

Biotic Diversity and Relative Abundance within the Schramm Addition of Ponca State Park, Nebraska

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The Schramm Addition consists of wetlands and bottomland adjacent to the Missouri River, which was used previously for agriculture. The two primary objectives of this survey were:

- 1) to document the presence and relative abundance of aquatic and terrestrial species within the biotic communities inhabiting the Schramm Addition of PSP during the period of May to August 2001, and
- 2) to establish a reproducible survey protocol to be used for further monitoring after the anticipated prairie, riparian, and aquatic restorations are completed.

This project included surveys of the avifauna, fish, aquatic invertebrate, mammal, herpetofauna, and plant communities in the Schramm Addition at Ponca State Park. This study suggests that the area is of considerable importance to a wide variety of species. The area is used as stop-over habitat for migratory bird species as well as breeding and foraging habitat for others. The PSP backwater serves as a nursery and refugia for many fishes. However, piscivorous fish also frequent the study site and diversify the aquatic community. Native backwater areas, such as the PSP backwater, are rare in the middle and lower Missouri River, thus, their importance is amplified where they are found. Low overall invertebrate abundances preclude making definitive conclusions other than the area is low in overall invertebrate community numbers. The amphibian, reptile, and mammal communities are crucial in the balance of this ecosystem as they fulfill diverse niches from scavengers to intermediate predators. The highly diverse plant community is a necessary component in the habitat requirements of many of the terrestrial species studied for nesting, foraging, and finding refuge from predators and weather.

This area is slated for an extensive habitat restoration, anticipated to begin in the summer or fall of 2004, with the goal of increasing the area's suitability for native species. This survey supports that the area currently has a flora and fauna that are relatively native and diverse in relation to the surrounding habitats or other locations within the middle Missouri River (Fisher, 1999 #9; Liknes, 1994 #1; Van Bruggen, 1987 #6). This trend is hopefully an indication of what will remain or increase in terms of diversity and relative abundances after the habitat restorations are completed. Further studies and analyses will be able to adapt the study design outlined here to additional surveys in an attempt to measure the effectiveness of the habitat restorations.