NWRC headquarters in Fort Collins, CO.

About Wildlife Services' National Wildlife Research Center

NWRC is a leader in providing science-based solutions to the complex issues of wildlife damage management as related to agriculture, property, human health and safety, invasive species, and threatened and endangered species. NWRC scientists strive to find solutions that are biologically sound, environmentally safe, and socially acceptable for use in resolving wildlife damage-management problems throughout the United States and abroad. Often, the WS program's operational personnel assist NWRC scientists in developing and evaluating new management tools and methods.

NWRC employs more than 160 scientists and support staff at its headquarters in Fort Collins, CO, and at field stations throughout the United States. NWRC's scientists have expertise in a wide range of disciplines, including animal behavior, wildlife biology, wildlife sensory biology, chemistry, immunology, statistics, population modeling, genetics, toxicology, and veterinary medicine.

"Solutions to problems depend upon knowledge which only research can provide."

Edwin R. Kalmbach, first Director for the predecessor of the NWRC (1940–54)

More Information

In addition to developing and testing new methods for dispersing problem blackbirds, NWRC scientists are also documenting habitat use and movements of blackbirds throughout the Great Plains. For more information regarding NWRC's blackbird research, please visit our Web site at <http://www.aphis.usda.gov/wildlife_damage/nwrc>.

WS Office Phone Numbers

- NWRC Bismarck, ND, Field Station
  (701) 250–4468
- NWRC headquarters (Fort Collins, CO)
  (970) 266–6000
- Eastern Regional Office (Raleigh, NC)
  (919) 855–7200
- Western Regional Office (Fort Collins, CO)
  (970) 494–7443
- Operational Support Staff
  (301) 734–7921

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Solutions Through Science

Protecting Sunflowers From Blackbirds

Wildlife Services
NWRC
National Wildlife Research Center

Problem

In late summer, large flocks of blackbirds gather in the northern Great Plains to prepare for their strenuous migration to southern wintering grounds in the United States and Mexico. The birds acquire energy for their trip by feasting on energy-rich seeds and berries. Unfortunately for farmers, many of those seeds come from agricultural crops. Red-winged blackbirds, common grackles, and yellow-headed blackbirds cause most of the damage to commercial crops. Sunflower producers in North Dakota, South Dakota, and Minnesota suffer millions of dollars' worth of losses annually due to blackbirds.

Reducing blackbird damage to sunflower crops continues to be a challenge for researchers and farmers. Farmers can suffer losses ranging from slight to devastating (total crop loss). Blackbirds tend to eat a portion of the grain in a field, which lowers the overall yield, but their depredation is not often enough to trigger an insurance claim.

Birds that congregate in fields in mid-August are not easily harassed because they are in the process of molting their flight feathers and tend to stay in nearby wetlands. It is these birds that can cause the most damage.

Science-Based Solutions

To help reduce blackbird damage to commercial sunflower crops, scientists at the Bismarck, ND, field station of the U.S. Department of Agriculture's (USDA) Wildlife Services' (WS) National Wildlife Research Center (NWRC) are collaborating with North Dakota State University (NDSU) scientists to better understand the ecology and behavior of blackbirds. In particular, scientists are developing new management methods to encourage blackbirds to roost and feed on waste grains and weed seeds in harvested crop fields and in nonagricultural areas.

Red-winged blackbirds are responsible for the majority of wildlife damage to sunflower crops.

Thinning Cattails

Throughout the Prairie Pothole Region of the Great Plains, sunflower crops are often planted near cattail wetlands. This arrangement is ideal for blackbirds, as they roost in cattails and easily fly short distances to feed on nearby sunflowers. One management method developed by NWRC and NDSU scientists that has proven successful at reducing blackbird damage to sunflowers is the thinning of adjacent cattails to make them less suitable for blackbirds.

Since 1991, WS Operations personnel have been spraying cattails on private and public lands, averaging about 5,000 acres per year. Treatment planners focus on cattail stands of 10 or more acres with a history of blackbird use. The stands are sprayed with glyphosate, a Government-approved aquatic herbicide, between mid-July and early September. The herbicide is applied in strips, which leaves untreated habitat to be used by other migratory birds that prefer more open areas.

Roughly 27 million red-winged blackbirds, 13 million common grackles, and 12 million yellow-headed blackbirds migrate through the Great Plains each year.

Cattail stands are thinned to make them less suitable for blackbirds.

Researchers from NWRC and NDSU are exploring new methods, such as "lure" crops, to reduce blackbird damage to sunflowers.

In 2007, the cost estimate for treating a 15-acre wetland was $495 or approximately $33/acre. Opening up the wetlands has an added benefit of providing better habitat for waterfowl.

For more information about this spray program, please call WS Operations at (701) 250–4405 in North Dakota or (605) 224–8692 in South Dakota.

Using Lure Crops

In the early 1980s, NWRC scientists showed that planting "lure" crops could significantly reduce bird damage to nearby commercial sunflower fields. Due to logistical and economic reasons, however, land managers did not express much support for the concept. Today, the idea of lure crops or "wildlife conservation plots" is gaining acceptance.

The concept is simple—plant a small field (about 20 acres is ideal) of sunflowers or another crop, such as corn, that is attractive to blackbirds. Do not spray the crop with insecticides and do not harass the birds using it. The goal is to keep the birds in the lure crop as long as possible, thereby reducing the time they spend in nearby commercial sunflower fields. Each seed eaten in the lure crop is one less seed eaten in the commercial field. Farmers can continue to spray registered repellants and harass birds in their commercial fields in order to encourage the birds to stay in sections planted with the lure crops.

NWRC scientists are finding that the most successful lure crops are those planted between wetlands and commercial fields. The lure crops have also proven beneficial to many other bird and wildlife species.

Repellants, Propane Canons, Pyrotechnics, and Farming Practices

NWRC researchers are working to identify, develop, and improve the use of chemical repellants for reducing blackbird damage to ripening sunflowers. However, before any repellant can be used effectively in large-scale applications, a more effective method is needed to spray repellants onto sunflower heads, which hang nearly horizontal to almost perpendicular to the ground. WS field specialists and scientists also continue to assist growers in the use of other management tools and methods for reducing blackbird damage, including the use of propane cannons and pyrotechnics to scare birds away from fields, and farming practices that encourage the removal of ripened sunflowers earlier in the season. Applying a dessicant, such as glyphosate herbicide, to sunflowers enables farmers to harvest earlier, thus avoiding late-season damage from blackbirds.

NDSU

National Sunflower Association

Partnering with NWRC investigators are scientists from North Dakota State University and stakeholders from the National Sunflower Association.