

## MEMORANDUM FOR RECORD:

SUBJECT: Bay Island HREP, 10-Year Performance Evaluation Report, 2003

1. On April 8<sup>th</sup>, 2004, a joint inspection was made at the Bay Island Habitat Rehabilitation and Enhancement Project (HREP). The inspection included representatives from the Corps of Engineers, Missouri Department of Conservation and the U.S. Fish and Wildlife Service. The following personnel were present at the site visit:

Corps of Engineers – Charlene Carmack, Biologist  
Kirk Sunderman, Project Engineer  
Gary Swenson, Forrester

Missouri Department of Conservation - \*Mike Flaspohler, Site Manager

U.S. Fish & Wildlife Service – Karen Westphall, EMP Coordinator

\*Mike Flaspohler now holds the position that Keith Jackson held as the Site Manager for Bay Island. Mike is located out of the same office so retains the same address 653 Clinic Road, Hannibal, Missouri 63401. His phone number is (573) 248-2530 and e-mail address is [Mike.Flaspohler@mdc.mo.gov](mailto:Mike.Flaspohler@mdc.mo.gov).

2. Very few acorn plantings were successful in establishing themselves under the original construction of this project. Discussion took place as to why some sites can have successful acorn plantings while others do not. It is believed that seasonal conditions play a big role in determining how successful an acorn planting will be in any given year. Acorn planting efforts that are not successful over several planting seasons in a given area could be very successful next season if climatic conditions are ideal for their establishment. For this reason, it may be wise to try to establish acorn plantings at a site over a period of years if initial plantings are unsuccessful.
3. The South Wetland Management Unit has been monitored for leakage since the last inspection report in 2003 and continues to have a significant amount of impounded water lost through seepage somewhere from within the containment cell. The area of the cell was formerly cultivated farmland and no inspection trench was required or excavated during the construction of the containment levee. This lends the possibility that the area could contain field drainage tiles. Mike indicated that he plans on doing a low water inspection around the outside of the cell to see if any drainage tile outlets can be spotted. Another avenue to pursue would be to try and locate the former farmer(s) of this area to determine if any knowledge of drainage tiles exists.

4. Cover plantings. MDC planted Virginia wild rye (*Elymus virginicus*) as a cover crop in tree planting areas and it appeared to be fairly successful at this HREP. Virginia wild rye is a native, cool-season grass similar to the related Canada wild rye (*E. Canadensis*) but considered to be more moisture-tolerant. The photos below show examples of last year's growth still present on the site, with new growth visible as well. Where this grass was planted, it appears to have been effective in controlling weedy growth (particularly of species such as giant ragweed) that otherwise could have prevented or inhibited mast tree survival and growth. Future HREPs that involve planting of mast trees in floodplain areas should evaluate the feasibility of using this species as ground cover.



5. An opened mussel shell was spotted along the bankline of the interior drainage ditch on the North Wetland Management Unit just north of the exterior stoplog bay. It is not certain whether this observation is evidence of colonization by mussels.
6. Management of the site appears to be excellent with ongoing efforts to improve the site as reflected by the recent cover crop and upcoming tree planting plans. Overall maintenance and operation of the site appeared in great shape. No problems were experienced with the pump station since the last inspection other than periodically having to turn the pump off to allow leaf debris to float away from the intake. No erosion was found on any areas of the system. It was noted that small trees were growing in the riprap on the northwest corner of the project that will eventually need to be addressed. The overflow spillways did not experience any over toppings since the last inspection.
7. A detailed timber inventory is planned to be completed in the summer of 2004 by Gary Swenson. This inventory is required at the 10-year life of the project per the Post-Construction Quantitative Measurements in the Operations Manual for Bay Island.
8. It was decided that a joint inspection of the site would not be needed in 2005 but instead would tentatively take place in 2006 on a date to be determined. Mike was provided with an electronic copy of the Site Manager's Report to be filled out on a yearly basis. The next Site Manager's Report should be completed at the first of the year in 2005.



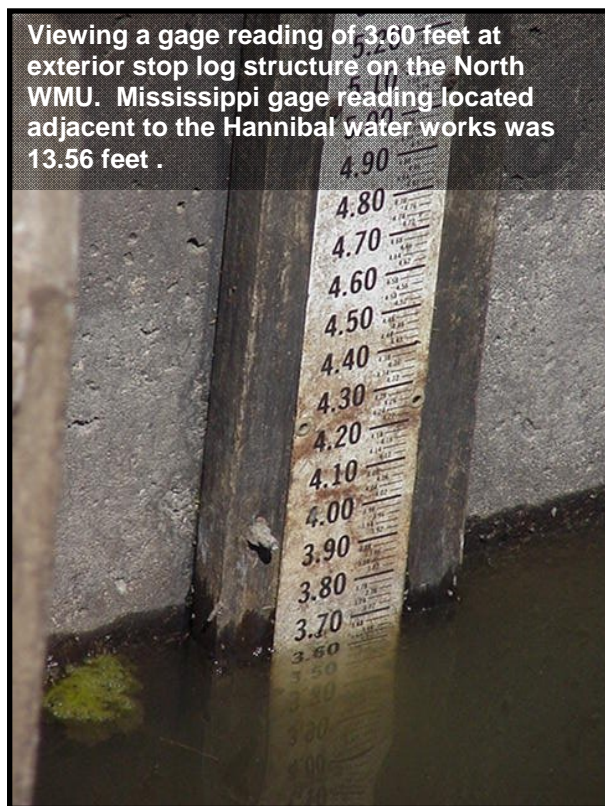
Kirk Sunderman, P.E.  
Project Engineering Section



