



# Farming for Waterfowl on National Wildlife Refuges in the Southeast Region

*Seventy-three NWRs have waterfowl and other birds as a primary purpose or highest priority for habitat management. Due to extensive loss and degradation of wetlands and changing agricultural practices which limit abundance of waste grain on the landscape, national wildlife refuges (NWR) in the Southeast are integral in providing food for waterfowl in support of conservation objectives of the North American Waterfowl Management Plan (NAWMP).*



credit: Bryan Woodward

Farming is a tool vital in helping NWRs meet their objectives for wintering waterfowl.

- Only 1% of the four million acres of NWR lands in the Southeast is currently devoted to farming. We have reduced farmland from more than 100,000 acres to less than 40,000 acres.
- Current capacities for food production on NWRs do not meet regional habitat objectives and deficits cannot be overcome using only natural vegetation (e.g., moist soil, bottomland forest).
- Unharvested agricultural crops provide the greatest energy density for waterfowl and are an important component of a habitat complex.
- Unharvested corn provides up to 16 times more energy than managed moist-soil, 60 times more energy than harvested crop fields, and 142 times more energy than an oak-dominated bottomland hardwood forest.
- NWRs supply more than 90 million duck energy days in support of waterfowl habitat objectives in the Lower Mississippi Valley (LMV) Joint Venture region (i.e., 28% of the total habitat objectives).

- The loss of 75% of bottomland hardwood forest in the Mississippi Alluvial Valley equates to a loss of at least two billion duck energy days.
- Waterfowl face a 153 million duck energy day deficit in the Lower Mississippi Valley portion of the Southeast Region.

Farming on NWRs is often accomplished through a cooperative partnership with private farmers from the local community where approximately 25% of the crop is left unharvested for waterfowl.

- Cooperative farming can help control invasive species, maintain early-succession vegetation communities, support local economies, and demonstrate good land stewardship practices.
- Cooperative farming is a very cost effective way for refuges with a large acreage of agricultural land to meet habitat objectives.
- Cooperative farming can save the Southeast Region as much as \$4 million annually.
- Some NWRs use force account farming to supplement cooperative farming, while other smaller NWRs use force account farming to entirely meet their waterfowl objectives.

- Farming agricultural grain “hot foods” for waterfowl on NWRs has allowed more than 40,000 acres of farmland to be planted to bottomland hardwood forest in the Southeast Region due to increased efficiency of providing energy-rich foods through farming.

The switch from genetically engineered (GE) crops to conventional (non-GE) varieties and elimination of neonicotinoid pesticides as seed treatments has reduced feasibility of cooperative farming on some NWRs and their ability to meet carrying capacity objectives for waterfowl.

- Conventional crop varieties often cannot be matched to site conditions on NWRs in order to maximize production and minimize chemical inputs.
- Concurrent with reductions in food production for waterfowl, chemical use and staff resources to administer a farming program without GE crops has dramatically increased.

**For more information, contact**

Heath Hagy  
 Waterfowl Ecologist  
 USFWS Region 4  
 Phone: 731/432 2856  
 Email: heath\_hagy@fws.gov