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To: Office of the Chief Scientist (Attn: Daniel James)
From: Michael C. Runge
Date: 13 January 2006
Re: Refuge Cooperative Research Program, Annual Progress Report, FY05
"Timing of impoundment drawdowns and impact on waterbird, invertebrate, and vegetation communities within managed wetlands."

Progress in FY05.

In the first quarter of FY05, we conducted five regional meetings to discuss the goals, design, and protocols of the study, in an effort to elicit input from the refuge biologists (October 14 at the Prairie Wetlands Learning Center in Fergus Falls, MN, November 9 at Parker River NWR, December 8 at Pere Marquette Conference Center in Grafton, IL, December 14 at Chincoteague NWR, December 16 at John Heinz NWR). In the first and second quarters of FY05, we made field visits to 19 refuges (9 in Region 3 and 10 in Region 5), in order to view the potential study sites and discuss the study with the refuge staff.

In mutual consultation with the Refuges, the following 23 refuges were identified as participants in the study: in Region 3, Agassiz NWR (MN), Crab Orchard NWR (IL), DeSoto NWR (IA), Hamden Slough NWR (MN), Mingo NWR (MO), Minnesota Valley NWR (MN), Patoka River NWR (IN), Squaw Creek NWR (MO), and Two Rivers NWR (IL); in Region 5, Back Bay NWR (VA), Blackwater NWR (MD), Bombay Hook NWR (DE), Chincoteague NWR (VA), Erie NWR (PA), Great Meadows NWR (MA), John Heinz at Tinicum NWR (PA), Montezuma NWR (NY), Moosehorn NWR (ME), Patuxent NWR (MD), Parker River NWR (MA), Prime Hook NWR (DE), Supawna Meadows NWR (NJ), and Wallkill NWR (NJ).

Draft protocols for the study were circulated February 14, 2005 to allow review and input from interested parties, notably the refuge personnel. Final protocols were distributed March 31, 2005. Training sessions for field personnel were held on March 10 (R3), and March 15 and 22 (R5).

Fieldwork began around April 1 at most refuges, and continued through the remainder of FY05. The fieldwork included weekly waterbird surveys, double-sampling detectability surveys, two rounds of invertebrate sampling in the impoundments, three rounds of vegetation sampling, and a one-time bathymetry survey. Constant communication was maintained with the refuge staff and field personnel, both directly and through the Regional Biologists, to answer questions and refine the protocols. A listserv was set up and maintained to facilitate communication.

A Microsoft Access database was developed for data entry and management, and was distributed to all the participating Refuges, along with a set of instructions for its use. The databases were collected in September to check reliability of the data management protocols and to develop some preliminary analyses.

Expected accomplishments in FY06.

In the first quarter of FY06, the first field season was completed. Final databases for the first season were collected in December 2005.

Data from the first field season will be summarized and analyzed in an interim report to be released by the end of March 2006. Training sessions for field personnel will be held on February 28 (Tinicum NWR) and March 14 (Two Rivers NWR). Fieldwork for the second season will begin in mid-March and continue through the remainder of the fiscal year.

Highlights and concerns

The regional refuge biologists (Hal Laskowski, Soch Lor, and Susan Talbott) have been instrumental in implementing the project. Refuge staff have been conscientious about carrying out the study. We think the continued emphasis on open communication has been important to maintaining enthusiasm and rigor with this large, distributed network of collaborators.

For a variety of reasons, there were some challenges in completing data collection. Patoka River NWR discovered they were not able to control water in their impoundments to the specifications of the study design, due to ineffective control structures. They sat out the first year of the study while completing the necessary engineering work, and will rejoin the study in the second year and continue for an additional year. Montezuma NWR did not complete about half of the data collection, due to unexpected staff turnover. Several Refuges were unable to complete certain small portions of the sampling, due to inaccessibility of the impoundments (unconsolidated mud bottoms) or miscommunication about timing. For the most part, these data gaps are to be expected in a study of this scale and will be surmountable during the analysis phase.

One particular communication challenge we have experienced is at Refuges that have contracted their fieldwork to external third parties, particularly when those field personnel have not attended any training workshops. First, it is more difficult to impress upon such personnel the design, logic, and importance of the study; second, we don't have the personal rapport to facilitate communication with them. We'd like to note that this arrangement can work, as several refuges (e.g., Prime Hook NWR and Patuxent NRR) have successfully used volunteer or contractual field crews; the success comes from increased effort in supervision and communication by the Refuge staff. For the coming year, we would like to see all Refuges have representatives at the training sessions, and in the cases where external personnel will be responsible for large portions of the study that those personnel also attend the training.