CHAPTER FIVE
Water and Wetlands

Focus on Quality and Conservation

The 1986 Emergency Wetlands Resources Act (1986 EWRA summary) requires states to address wetland protection in the SCORP to qualify for Federal Funding via the Land and Water Conservation Fund. The following section has been compiled in order to be in compliance with the requirement.

Kansas Water Plan – Surface Water Issues

The Kansas Water Office, in coordination with local, state, federal and interstate partners, is developing the 5-year update of the Kansas Water Plan. The Kansas Water Plan is one of the primary tools used by the State of Kansas to address current water resources issues and to plan for future needs. Statutory authority and basic guidance for formulating the Kansas Water Plan is contained in the State Water Resources Planning Act.

Surface Water Issues, including Wetlands are specifically addressed in the Kansas Water Plan. The following is a very brief summation of key elements of the proposed water plan that apply to conservation and outdoor recreation. Readers are encouraged to read the Kansas Water Plan for details.

Lake and Wetland Monitoring

- The latest list identifies 76 lake related water quality impairments and 1,411 stream related water quality impairments.
- KDHE also monitors 119 publicly owned lakes and wetlands; reporting on nutrient loading and other issues including harmful algal blooms. For public water bodies, KDHE issues a Public Health Advisory or Public Health Warning depending on the concentrations of toxins.

Fish Contaminant and Fish Consumption Advisory Programs

Working with other state and federal agencies, KDHE also collects and analyzes fish tissue samples from streams and lakes throughout Kansas. Based on data, KDHE in partnership with KDWPT issues fish tissue consumption advisories.

Collaborative Monitoring Program

Other organizations routinely assist KDHE with monitoring. These include EPA Region 7, KDWPT, the USACE, NPDES permit recipients, USGS, KGS, KBS and KWO. Additionally, KDHE works with other state and federal agencies and private organizations to support volunteer water quality monitoring programs, via grants and technical expertise.

Watershed Restoration and Protection Strategies

Interested stakeholders form local leadership teams, assess watersheds and develop Watershed Restoration and Protection Strategies (WRAPS) plans to restore and protect them.

Additional Reports

A variety of additional reports, special publications and peer-reviewed journal articles are generated by KDHE to disseminate water quality information to the broader scientific community, elected officials, regulated entities and the general public.

The Wetlands Reserve Program (WRP)

Administered by the Natural Resource Conservation Service, the WRP allows a landowner to provide either a 30 year or perpetual easement to protect and buffer wetlands, and implement a wetland restoration and protection plan. Forested riparian areas are eligible when linked to an eligible wetland. Priority is given to sites that provide permanent protection and enhance habitat for wildlife. Since 1995, a total of 14,129 acres of wetlands in Kansas have been enrolled in this program.

The U.S. Fish and Wildlife Service Partners for Wildlife program also provides funding for restoring wetland or riparian resources.

KANSAS - State Policies and Programs

In 1986 the Kansas Water Authority approved a policy sub-section to the Kansas Water Plan in the Fish, Wildlife and Recreation Section titled Riparian Protection. The sub-section recommended the following policies:

1. Channel modifications requiring a state permit would include appropriate conditions to maintain riparian vegetation and stabilized banks as designated by the Division of Water Resources.
2. County Conservation Districts would be required to develop county riparian protection programs to assist landowners in managing and maintaining riparian areas.
3. State provision for the use of conservation easements on riparian lands identified as crucial wildlife habitat to encourage protection and proper management.

While all of these provisions have been implemented to some extent, riparian losses are still occurring. County riparian protection plans do not contain inventories of existing riparian areas.
The State Conservation Commission administers the Kansas Water Quality Buffer Initiative program, which provides state incentives to complement the federal Continuous Conservation Reserve Program for establishing riparian forest or grass buffers in high priority watersheds.

The Kansas Forest Service provides technical assistance for managing and restoring riparian forests through the Forest Stewardship Program and in partnership with the Natural Resources Conservation Service provides financial incentives through the Environmental Quality Incentives Program for Forestland Health.

