

DUCK CREEK

Golden Anniversary Renovation

A Different Slant on Levees and Borrows:

The impoundments that were built back in the fifty's and later on in the seventy's have provided invaluable habitat for migrating waterfowl and some great hunting opportunities over the years. Never the less, there have been some management challenges and limitations because of the way these impoundments were developed.

From the early days, it was recognized that steeped-sloped levees had their maintenance challenges. Over the years they have been prone to erosion for a variety of reasons. Wind fetch, burrowing critters, and overtopping floods have taken chunks out of the levee banks and have required continual maintenance and repairs.

Due to ease of accessibility, the fill for levee construction was located immediately adjacent to these berms. We refer to these dredged areas as borrows. Borrows are somewhat different than ditches in that they don't always have a drain. These perennially flooded areas harbor the muskrats and beavers that often undermine the levee's integrity. Additionally, borrows often act as "water hogs" that must be flooded first before significant huntable water is available in the center of the pools.

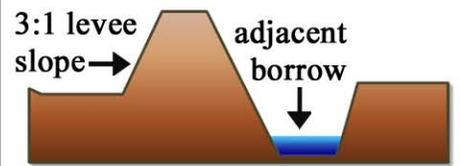
In the Wetland Reserve Program (WRP) a different strategy to develop wetlands has evolved, one that attempts to better mimic the natural features of wetlands. Low profile contour levees have broad slopes (10:1 instead of 3:1) that allow major flood events to overtop the entire span of the levee without causing expensive damages. An additional benefit to these gradual slopes is that it increases the amount of shallow water habitat available as the saturated zone slowly grades up to dryer conditions along the edge of the pool. These areas can function as loafing areas for waterfowl and can provide a different vegetation component that may not be present elsewhere in the pool.

Creative scours (the location of fill for the contour levees) are placed within the pool and not adjacent to the levee. This also solves a couple of afore mentioned problems. First of all, it eliminates the opportunities for burrowing mammals to set up shop along the levees. Secondly, it increases the pools microtopography by distributing areas of deeper water within the pool. These areas can serve a variety of functions. They can aid in water movement to, through, and out of the pool. Creative scours can provide early-flooded habitat that can be hunted without flooding the whole pool too deep or too soon (for example, this could be done for teal season habitat). Later in the waterfowl season when the unit is at full pool, the scoured areas provide the deepest flooded habitat and are more likely to stay open during short bouts of freezing temperatures.

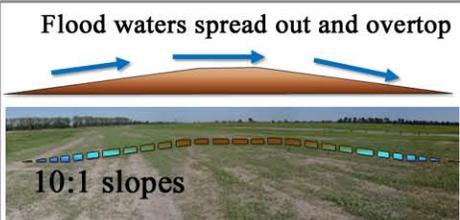
Although it might look different, we will increase our management flexibility and reduce long-term maintenance problems by working with the natural shape of the land, allowing flooding to occur during extreme events, and incorporating habitat variability. This will benefit the wetland resources as well as public use for years to come.



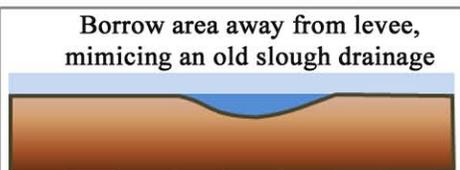
Eroded levee banks at Duck Creek's during the early days



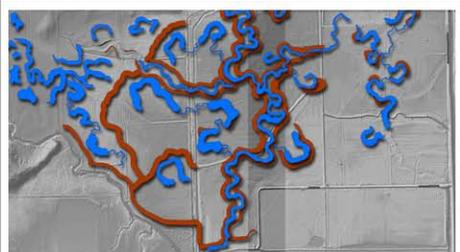
Traditional Levee Profile



Low Profile Levee



Creative Scour



Low Profile Levees and Creative Scours in Unit A and N. Unit B

