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Should Ducks Be Frightened?¹

William K. Pfeifer and Steven D. Fairaizl²

Abstract.--The most common method of resolving waterfowl depredations to small grains is to scare ducks using mechanical scare devices or pyrotechnics. Scaring techniques, however, cause waterfowl to damage, by trampling, up to twice the amount of grain consumed. Conditions such as weather, harvest stage, cultural techniques, farm equipment, length of damage season, availability of alternative feeding sites, and waterfowl population could combine to increase trampling losses. These conditions should be evaluated to determine if large scale scaring projects may actually increase damages to small grains.

INTRODUCTION

Waterfowl depredations to small grains, wheat and barley have been a chronic and common problem in North Dakota since the 1930's. The problem occurs when large concentrations of southerly migrating waterfowl move into an area of unharvested grain and begin feeding. The practice of swathing, cutting grain into windrows to dry before harvesting, instead of straight combining increases the susceptibility of the small grain to waterfowl depredations.

Depredations were identified in the 1950's as being a limiting factor in waterfowl production (Munro and Gollop 1955). As a result, the U.S. Fish and Wildlife Service (FWS) began a large scale project to scare ducks from unharvested small grain fields. Various combinations of mechanical scare devices and pyrotechnics were used to frighten ducks. Waterfowl proved easy to frighten using the usual scare devices, but a question arose as to whether this project would increase or decrease damages.

METHODS

Data were collected over a five-year period, 1975-1980, and evaluated to determine if a state-

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wide scaring project would reduce losses to small grain farmers caused by waterfowl. Observations were made by field personnel to record the number of days ducks were in a field, the number of fields damaged in an area and to estimate trampling losses. These data were used to evaluate the effectiveness of the project to reduce losses in an area.

A large quantity of scare devices were built, collected and distributed throughout the state. Mechanical scaring devices and pyrotechnics used in this study were: propane exploders, black plastic flags, firearms, 15mm flare pistols, racket bombs, whistle bombs, noise bombs, cracker shells and M-80 type bird bombs. Exploders and pyrotechnics were purchased from a national distributor and flags were built by YACC crews according to specifications established by the FWS (Duncan 1979). Approximately \$10,000 of Animal Damage Control (ADC) operational and maintenance funds were expended each year for the purchase and construction of this equipment.

All of these devices were built or purchased by August 1 of each year. Mechanical scaring devices and pyrotechnics were distributed to farmers through ADC field stations and National Wildlife Refuge offices in North Dakota. Farmers were issued equipment after providing information on location of complaint, bird species involved and type of crop damaged. Farmers were also required to sign a liability release before bird bombs were issued. Farmers were not required to obtain a Federal Scare Permit.

ADC personnel conducted demonstrations throughout the state in which scare devices were provided, installed and waterfowl frightened from a field. The demonstration was also used to train neighboring farmers in waterfowl hazing techniques.

RESULTS AND DISCUSSION

In 77 percent of the complaints reported between 1975-1980, ducks were allowed to feed in a field for two days or less before being observed by the landowner or ADC personnel. Mechanical scare devices or pyrotechnics were utilized to frighten the birds from a field. The birds would then select and start feeding in another field and the sequence would be repeated. In 1980, near Devils Lake, ND, a flock of ducks was frightened nine times in a 20-day period. The results were nine irate landowners and a great deal of damage to nine fields due to trampling, feeding and contamination by defecation. In the Mud Lake area during 1979, five complaints were received concerning the same flock of birds over a ten-day period. During 1978 in the Kulm area, approximately 80 complaints were received involving four flocks of ducks in a 20-day period. In some cases, ducks had only alighted in a field before being frightened while, in other cases, ducks were in the field one to two days (Duncan and Zahn, pers. comm.).

In situations such as these, observations indicated waterfowl cause more damage to small grains by trampling than by eating. Sugden and Goerzen (1979) indicated ducks trample twice the amount of grain consumed and that most trampling damage occurs before a field is 30 percent utilized. Moving ducks every two days or less results in maximum trampling damages.

Observations from this study indicated there were several factors which should be considered before a large scale scaring project is implemented. We found that the critical element for success of such a project was the presence of an acceptable alternative feeding site into which ducks could be chased. If an acceptable alternative feeding site did not exist, the scaring project produced limited results because ducks simply continued to enter and cause extensive damage, by trampling, to additional unharvested fields. Observations indicated the most common alternative feeding sites were harvested grain fields, also called stubble fields. Early in the damage season when the harvest is less than 50 percent complete, few stubble fields or alternative feeding sites existed.

The long range weather forecast should be carefully examined to determine the extent that harvest may be delayed. This harvest delay determined the length of the damage season. Observations indicated that in years with a damage season longer than 30 days, harvest was minimal and scaring techniques produced limited results due to a lack of available alternative feeding sites. Scaring techniques did produce good results in short damage seasons, especially if the short damage season overlapped with waterfowl hunting season.

Observations indicated that scaring small bunches of birds may concentrate waterfowl in an

area undiscovered by the landowner resulting in severe damages in a short period of time. Population surveys were used to monitor numbers of birds in an area, locate waterfowl concentrations and to record damage sites not previously reported.

Local cultural practices should be identified before a scaring project is initiated. For example, areas in which chisel plowing is predominant will produce better results from scaring projects than will areas in which moldboard plowing is dominant because chisel plowing leaves more stubble and waste grain exposed. Areas which have a high incidence of grain dryers will have a shorter harvest season and, subsequently, a shorter damage season which will increase the effectiveness of scaring techniques.

Analysis of these factors indicated that the lack of alternative feeding sites, an extended damage season, a high population of ducks in the area during the damage season and local cultural practices could combine to reduce the effectiveness of a scaring project by encouraging waterfowl to feed in additional unharvested fields. By feeding in a large number of unharvested fields, ducks cause a great deal of trampling damage in an area. Large scale scaring projects can be effective, however, during a short damage season and if local agricultural practices produce an alternative feeding site.

Obviously, scaring ducks will not cause as much damage to an individual field as allowing the birds to feed unmolested in that field for the duration of the damage season. The benefits to the entire area, however, are diminished when birds are moved from one unharvested field to another every few days because combined trampling losses will increase. Scaring projects would, therefore, produce good results in individual fields, but less overall damage would occur in an area if the birds were allowed to feed in the originally selected field, thereby eating previously trampled grain. Unfortunately, no landowner will willingly accept damages over an extended period of time in the interest of an overall reduction of damages in the area because his individual losses would be high.

When the situation exists of an extended damage season, lack of alternative feeding sites and an unwillingness on the part of the landowners to accept high losses, a large scale scaring project may, in fact, cause more damage than it prevents. In this situation, it may be advantageous to utilize an alternative method of control whereby a lure crop is purchased and waterfowl allowed to feed in an unharvested field of their choice. Waterfowl from adjacent areas are encouraged to use the lure crop through the use of scare devices placed to protect nearby fields. By allowing waterfowl to concentrate and feed in one field for the duration of the damage season, overall losses in the surrounding area can be reduced.

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