

Fish and Wildlife Research Unit



Trophy catfish management was evaluated with catfish population data and computer models that simulated a minimum-length regulation. Models predicted that new regulations would cause little change in the fishery, so status quo management was recommended.



The Bad and Big Sioux rivers were compared for large-scale factors that control fish populations and habitats. Stressful stream flow features in the Bad River limited fish diversity more than in the more stable Big Sioux River. Ph.D. student C. Milewski concluded that prairie streams do not fully conform to some established river concepts.



An index of biotic integrity was developed for Missouri River floodplain wetlands. The index included pollution tolerant periphyton, two guilds of vascular plants, and three macroinvertebrate groups. Three students, N. Haugerud, K. Werlin, and K. Powell (pictured sampling invertebrates) were supervised by Assistant Unit Leader Steve Chipps and Dr. D. Hubbard.



The 4-yr SD GAP Project is complete. GAP stands for "Geographic Approach to Planning" to keep common species common. We hosted the National Meeting in Brookings in 2001. Left to right are: Dr. J. Jenks and Coop Unit Leader Chuck Berry,

Co-PIs for SD GAP; C. Kopplin, GIS Specialist; Dr. Mike Scott, "Father" of GAP analysis; Dr. D. Fenn, Assoc. Director for Biology, USGS.

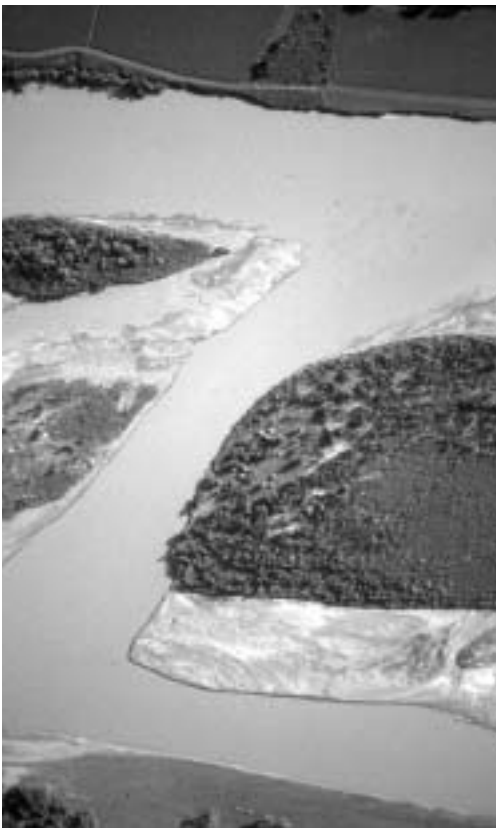
South Dakota Cooperative

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Productivity of Black Hills reservoirs depends on 1) external loading rates of phosphorous, 2) sediment iron concentrations that can reduce the availability of phosphorous to algae, and 3) low oxygen levels that cause phosphorous release from sediments. The Bureau of Reclamation funded grad student Ben Holcomb (shown sampling).

Landscape fragmentation and grassland patch size affects avian species composition; small patches have more edge species (e.g. cowbirds) and fewer grassland obligate species (e.g. longspurs). Julie DeJong was another in the long list of grad students studying grasslands under the supervision of Assistant Unit Leader Ken Higgins.



Missouri River sandbar habitat changes with changing river flows. Piping plover and least tern use of

sandbars was affected by sandbar size, availability of bare sand, vegetation encroachment, and sandbar terrestrialization. Extremely high flows created habitat and improved bird nesting.



Corrugated highway culverts (n=232) at 81 sites on Topeka shiner streams were evaluated for the potential to block fish movement. Blockage was probable at seven sites, possible at 22 sites and unlikely at 52 sites.