DISTRIBUTION AND IMPACT OF CANADA GOOSE CROP DAMAGE IN EAST-CENTRAL WISCONSIN[1]/

by James Heinrich and Scott Craven[2]/

The steady increase in the numbers of Canada geese on or near Horicon National Wildlife Refuge since its establishment in the early 1940s has resulted in many opportunities, and a few difficult problems. The problem of crop depredations has plagued the Horicon area since the mid-1960s. Each increase in goose numbers has brought with it renewed farmer concern, and each incident has resulted in some change in goose management direction. Increasing problems, more geese, lower harvest quotas, and the new Wisconsin Wildlife Damage Program combined to encourage the Wisconsin Department of Natural Resources (WDNR) to take a comprehensive look at the goose depredations issue, in search of a long-term solution.

A lack of basic data on the attitudes and concerns of Horicon area farmers hindered resolution of the crop depredation issue. In 1985 the WDNR requested and funded the Wisconsin Canada Goose Survey through the Department of Wildlife Ecology at the University of Wisconsin-Madison. The survey was to quantify the magnitude and distribution of perceived crop damage and to gather related opinions and attitudes from Horicon area farmers. A random sample of 14% of the farmers in each township in the survey area (841 farmers) received the questionnaire in the mail early in 1986. Each 15 page survey booklet contained 57 numbered questions relating to attitudes toward geese, seasonal effects of geese, crop damage, abatement efforts, and goose management policies. Two more mailings encouraged those who had not responded to make their opinions known. Eighty-two percent of the farmers (650) ultimately returned a usable survey. That response rate represented an 11% sampling of the area's farm population (5960). The survey was replicated in 1987 for the 1986 growing season. The same number of farmers received the survey and response rates were comparable.

For analysis, three zones were defined in which heavy, medium, and light levels of goose-use have occurred, based on recent data from a long term study by the Wisconsin Cooperative Wildlife Research Unit. With few exceptions, which are discussed individually, the results for 1985 and 1986 were the same. Thus the years are pooled for discussion. Monetary figures represent extrapolations from the amounts actually reported by the survey sample to an estimated total for the survey area's entire farm population. Thus damage losses represent perception. The relationship between perception and reality was evaluated with a model using known values for goose numbers, consumption rates, and food habits.

Horicon area farmers perceived a $1.6 million loss to Canada geese in both 1985 and 1986. The most serious losses were reported in the heavy-use area, within 10-20 km of Horicon NWR. While 43% of heavy-use area farmers felt their crop losses were unacceptable, only 18% of the light-use area farmers held that opinion. Overall, 30% of area farmers felt their crop losses were unacceptable. There was less tolerance for goose damage than was evident in related surveys on deer damage. A full 90% of the farmers would not tolerate losses less than $500; the current deductible under Wisconsin Compensation Laws.

The crops most frequently damaged were alfalfa, winter wheat, and corn. Questions added in 1986 clearly demonstrated that damage takes several forms besides consumption, especially in winter wheat and alfalfa.

Horicon area farmers spent about $340,000 annually in their attempts to prevent damage. They did not feel that they could prevent unacceptable losses.

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The most commonly used abatement methods, and the most effective in the farmers opinion, were hunters, vehicles, people, and dogs. Farmers did not believe that the propane cannons, flagging, and shellcrackers distributed by state and federal agencies were effective. However, their responses suggested that they seldom used the cannons in the recommended and most effective ways.

Survey wording about agency abatement programs changed for 1986 to reflect the presence of an intensive APHIS-ADC program. Eighty percent of area farmers thought the APHIS program and the combined USFWS/WDNR program that preceded it were a good use of government revenue although a majority had neither heard of the assistance programs nor used them. Of those farmers who had used the new APHIS/ADC program, most agreed that assistance was timely but simply needed more and better techniques to be effective.

For 1985, 51% of area farmers strongly agreed with the idea that increased goose harvest would lead to less crop damage. Following a drastic increase in the Wisconsin goose harvest quota from 25,000 in 1985 to 45,000 in 1986, that percentage dropped to 27. Few farmers saw any relief in expanded goose harvest. They were, however, very satisfied with a hunter referral system established in 1986 to get more hunters into fields with chronic damage problems.

Despite their concern over damages, 71% of the farmers indicated that the sights and sounds of Canada geese still brought them pleasure. They do not want the geese eliminated, but rather brought under control. In general they do not recognize the economic value of the flock to the region, primarily because they do not share in that benefit. Additional survey work is underway to quantify a cost/benefit analysis of the presence of geese around Horicon. Innovative APHIS/ADC programs, a more equitable distribution of economic benefit, and more and better abatement techniques should allow for the continued presence of abundant Canada geese in the agricultural landscape of east-central Wisconsin.