The Kansas Department of Wildlife, Parks and Tourism lists as part of its mission statement its intent to help conserve and enhance Kansas' natural heritage, its wildlife and habitats ... and inform the public of the status of its natural resources. To that end, the Department’s Ecological Services Section plays a vital role, by:

- Encouraging and assisting private landowners in protecting, restoring and managing natural habitats
- Striving to restore and conserve wildlife diversity through public education, baseline surveys and scientific research
- Minimizing habitat losses through regulatory means
- Administering the Kansas Nongame and Endangered Species Conservation Act, monitoring Kansas threatened and endangered species, conducting environmental reviews of proposed development projects when public funding is involved

Cheyenne Bottoms is the focus of this section for several reasons, essentially a combination of biological and recreational importance. Because of its unique biological importance the marsh was highlighted as a special case study in the recently compiled (2013) KS Ecotourism report. Highlights from that report are included here:

Cheyenne Bottoms is the largest marsh in the interior of the United States. Cheyenne Bottoms was designated a Wetland of International Importance in 1988 by the Ramsar Convention on Wetlands, one of two sites in the state (the other being Quivira National Wildlife Refuge). Cheyenne Bottoms is also considered to be a wetland of global importance by the Western Hemispheric Shorebird Reserve Network (WHSRN).

The area is considered the most important shorebird migration point in the western hemisphere. Nearly one-half of all North American shorebirds migrating east...
of the Rocky Mountains and up to one-quarter million waterfowl stop at Cheyenne Bottoms to rest and feed during seasonal migrations. The shallow marshes – averaging less than one foot deep – are ideal habitats for wading shorebirds.

**Most Significant Need – Water**

Cheyenne Bottoms is an ephemeral wetland, with extended seasonal dry periods that dramatically lower water levels. According to the report, while the KDWP has modified the Bottoms to better manage water levels, there is still insufficient water supply to insure a quality wildlife experience (particularly for shorebirds) on a predictable basis. Drought continues to impact this situation. Although 2013 water levels in the marsh have improved, the Kansas Water Office, in a 2013 report, suggests the drought conditions will continue:

- **Drought stages remain in effect for 82 counties as the overall conditions for plant growth and deficits in precipitation require careful consideration in planning for future water use and needs as well as crop and pasture conditions.**

The solution to this need is to acquire adequate water supplies to meet annual needs, and to manipulate water levels to maximize wildlife use. The report cites some successful approaches elsewhere that might be applicable.

- **With adequate water, and proper water and habitat management, shorebirds would be attracted, we believe, in staggering numbers. An example to consider is the Anahuac NWR in Texas that manages certain lands exclusively for shorebirds in the spring. Also consider the RSPB reserves in Great Britain for examples of lands managed for both birds and birds.**

**Tourism related infrastructure**

If water and habitat are adequately addressed, the EcoTourism report goes on to recommend other infrastructure improvements that would enhance marsh visitation. These include:

- Improvements to access (some mix of enhanced vehicular and pedestrian traffic would aid visitors in experiencing the marsh). Trails to access uplands and marshes
- A major wildlife viewing site needs to be added to the Bottoms. Wildlife viewing infrastructure, while improved with the construction of the Kansas Wetland Education Center, is still limited. Suggestions include:
  - A series of retractable (movable) boardwalks and blinds (hides) for wildlife observation
  - Development of a major interpretive theme (e.g. The Bottoms as the most extensive marsh in the interior of the United States, supporting millions of migratory birds annually)
  - Enhancements to both non-personal and personal interpretation

**Kansas Conservation Research Sites**

The state continues to serve as an important site for various conservation and biological assessment initiatives. The following list includes biological research stations and their corresponding missions – as operated by universities, either alone, or in collaboration for state, federal or NGO enterprises.

- **KSU**
  - The Konza Prairie Biological Station (KPBS) is located on a 3,487 hectare native tallgrass prairie preserve jointly owned by The Nature Conservancy and Kansas State University. KPBS is operated as a field research station by the KSU Division of Biology. The station is dedicated to a three-fold mission of long-term ecological research, education, and prairie conservation. It is a unique outdoor laboratory that provides opportunities for the study of tallgrass prairie ecosystems and for basic biological research on a wide range of taxa and processes. The station is open to scientists and students from throughout the world.

- **KU**
  - The University of Kansas Field Station is dedicated to field-based environmental research and education. The Field Station is located within the transition zone (ecotone) between the eastern deciduous forest and tallgrass prairie biomes. Faculty, students, and others use the 1,375 ha (3,400 acres) of diverse native and managed habitats, experimental systems, support facilities, and longterm databases to undertake an outstanding array of scholarly activities. The Field Station is available to any person or group whose research, teaching, or conservation interests are compatible with its mission.

