

[From Summer 1993]

Refuge Impoundment Management

Visitors to the Chincoteague National Wildlife Refuge this summer may see impoundment water levels receding and tractors operating in the impoundments. Don't be alarmed, the impoundments are not being destroyed - the Refuge is managing them to provide optimal habitat for migratory birds. Ever since its establishment fifty years ago, the Refuge has been striving to provide optimal migratory bird habitat through management of impounded areas. "Management" includes creation, water manipulation, and disking.

The first dike was built during 1951. Its completion created the refuge's first impoundment. The first water control structure was installed during 1952 with water manipulation beginning spring 1953 and continuing to the present.

Water levels within the impoundments are manipulated seasonally for two reasons. For one, different groups of birds have different feeding requirements. Dabbling ducks prefer enough water to swim easily but shallow enough to allow bottom feeding. Waders tend to prefer the deeper borrow ditches along the edges of the impoundments. Shorebirds concentrate on mud flats or very shallow water. Therefore, the Refuge tries to adjust the water levels to accommodate bird migration chronology/schedules.

Additionally, Refuge staff manipulate impoundment water levels to maximize waterfowl food production. Many plants are important sources of food for waterfowl over-wintering on the Refuge and also for those migrating through. A gradual drawdown to a low water level encourages these plants to send out deep root systems allowing them to withstand drought conditions. Manipulation of water levels is also used to retard the spread of undesirable plants and to encourage growth of desirable ones.

A tractor pulling a disk will also be seen in some of the refuge impoundments this year. Invertebrates in the sand and mud are an important food source for the thousands of shorebirds that visit the refuge each year. To encourage the growth of invertebrate populations, a management practice known as disking is employed. Disking accelerates the natural process of returning organic material to the ground by turning the soil over forcing dead plant material into the earth. As the plant material decays, the invertebrates feed on the organic detritis - allowing their population to expand. In addition to increasing invertebrate populations, selected disking will help reduce undesirable plants, such as saltmarsh fleabane, enhancing the opportunities for valuable food plants to grow.

The combined use of water manipulation and disking will ultimately enhance the quality of the Refuge's impoundments for migratory birds.

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