

Achievements for Last Year (July 2001 - May 2002)

I. Organized a meeting of local stakeholders

We accomplished two primary objectives during this meeting: 1) Determined the potential uses of Aquatic Gap in Kansas and 2) Determined the resources (e.g., data) available for the Aquatic Gap project. The meeting included representatives from U.S. Fish and Wildlife Service, The Nature Conservancy, Kansas Department of Wildlife and Parks, Kansas Department of Health and Environment, Kansas Biological Survey, Ft. Hays State University, Emporia State University, Pittsburg State University, and The University of Kansas Natural History Museum. In addition, we have been in contact with the Kansas Water Office in regards to their potential uses of Aquatic Gap in Kansas. Below is a brief list of the results from this meeting:

Potential Uses of Aquatic Gap in Kansas:

- 1) Identify priority watersheds – Important for numerous state and federal activities including: Conservation Reserve Program (CRP), reintroductions of threatened and endangered species, land owner incentive programs, assessing critical habitat for threatened species, riparian conservation, sportfishing stream lease program.
- 2) Evaluating system integrity - Important for assessment of water quality for the Clean Water Act, defining areas for ecological research.

Resources Available:

- 1) University of Kansas, Natural History Museum (Ed Wiley) - Fish
- 2) Kansas Department of Wildlife and Parks Stream Survey (Chris Mamoliti and Kristen Mitchell) - Fish, mussel, invertebrates, and water quality
- 3) Kansas Department of Health and Environment (Bob Angelo) - Water quality, macroinvertebrates, mussels, contaminants, groundwater, and wetland inventories
- 4) Forh Hays University, Museum of Natural History (Bill Stark and Mark Eberle) - Fish and mussel
- 5) Kansas Biological Survey Natural Heritage Inventory (Jennifer Delisle) - Georeferenced data for rare and endangered species (487 locations for mussels and 689 locations for fish).
- 6) Emporia State University (Dave Edds) - Fish and mussel
- 7) Wichita State University - Fish and mussel
- 8) Pittsburgh State University (Joe Arruda) - Fish, mussel, and macroinvertebrate
- 9) Kansas Department of Wildlife and Parks Harvest and Creel Data (Tom Mosher) - Fish
- 10) EPA non-point source surveys 1980s – 1990s - Fish and Macroinvertebrates

II. Hosted regional coordination meeting for Aquatic Gap in Lower Missouri River Basin

A coordination meeting for states in the Lower Missouri River basin was held at Konza Prairie Biological Station on 4 December 2001. Representatives from South Dakota, Missouri, Nebraska, Iowa, and Kansas were present.

III. Modification of the National Hydrology Database (NHD)

We met with USGS personnel in Missouri (MoRAP) to learn standardized techniques to format NHDs so they can be assigned valley segment identification numbers and various segment characteristics (e.g., slope, stream order). We have also developed several ArcInfo programs (amls) to facilitate the processing of NHDs (i.e., removing dangling stream segments and removing loops). The code for these programs will be available on our web page this summer. To date, we have processed 70 of the 96 NHD in Kansas. This will be completed by the end of May 2002.

IV. Begun compiling freshwater muscle data

Data from over 200 collection sites in Kansas have been georeferenced and we are in the process of attaining more data on unionid muscle distributions. Those data will be linked to stream valley segments as soon as the NHD is processed and segments are assigned identification numbers.

V. Miscellaneous Accomplishments

Data compiled for the project along with cooperation with state agencies has resulted in one peer-reviewed publication to date:

Keith B. Gido, Christopher S. Guy, Timothy R. Strakosh, Randal J. Bernot, Kristen, Hase, and Mark Shaw. In press. Long-term changes in the fish assemblage of the Big Blue River basin 40 years after the construction of Tuttle Creek Reservoir. *Kansas Academy of Science Transactions*.

Kansas Department of Parks and Wildlife has also purchased a server for the Fort Hayes Museum of Natural History in order to facilitate access to their collection records. This purchase was directly in response to our need for those data.

Objectives for next year

I. Build relational database of fish and mussel data with valley segments.

The majority of our time will be spent linking species distributional records to valley segments in preparation for modeling of species distributions.

II. Create and update web page

By the Fall 2002, we should have a web page online and will continually update this page with new findings and data from the Kansas Aquatic Gap Program.