- **PSU**
  - The SE KS Biological Station includes five properties managed by the Department of Biology for the purposes of research, education, and service. These sites include the Monahan Outdoor Education Center, the Natural History Reserve, the Robb Prairie, the O’Malley Prairies, and the Sperry Home. The two main properties (Monahan and Reserve) are located in the Brush Creek watershed in Crawford and Cherokee counties of southeast Kansas. The watershed – its land and water – reflects a legacy of ecological disturbance due to coal and lead/zinc mining in southeast Kansas. The properties and the surrounding area provide opportunities for understanding the restoration process and the ecology and biodiversity of terrestrial and aquatic ecosystems (woodland, grassland, wetlands, streams, strip-mine lakes) in the context of a human-modified landscape. The mission: to promote an understanding of disturbed ecosystems and restoration ecology through research, education and service.
WSU

The Biology Field Station - Ninnescah Reserve is located approximately 35 miles southwest of the Wichita State University campus and consists of about 330 acres of native prairie, restored prairie, wetlands, and riparian woodland along a mile of the Ninnescah River. As a result of BioBlitz and ongoing research, a total of 528 species are recorded for the Ninnescah Reserve including 289 vascular plants, 168 birds, 33 mammals, 16 fish, 9 snakes, 6 turtles and 7 amphibians. This unique habitat offers opportunities for studying grassland restoration, river ecology, and general wildlife biology. Current studies include prairie restoration and recovery from overgrazing, plant-insect interactions, the ecology of aquatic invertebrates, fitness maximization of birds in the non-breeding season, monitoring riparian and prairie bird nesting communities, stopover ecology of long distance Neotropical avian migrants, incidence of West Nile virus in birds on the station, and monitoring of fish, amphibian, and reptile population dynamics.

ESU

The Natural Areas, managed by Emporia State University, include seven Biological Natural Areas (Campus Woods, Charles Coughlen Natural Area, Dunlap Bottoms, F.B. and Rena G. Ross Natural History Reservation, Neva Marsh, Reading Woods Natural Area, and Sarah Howe Natural Area) and one Geological Natural Area (Hamilton Fossil Quarry).

FHSU

The Kansas Wetlands Education Center (KWEC) is an 11,246 square-foot facility overlooking the 19,857 acre Cheyenne Bottom Wildlife Area managed by the Kansas Department of Wildlife, Parks and Tourism and the 7,694 acre Cheyenne Bottoms Preserve managed by The Nature Conservancy. The KWEC is a branch of Sternberg Museum of Natural History and, therefore, a unit of Fort Hays State University (FHSU).

HINU-BU

The Haskell-Baker Wetlands is jointly owned by the following entities: Baker University (573 acres), Haskell Indian Nations University (27 acres), the Kansas Department of Wildlife, Parks and Tourism (20 acres) and the University of Kansas (20 acres). The National Park Service declared the wetlands a National Natural Landmark in 1969. The KS Biological Survey, in 1989, declared the wetlands an official Natural and Scientific area. The primary goal of the management plan is to maintain the area as a diverse natural habitat with an emphasis on wet meadows.

CHAPTER SIX

Inventory Analysis

The benefits of a comprehensive park geo-database include:

Standardized data
The use of the same attributes and values standardizes disjointed and variable park and recreation geo-spatial data into a consistent, repeatable format.

Searchable public access
Public access to the published geo-spatial data (with search functionality) aids users in locating specific recreation opportunities.

Measures of proximity
The comprehensive nature of the data allows for statewide measures of proximity and the compilation of benchmark measures of accessibility.

Fully Integrated GIS Inventory

Kansas is among the nation’s leaders in its level of comprehensive coverage of park and recreation amenities in GIS. In 2011, Kansas converted its entire statewide dataset to the National Recreation and Park Association (NRPA’s) PRORAGIS model.

Kansas continues to work closely with the National Recreation and Park Association and other entities including the Centers for Disease Control, U.S. Geological Survey and its Protected Area Database – U.S. (PADUS) to develop a nationwide GIS standard for Parks and Recreation. Specifically, Kansas is working closely with the NRPA to develop online updating options for a list of approved editors, which will continue to ensure quality data.

Kansas, to date, has the following park and recreation amenities catalogued in its geo-database:

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<th>Park Points</th>
<th>Recreation and Park Features</th>
<th>Trails</th>
<th>Facilities</th>
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