Data Management System for Information about Protected and Rare Species in Kansas:
a Collaborative Project Between the Kansas Natural Heritage Inventory and the Kansas Department of Wildlife and Parks

State Wildlife Grant #T-5

Final Report
September 28, 2005

submitted by Jennifer M. Delisle and Craig C. Freeman
Kansas Biological Survey
Kansas Natural Heritage Inventory
2101 Constant Avenue
Lawrence, KS 66047

In 2002, the Kansas Natural Heritage Inventory (KSNHI) and the Kansas Department of Wildlife and Parks (KDWP) signed a cooperative agreement, "Establishment of a data management system for information about protected and rare species in Kansas: A joint effort between the KBS and the KS Dept. of Wildlife and Parks," which described protocols for processing, managing, and exchanging information concerning endangered, threatened, and in-need-of-conservation (SINC) species in Kansas. The current agreement continues this on-going cooperative effort for the management of the database system and increases the utility of this system by adding a new dataset containing information on natural community occurrences. This report summarizes work conducted by KSNHI during the duration of the contract period in fulfillment of this latest contract.

Summary of Activities

To meet the requirements of Objective 1, datasets containing location records of endangered, threatened, and SINC animals and plants were delivered to KDWP

offices in Pratt three times during the contract period. Several sources of data were used to obtain new records and update existing records. Stream survey data provided by KDWP were used to update many older records of mussel collections and to add new locations of both fish and mussels. New location records of reptiles and amphibians were obtained from the Sternberg Museum of Natural History from the first year of the Museum's 2004-2005 survey. Several completed rare animal reporting forms were received from KDWP. Data also were obtained from KSNHI's own surveys.

After all occurrence records were entered into KSNHI's databases, quality control routines were run on the location information to ensure accuracy. Records then were exported in comma-delimited ASCII text format. Table 1 summarizes the data fields that were exported. During the export process, geographic coordinates in latitude/longitude, North American Datum 1927, were converted to decimal degrees. Data then were manipulated in MS Excel to add field names and to edit fields to improve interpretation. The Excel table then was brought into ArcView 3.3 and converted to shapefile format. Each dataset was given the name "t_e_sinc". The file name of each replacement dataset remained the same to facilitate importation into KDWP's GIS system. The final dataset contained 2636 site-specific records of 126 species of endangered, threatened, and SINC animals and plants.

During the contract period several changes were made to the Kansas rare species lists as a result of KDWP's five year review. The Silver chub (*Macrhybopsis storeriana*) was added to the Kansas Endangered list. The Night

snake (*Hypsiglena torquata*) was downlisted from the Threatened list to the SINC list, and the White-faced ibis (*Plegadis chihi*) was removed from the Threatened list. The Eastern chipmunk (*Tamias striatus*) and Red-shouldered hawk (*Buteo lineatus*) were removed from the SINC list and two new species, the Brindled madtom (*Noturus miurus*) and the Delta hydrobe (*Probythinella emarginata*) were added to the SINC list. The final dataset reflects these changes.

To meet the requirements of Objective 2, a new statewide dataset containing information on natural communities was developed and given to KDWP at the end of the contract period. This dataset contains 619 polygons representing 30 different natural community types. These data were collected by the KSNHI over the period 1986-2005. Many of the older locations have not been visited since the initial surveys and may no longer be extant. Thus, caution should be used when interpreting older data. The dataset also includes data collected during the 2004-2005 5-county inventory project funded by KDWP.

Data collected prior to the 2004 surveys had been maintained on USGS 1:24,000 topographic maps. Using ArcView 3.3 software, these locations were digitized from the topographic maps using recent aerial photography obtained from the USDA as a base. The same attributes as those provided with the rare species point dataset were attached to each digitized polygon (see Table 1). The final shapefile was given the name “KSNHI natural communities”.

Table 1. Data fields exported from the KSNHI database.

Name used in BCD	Name used in Shapefile
EOCODE	Code
SNAME	Scientific_name
SCOMNAME	Common_name
USESA	Federal_status
SPROT	State_status
SURVEYSITE	Survey_site
COUNTYNAME-1	County
TR1	Town_range
SECTION1	Section
TRSNOTE1	Quarter
LATDEC	Lat_dd
LONGDEC	Long_dd
PRECISION	Precision
DIRECTIONS	Directions
WATERSHED1	Watershed
LASTOBS	Last_obs_date
FIRSTOBS	First_obs_date
EOTYPE	Site_type
EODATA	Data