

FROM DRAGLINE TO FISHING LINE – DEVELOPING A WILDLIFE MANAGEMENT AREA AND FISHERY AT A LARGE SURFACE COAL MINE IN THE SEMIARID WEST¹

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Abstract. In the late 1990's, a reclamation plan was developed to create a lake and wildlife management area on reclaimed land at The Coteau Properties Company's Freedom Mine in west-central North Dakota. Although final highwall or pit lakes at surface mines are not uncommon in the East, this was one of the first attempts to create a recreational lake and fishery in the semiarid West. Local demand for more public recreation areas and favorable physical site conditions provided an impetus for lake and recreation area development. A final highwall pit was planned for the area that normally would have been completely backfilled. In this case the final highwall pit adjoined abandoned orphan spoils where coal had been removed more than 30 years ago. East Antelope Creek, an intermittent creek flowing in response to heavy rainfall and spring snowmelt, ran nearby. The proposed lake was designed to accommodate flows from the diverted creek, taking about 5% of the entire projected annual yield from the 9,500 acre contributing watershed. The 45 acre lake has a linear configuration, a few hundred feet across and about a mile long. Its depth ranges from eight to 20 feet. It has been stocked with largemouth bass and bluegills. Along with the lake, reclaimed native grasslands, wetlands, shrubby plantings and old orphan spoils comprise the entire wildlife management area of 637 acres. This was donated to the North Dakota Game and Fish Department and will be managed for public hunting and fishing.

Many challenges were encountered when planning for the lake and surrounding wildlife management area. This project entailed a land use change to recreation and significant revisions in post-mine hydrology and topography. Starting in early 1998, Coteau submitted applications for numerous permits and approvals from several local, state and federal agencies. A large amount of time was spent answering questions from regulatory authorities. Coteau had to demonstrate that steeper slopes and shorelines would be stable, adequate water quantity and quality was available for a fishery, the inlet and outlets were properly designed, creek diversion did not cause a net loss of wetlands, downstream surface and groundwater impacts were minimal, public access was readily available, and that the North Dakota Game and Fish Department was willing and able to take over long-term operation and maintenance after bond release.

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Landowners and communities were made aware of the project through several public meetings. Strong support developed during the planning and regulatory review phase. A single downstream landowner objected to the project through regulatory and judicial appeals, ultimately losing a final appeal in the North Dakota State Supreme Court. This delayed project approval by about a year, until February 2000. The area was completed in spring 2000. The grasslands, shoreline and constructed inlet and outlets were allowed to stabilize until spring 2002 before diverting East Antelope Creek into Harmony Lake. Final bond release is projected for 2003, after which time the area will be open for public use. Although a great public benefit will be derived from Harmony Lake and the surrounding wildlife management area, the tremendous effort required to overcome regulatory and legal hurdles to obtain approval is a disincentive for developing similar creative and beneficial reclamation projects.