

FACT SHEET
"CURRENT APPLICATIONS"
PUBLIC OUTREACH SERIES

Funding for this project has been provided through the **Kansas Department of Wildlife and Parks**. **Note:** *This Fact Sheet series provides educational information on current examples of common remote sensing applications from AV Members; however, no endorsement of or association with AmericaViewSM by any funding agency other than the USGS should be implied.*



Cheyenne Bottoms Land Cover Mapping

Kevin P. Price, University of Kansas (*E-Mail: price@ku.edu); Michael E. Houts, University of Kansas; Keith Sexton, Kansas Dept. of Wildlife and Parks; Jan Oliver, Bureau of Reclamation.



Cheyenne Bottoms is one of the largest wetlands in the central United States and is of international importance. Located in Barton County, Kansas, the 60,000-acre wetland is a critical stopover point for nearly half of the migrating waterfowl and wading birds during their annual migrations between Canada and Mexico.

The Cheyenne Bottoms Wildlife Area Mapping Project (CHBWAMP) is a five-year project that began in 1998 and uses Geographic Information Systems (GIS) technology to create a database of vegetation communities to support park personnel with management of the CHBWA. Special emphasis has been placed on monitoring the extent and condition of cattail patches because cattails are encroaching on saturated soils and shallow water areas, thereby decreasing the area available to wading birds and waterfowl.

Use of Remote Sensing

The Kansas Applied Remote Sensing Program, in cooperation with the Kansas Department of Wildlife and Parks and the Bureau of Reclamation, is concluding a five-year project to create annual land cover maps of the vegetation of Cheyenne Bottoms Wildlife Area to assist with management decisions.

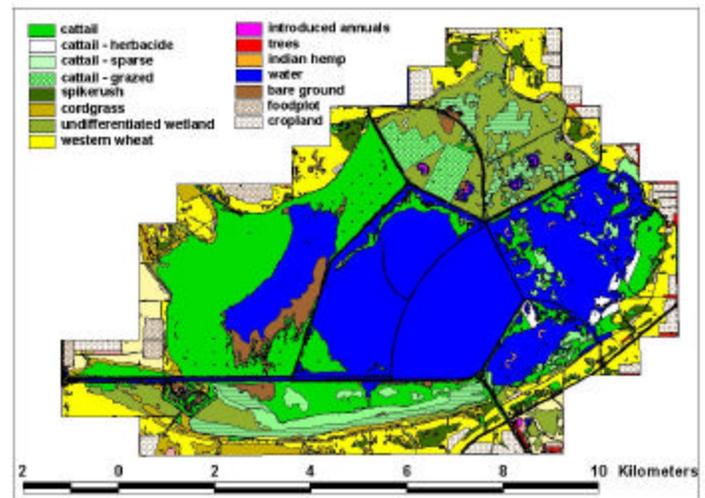
Specifically, KARS has focused on mapping the extent of cattail stands, to support assessment of the effectiveness of cattail management techniques. Cattail are spreading rapidly and decreasing the area available to shorebirds and wading birds. Park managers will use KARS' annual land cover maps and reports to monitor the spread/retreat of cattail stands and track management progress.

Benefits:

The total area of cattail has been reduced from 6,841 acres in 1998, down to 3,865 acres in 2001.

Small isolated patches of cattail were located and eliminated before they spread, saving time and money.

Park managers have a detailed map of the area and can better plan their time and resources.



Top: The KARS program was supplied with near-infrared (NIR) digital ortho-photography acquired by Horizons Incorporated during the summer of each study year. KARS personnel then collected over 200 ground truth points to assist with identifying, digitizing, and labeling all identifiable vegetation communities within the CHBWA.

Bottom: Each year a map-based report is generated showing the current vegetation conditions and the area covered by each vegetation class. By comparing the annual reports, CHBWA managers can assess the impacts that their management strategies are having and make adjustments where necessary.

FOR FURTHER READING:

Oliver, Jan, & Michael Houts. 2001 Annual Report – GIS Database; Cheyenne Bottoms Wildlife Area, Kansas. Technical Memorandum Nb. 8260-02-04. U.S. Bureau of Reclamation. Technical Service Center. Denver, CO.

