

September 1968

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A CONSERVATION DEPARTMENT APPROACH TO
ENVIRONMENTAL CONTAMINATION
AND SURVEILLANCE PROBLEMS

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It is a pleasure to participate in this meeting where I expect to learn much more than I shall contribute. I appear to be the only representative from a state conservation department, as indicated by the program. Perhaps then I should attempt to represent the role of conservation departments in bird control problems, but I will do well in the allotted time to review some policies of the "Show-me" state.

The Constitution of Missouri charges the Conservation Commission with the control, management and regulation of all wildlife resources, as established in Article IV, Sections 40-46, first adopted by vote of the people, November 3, 1936, and amended for clarification by "The Wildlife and Forestry Act" adopted February 27, 1945. The statutory definition of wildlife is very broad, and it includes all wild birds and mammals whether resident, migratory or imported, protected or unprotected. Provisions, in part, state: "The control, management, restoration, conservation and regulation of the bird, fish, game, forestry and all wildlife resources of the State . . . and the administration of all laws pertaining thereto, shall be vested in a Conservation Commission."

Additional provisions specify in what manner this mandate of the people shall function under the law. The Wildlife Code is permissive in nature and any method used for taking wildlife is prohibited except as specifically permitted by the Rules of the Code and any statutes consistent with the Constitution (Rule 1.10).

Under Rule 1.30, any wildlife which is damaging property may be captured or killed by the owner but only by methods permitted in the Code, except by written authorization by the Director. This legal basis helps explain why control activities by Federal agencies are more restricted in Missouri than in most other states.

Control of so-called "nuisance" or "pest" wildlife species, particularly birds, has not been emphasized in our program which is largely financed by hunting and fishing license fees. For a number of years, the Federal government has recognized the effectiveness of our extension trapper predator control system, and it has expressed virtually no interest in the control of mammals in Missouri, except for rodents. The situation regarding birds has been less distinct, probably because of their migratory nature and the question of Federal jurisdiction

over migratory wildlife. Thus, our department has not assumed any real responsibility for alleviating damage by such migratory birds, even though special permission is required for the use of any control methods not authorized by the Wildlife Code.

Problems with birds have been generally less numerous, more localized, more recent, and less severe than with mammals; accordingly they have received less attention. Complaints most commonly involve concentrations of blackbirds, starlings, or occasionally pigeons. Damage complaints result from bird feeding activities in fields or feed lots, environmental contamination because of roosting habits, the feared spread of communicable diseases to livestock and humans, or general nuisance because of soiled laundry, automobiles, homesteads, or business establishments near roost concentrations.

Historically, the Conservation Commission has allied itself with other state, federal, and private agencies that are concerned with control and management of wildlife. It was suggested about a year ago that a Memorandum of Understanding, specifying the policy and procedure for bird control and rat and mouse control by the Bureau of Sport Fisheries and Wildlife in Missouri, would be desirable. Subsequent discussion with Bureau representatives led to the conclusion that a formal memorandum of understanding was unnecessary. The primary purpose of such documents is to formalize operating procedures in states where the Bureau carries on a continuous control program rather than in those states where control essentially is a state function augmented only occasionally by the Bureau handling of special problems. Under existing procedures in Missouri, the state requests assistance from the Bureau of Sport Fisheries and Wildlife only when faced with large scale bird control problems. When the Bureau receives requests for assistance through other channels the state is informed prior to initiation of action by the Bureau.

Normally, the Bureau's action is advisory in nature and recommendations are made after joint inspection and consultation with state personnel. The persons or agencies applying control methods are responsible for obtaining the necessary permits from the Department of Conservation. This system occasionally results in some delay in processing requests for assistance, but we feel that it has been satisfactory in handling most of the bird control problems. It provides our Department a measure of surveillance on bird control activities (which have not been numerous), and prevents environmental contamination that might occur by indiscriminate use of chemical poisons, pesticides, and like materials.

Perhaps some case histories will best explain how the system fares in practice, and also point out some of the shortcomings that are encountered.