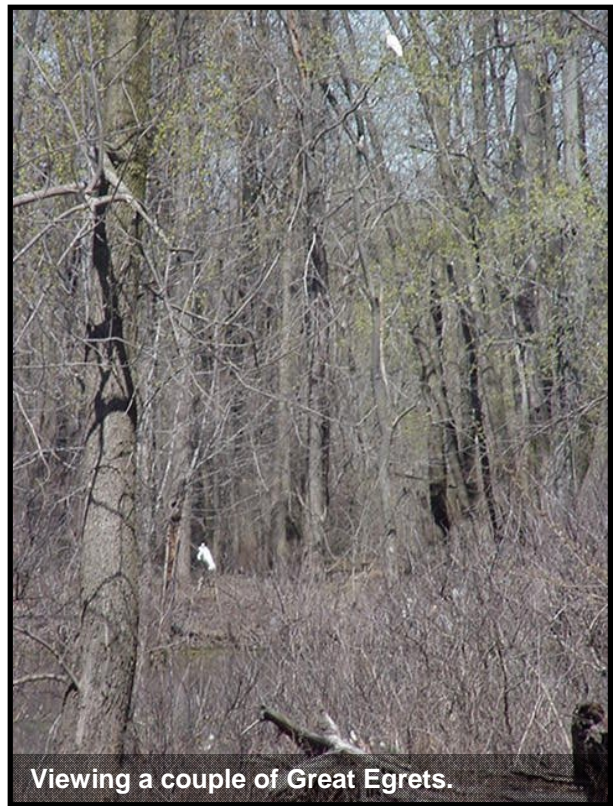
Viewing intake structure of pump station.



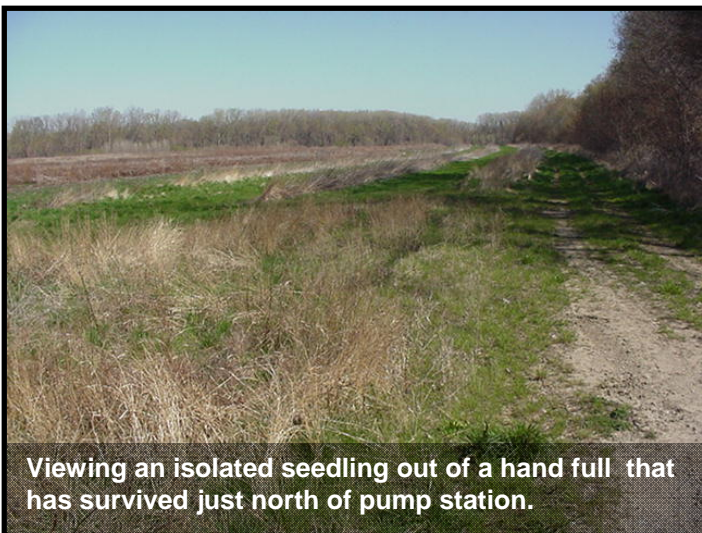
Viewing outlet pipe of pump station.



Viewing a gage reading of 3.60 feet at exterior stop log structure on the North WMU. Mississippi gage reading located adjacent to the Hannibal water works was 13.56 feet .



Viewing a couple of Great Egrets.



Viewing an isolated seedling out of a hand full that has survived just north of pump station.



Viewing an area actively being managed by MDOC where seedlings were recently planted near the SE corner of the North WMU.



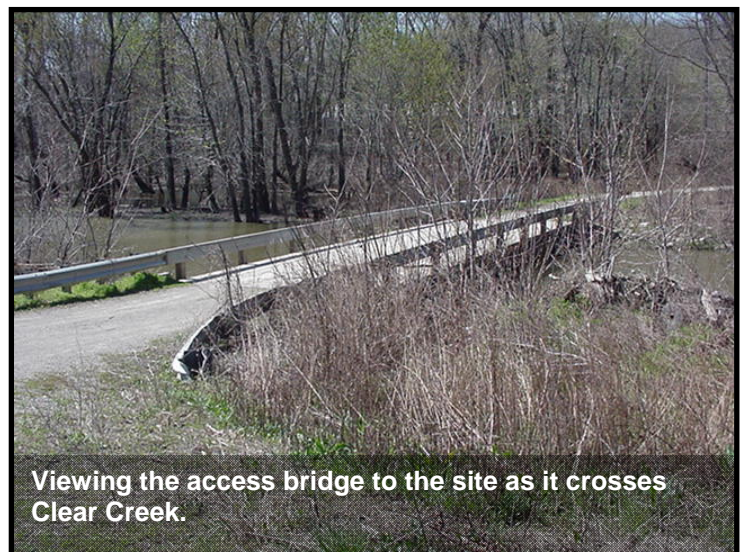
Viewing container grown RPM pin oaks and ground cover near the NE corner of the North WMU.



Viewing north in the North WMU from the stop log structure.



Viewing the overflow spillway on the North WMU.



Viewing the access bridge to the site as it crosses Clear Creek.

