

Hayden Thompson Wetland Project



Deep tree-filled borrow pits had no connection to surface water and provided minimal waterfowl habitat.



Water is directed to reshaped shallow basins by an open ditch with an individual check and turnout system

The project began with the concept that treated effluent from a confined hog facility could be put to a beneficial use. Owen Nelson, General Manager for Hastings Pork, felt that “Treated effluent from an animal waste treatment system is often called wastewater, but that doesn’t mean it shouldn’t be put to another beneficial use if possible. We had the water, and we had the land, it was simply a matter of getting the two together for a project to benefit waterfowl.” The “land” was formerly part of a Department of Defense Ammunition storage facility. Rows of concrete storage bunker had been built and then covered with dirt from adjacent pits. Owen felt the pits could provide habitat if water could be delivered.

The scope of the project included management of both water and vegetation to optimize waterfowl use of wetland habitat. This required a blend of biological and engineering expertise and assistance. The Rainwater Basin Joint Venture helped Hastings Pork staff coordinate involvement and assistance from state and federal wildlife and natural resource agencies, environmental consultants, and regulatory agencies to guide the project design.

The concept evolved into a 60 acre wildlife habitat area including 18 acres of shallow water wetland habitat and a water control system which can deliver water to each of the 7 shallow basins. The basins range from 1 to 4 acres in size with a water depth from 0 to 18 inches. Shallow basins were created by enlarging and filling the pits. Depths, configuration, and slopes were designed to provide conditions which would promote desirable vegetation and provide moist soil management. Migratory waterfowl and shorebird habitat was the primary target, although other species will also benefit.

Flexibility in vegetation management abilities required an adaptive water delivery system. Water management for individual wetlands is provided by an open ditch delivery system, check structures, and gated turnouts. Water can also flow between wetlands through connecting laterals with adjustable water control structure. The adaptive system assures the necessary diversity of habitat. Vegetation and water management will be developed using an adaptive management philosophy.

The project proceeded from concept to completion because of the attitude of cooperation between the inter-agency and inter-disciplinary team of agency specialists, regulatory specialists, and Hastings Pork staff. In the early planning, it was acknowledged that the uniqueness of the project resulted in many unknowns. Project planning and design was approached with a cautious, yet confident attitude. As regulatory, water quality, funding, and operational questions surfaced, the team would use their collective knowledge to address the question, and move on. The quality of the product is reflected in the quality of the process.

The project partners and contributions include: Hastings Pork-land, water, and funds, NE Environmental Trust & Ducks Unlimited Inc. -construction funds, US Fish & Wildlife Service and NE Game & Parks Comm. -biology expertise, Natural Resources Conservation Service-engineering & construction inspection expertise, JES Environmental Services Inc.-Regulatory consulting, Rainwater Basin Joint Venture-project coordination.