Case History No. 1 —Dexter Blackbird Roost

The Dexter, Missouri, blackbird roost in Stoddard County has been widely publicized, and serves as a shining example of interagency cooperation and frustration. A public meeting early in 1963 involved the townspeople, farmers, political representative, Federal game management agent, Conservation Commission

personnel, Assistant State Entomologist, and as reported, one lady bird-lover.

The suggestion by a representative of the Federal Predator and Rodent Control Division (now Division of Wildlife Services) that TEPP (tetraethylpyrophosphate) be used to eliminate some 10,000,000 blackbirds of various species caused involvement of the Conservation Commission through provisions of the Wildlife Code.

Permission for experimental use of TEPP under prescribed conditions was reluctantly granted by the Commission, February 7, 1963.

To shorten a long story, there followed a period of letters of misunderstanding, meetings, recommendations and rejections of same, between personnel of the U.S. Fish and Wildlife Service, Conservation Commission, citizens of Stoddard County, Dexter city officials, State Division of Health, and U.S. Public Health Service. Activities of all interests were congenial and coordinated, but no recommendation proved acceptable to all, and no agency was willing to assume responsibility for the control operation. Each agency in turn was generous with advice, recommendations, and willingness to appraise results, but each in turn pleaded lack of funds, personnel, and equipment for extensive involvement in a local problem that surely would establish a precedent for widespread activities.

The problem was resolved after three years with purchase of a new fire truck by the city of Dexter and an idea. Use of the high-pitched sirens, of the fire truck and police cars, revolving lights, shotguns, and scare cannons for 3-4 nights from dusk until after dark caused the birds to abandon the roostsite five times during the past two winters. Numbers of birds swindled with each movement of the roost.

Three large, new roosts became established within 20 miles of Dexter last winter, so out-of-sight out-of-mind cannot be considered a permanent solution. Improved methods suitable for general application in control of blackbird roosts surely will be needed in the future.

Case History No. 2 - Roosting Birds in Columbia

Birds that roost in cities often prove incompatible with business, human health, and public interests. The city of Columbia (40,000 population) in central Missouri long had been plagued with starlings and pigeons roosting in the downtown area. Accumulated droppings on buildings, signs, and sidewalks brought complaints from citizens and businessmen, and caused concern among city health department employees interested in controlling spread of communicable diseases.

Many individuals had tried anti-roosting devices (balloons from window ledges and cornices, and other means) without success for large scale municipal control of roosting starlings and pigeons.

The Health Department recommended that a poisoning campaign be conducted by a commercial pest control operation, and permission was granted by the Director, Missouri Department of Conservation. Several methods of poisoning were considered by the Columbia Board of Health, with ultimate awarding of contract to Rid-A-Bird, Inc., Muscatine, Iowa.

Widespread publicity was achieved through news media prior to initiation of the program. Citizens were warned not to pick up dead or moribund birds with their bare hands. The School Board was notified of the control measures being taken and announcements regarding cautions were made in each classroom.

Endrin (9.4%) placed in metal perches with fabric wicks were located on ledges and other favorite roosting places. Work began February 7, 1966 and was completed by three men on 40 buildings within one week. Birds roosting on the perches absorbed the endrin cutaneously and died within 12-24 hours.

Results were noticeable within 24 hours of the initial application, and quite obvious within one week. After 2 or 3 weeks control was virtually complete.

While some dead birds were observed in the downtown area, numbers were minimal. Street cleaning crews picked up dead birds early in the morning to deter public criticism. Roughly 85% of the bird population was starlings that flew to the country in the morning to feed and did not return.

The control program was effective, well received by the public, and well worth the cost of less than \$2,500.00. No secondary poisonings were reported.

Case History No. 3 - Birds on A.S.B. Bridge, Kansas City

Surveillance of bird control programs through coordinated efforts of enforcement personnel occasionally exposes operations in conflict with regulations. Situations may arise because of inadequate communications, incomplete knowledge of requirements, or disregard for regulations. Such appeared to have been the case when a pest control organization proceeded under contract with the State Highway Department to eradicate birds roosting and nesting on the A.S.B. bridge in Kansas City, Missouri.

