

COMPLETED PROJECT REPORT

Project Title: Trapping to control birds in agriculture.

Research Agency: University of California – UC Davis

Principal Investigator: Crabb

Budget: \$14,937.00

Summary:

The abstract for the final report is provided below.

Abstract: Birds damage many crops in California. Growers attempt to shoot or frighten birds, but surveys have shown a general dissatisfaction with these techniques. The discontent with scaring techniques and the loss of a toxicant, strychnine, has created the need to review the status of alternate, existing control methods. In this study we examined the status of trapping to control bird damage based on a nation-wide questionnaire, the literature, and on-site visits of trapping programs.

We mailed 464 valid questionnaires to Agriculture Commissioners in California, Cooperative Extension Wildlife Specialists, USDA APHIS Wildlife Service's personnel, state Department of Agriculture personnel, and members of the National Animal Damage Control Association. Two hundred fifty questionnaires (54%) were returned, representing 50 states, 1 territory, and 51 California counties. Fifty-four percent of the 250 respondents indicated they actively trap, monitor, or provide information on bird trapping. Regarding specific activities, 49% of 129 respondents actively trapped; 43% provided information only. By affiliation, 90% of private respondents trapped followed by 60% of federal respondents. In California 1 county trapped, 10 monitored trapping, and 18 only provided trapping information. Respondents listed 53 species of birds causing damage with rock doves, European starlings, blackbirds, Canada geese, American crows, house finch, and house sparrows cited most for damage to crops, animal production facilities, or non-agricultural sites. Respondents listed 52 crops, 18 types of animal production facilities, and 16 non-crop sites subject to bird damage. Sixty percent of responses from private industry indicated species and damage from non-agricultural sites; 74% of returns from California counties emphasized agricultural damage. Respondents listed 25 species that were trapped and specific traps used. Modified Australian crow (MAC) traps, walk-in traps, and drive traps were used most frequently. Recommendations on trap management included trap placement, prebaiting, baits, decoy birds, and common mistakes. Most respondents (80%) rated trapping as moderate to excellent for ducks, geese, rock doves, and house sparrows. Trapping

for starlings was rated as moderate to excellent by 75% of private-industry respondents (mostly non-agricultural damage), but 80% of California county returns (mostly agricultural damage) rated it as slight. Differences in control ratings for some species related to the type of damage site, geographic location, and organizational affiliation. Most (57%) respondents felt trapping was not important in overall bird control in any crop. Most California Agriculture Commissioners (>70%), however, indicated trapping was important for starling and house finch control, particularly in grapes. Most respondents (71%) felt trapping for bird control stayed at the same level or increased since 1990, and 82% thought it would stay the same or increase in the future. This sentiment was strongest among respondents from private industry (93%). Respondents recommended new or improved trap designs and trapping strategies.

We searched online databases (AGRICOLA, CAB Abstracts, Zoological Record, Wildlife, Duck Data, Ornithology) and extensive in-office reprint collections for pertinent literature. We identified literature on general trapping concepts, specific traps, trapping techniques, and operational trapping programs. We found no rigorous evaluations of trapping's effectiveness or the factors influencing results. Three studies provided partial economic analyses, but most evaluations of trapping put emphasis on the numbers of birds caught rather than the amount of damage eliminated in relation to the cost of control. New trap designs or trapping strategies that may have application to current bird problems include the impact trap, the Modesto funnel trap, noose-covered wickets, glue-coated perches, decoy-crop trapping, trammel nets, and mist nets. We identified sources for state and federal regulations concerning legal and humane aspects of bird trapping in California. We reviewed historical aspects of bird trapping in California including the range expansion of starlings in the 1950s and development of the MAC trap for starling and house finch control.

From California Department of Food and Agriculture data we identified 5 California counties (Fresno, Kern, San Luis Obispo, Sonoma, Tulare) currently monitoring house finch trapping. From 1991- 1995 an average of nearly 100,000 house finch have been trapped annually. Only Sonoma County currently traps with county personnel, taking an average of 1,000 starlings/year from 1991-1995. On-site inspections of Sonoma County's trapping operations provided details regarding initiation of trapping, trap placement, baits, trap maintenance, and ratings of effectiveness.

We conclude trapping for bird control: 1) is commonly used across the country by a broad segment of wildlife damage control practitioners; 2) is important for the control of selected species, such as starlings and house finch in California; 3) is important for bird control in certain crops such as grapes in California, and non-crop sites such as around buildings in urban areas; 4) will continue to be used at the same or increased levels in the future; 5) has not been rigorously evaluated from a cost-benefit standpoint; 6) can be improved with new trap designs and strategies; and 7) merits additional research.

Last Updated:

02/13/09