkansas Natural Resources Conservation Service State Office (NRCS) as the South and East borders, with the state line being the North and West border. The Arkansas Natural Resources Commission developed this Title to encourage prudent practices regarding the application and management of soil Nutrients and Poultry Litter to protect and enhance the State's surface water quality while allowing for optimum soil fertility and proper plant growth. The primary goal of this Title is to maintain the benefits derived from the wise use of Poultry Litter, commercial fertilizers, and other soil Nutrients while avoiding unwanted effects from excess Nutrient Applications on the waters within the State.

<http://www.geostor.arkansas.gov/G6/Home.html?q=nutrient+surplus+area>

8) Public Water Systems. This dataset contains polygons which represent public water system boundaries in the State of Arkansas. The compilation of this data is an effort of the Engineering Division of the Arkansas Department of Health (ADH) to build a comprehensive geographic database of water utilities and services in the public water system. The data combined with population and address point data may provide another method of determining use, need and future need.

<http://www.geostor.arkansas.gov/G6/Home.html?q=public+water+systems>

9) Address Points. This dataset contains address points which represent physical address locations assigned by the county addressing authority. This base data serves a variety of public functions that include index layer for address geocoding applications, Streamlined Sales and Use Tax jurisdiction assignment and as a reference data set to support state and local redistricting following the 2010 Census. Attribution for this data set was drawn from the URISA/NENA Address Standard. The physical address point file only contains address elements. Performing an overlay of this data onto Public Water Systems may provide another method of determining use, need and future need.

<http://www.geostor.arkansas.gov/G6/Home.html?q=address+point>

10) 2010 Census Blocks. This file contains the population count in the POP100 column of the 2010 Census Blocks in support of Redistricting. The data combined with public water systems and address point data may provide another method of determining use, need and future need.

<http://www.geostor.arkansas.gov/G6/Home.html?q=2010+blocks>

11) Environmental Permitted Sites. This is location data for facilities, incident sites and monitoring points, at the permit level, regulated or tracked by environmental programs within the jurisdiction of the Arkansas Department of Environmental Quality. Included in the data are numerous permit uses associated with water and this may provide another method of determining use, need and future need. To derive the water related sites conduct the query `SELECT * FROM ENVIRON.DBO.PERMIT_SITES_ADEQ WHERE PMEDIA LIKE 'W%'`

<http://www.geostor.arkansas.gov/G6/Home.html?q=permitted>

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12) Tax Parcel Polygons. This dataset contains polygon features representing the approximate location of tax parcels contained in County Assessor tax rolls. Individual county data was integrated into this statewide publication by the Arkansas Geographic Information Office (AGIO). The Computer Aided Mass Appraisal (CAMA) systems maintained in each county are used to populate the database attributes for each polygon feature. The digital cadastral data is provided as a publication version that only represents a snapshot of the production data at the time it was received from the county. The TYPE code in the parcel attributes may provide another method of characterizing agricultural, industrial, residential, and commercial water use. <http://www.geostor.arkansas.gov/G6/Home.html?q=parcel+polygon>

13) Land Use Land Cover 2006. This data depicts the land-use and land-cover of Arkansas as it occurred in the year 2006. The data are derived from Landsat TM 5 scenes and extensive ground-truth information. The map focuses primarily on agricultural land-use: crop and pasture lands. The maps consist of a broad based inventory of land-use and land-cover. Map categories fall with 6 broad "Level 1" categories: water, forest, barren, herbaceous, agricultural lands, and urban. Specific Level 1 land-use categories: agriculture and urban are broken into more discrete, "Level 2" land-use subcategories: e.g. crop type, pasture type. The data may provide another method of characterizing agricultural, industrial, residential and commercial water use. <http://www.geostor.arkansas.gov/G6/Home.html?q=land+use+2006>

The staff of the AGIO is available to support water planning officials with access to any of the data contained in GeoStor that may be helpful. Staff can provide answers to questions regarding other base map data that may support the plan. The AGIO manages access to an online GIS web service portal. That portal can be made available to water planning officials to share and exchange maps, and analysis during the planning process and to share various maps associated with the plan to the public. Thank you for receiving these comments. We stand ready to assist in this important planning process.

Sincerely,

Tracy Moy, Chair
State GIS Board

Shelby D Johnson, State GIO
Arkansas Geographic Information Office