Despite the fact that Highway Department personnel had been requested to furnish information on proposed bird control operations before awarding a contract, control efforts were well under way when discovered. Bureau and Commission personnel were informed of the operation only after a contract had been awarded and the operator challenged for proceeding in conflict with regulations.

There appeared no great danger of many song or game birds being destroyed in this case, but potential danger of water contamination and fish kill in the Missouri River was great. A subsequent report of having ridded the bridge of 2,500,000 starlings and 10,000 pigeons indicated the scope of the operation. Information showed that Endrin and Entex were used, with some four gallons of pesticide concentrate required to service all poison sites on the bridge. The long residual effect of Endrin, and lethal concentration to fish at 3 parts per billion clearly indicate the potential danger to the valuable fishery resource of the Missouri River.

Case History No. 4 - Use of Starlicide

Starlicide became available for control of starlings in feedlots during fall 1967 in Missouri, and was available only through Ralston Purina Company dealers. The Commission established a firm policy on Starlicide use, as follows:

Users were required to have written permission of the Director, Missouri Department of Conservation, prior to use. In practice, requests for use were made to the local conservation agent who promptly inspected the site, made an assessment of damage or loss, and recommended authorization for use when warranted. Approval by the Director normally followed a favorable recommendation, which permitted the farmer to purchase and use Starlicide according to directions.

A summary of results from reports of conservation agents revealed:

1. A total of 110 requests in 22 counties were received.
2. Six requests were denied and 104 permits were issued.
3. Sixty-one permittees actually used Starlicide after approval for use.
4. Results ranged from good to excellent. Two users reported poor results.
5. Other than sparrows, a single pigeon, and a few blackbirds, no other wildlife was reported to have been affected by its use.
6. Most department agents favored strict control of permits to prevent in discriminate use and environmental contamination, but recommended a faster system of permit approval.
7. Some agents felt a need for time limits or seasonal restrictions for use, as well as maximum quantities that a landowner could purchase.
8. An increased demand for this product was predicted. It appears that Starlicide will help eliminate many bird problems for feedlot operations.

Other case reports might be reviewed, but the cases cited should be sufficient to illustrate policies under which the Department of Conservation operates, to point out the need for coordination in activities of interested agencies, and the need for improved communications and methods for bird control. We feel that surveillance methods in effect have served well to prevent environmental contamination and destruction of protected wildlife.

DISCUSSION:

QUESTION: How long is the permit good for.

KORSCHGEN: The one time. This is another point that has been suggested by the agents, that both the period of use be specified and the amount that anyone could purchase at one time. It is not specifically stated that way at the moment. These were monitored and checked on by the agents, and the single purchase as far as I know always prevailed.

SCHENDEL: I'm wondering if the pest control men would have to have the same authorization to use Avitrol in feed lots?

KORSCHGEN: This is a point I'm not sure of. I was discussing it with my friend Dan Dickneite who has been assigned to special programs in Missouri. We have regulations in Missouri that are written so that the farmer or his agent may take care of the problem. I don't know that this is in this regulation; I think it would be a good idea. I'm not certain at this moment whether a pest control operator can do this for the farmer. You have a good point, and I'm sorry I can't answer specifically.

DUDDERAR: Assuming the demand for permits for using Starlicide does increase, and say perhaps several other lethal methods become available to land owners, do you think your agents will be capable of handling the permit load as well as their other enforcement duties? The reason I ask is that we have a similar law situation in Virginia.

KORSCHGEN: Yes, I think this will be no greater than checking on violations that are reported to them or that they seek out. It's a part of their duty. The agent is considered a representative of the Commission in his county. He does school work, he meets with garden clubs, takes care of enforcement, has some educational activity. . .this is just another part of the work load. In Missouri the conservation agent is much more than a law enforcement man.

DUDDERAR: We have a similar situation, but the opinion of the Commission is that the extra work demanded by the permit system under the current law is just too much for the agents to handle as well as to continue with their regular duties. I was wondering how you have gotten around this problem.

KORSCHGEN: We haven't really faced it yet; the program is so new. Changes may become necessary as time goes on. We are still in the trial and error period. Thank you.