A COOPERATIVE APPROACH TO RESOLVING A MARMOT DAMAGE PROBLEM IN AN URBAN RECREATIONAL SITE

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ABSTRACT: The United States Army Corps of Engineers (COE) requested that USDA, APHIS, Animal Damage Control (ADC) investigate methods of yellowbelly marmot (Marmota flaviventris) removal along a parkway and levee system in Lewiston, Idaho. COE biologists determined that burrowing marmots had penetrated and were compromising the integrity of the levee core. In addition to protecting downtown Lewiston from flooding, the levee is used as a popular bicycle and foot path. The Humane Society of the United States (HSUS), and other groups and individuals became involved at meetings held to discuss potential methods of resolving the problem. ADC in cooperation with HSUS proposed cage trapping and humane euthanasia with carbon-monoxide gas. Forty-Eight marmots were removed during three days of trapping. This represented approximately 90% of the population on the levee system. The news media took an interest in the project and provided favorable coverage. This project demonstrated that groups with traditionally differing viewpoints on wildlife damage management can achieve a balance of the needs of society through teamwork and cooperation.

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The yellowbelly marmot, also known as a rock chuck, is found throughout most of the Western United States. Marmots have forefeet with long claws that are well suited for burrowing (Bollengier 1983). They live amongst rocks and boulders which are used for dens and lookout posts. Marmots are abundanv in Idaho and are listed as a nongame species with unprotected status. Their feeding and burrowing habits often conflict with mans' interests when they cause serious damage to crops such as alfalfa and sugar beets. Structures and property can also be adversely affected by marmot activity. Conversely, marmots provide humans with sport hunting opportunities and have aesthetic value (Burt Grossenheider 1976).

METHODS

Affected Area

In the Spring of 1992, wildlife biologists with the United States Army Corps of Engineers (COE) contacted APHIS, Animal Damage Control (ADC) personnel regarding the burrowing impacts of marmots on the levee system along the Snake River in Lewiston, Idaho. The COE previously conducted searches on the levee core which showed marmot burrows threatening to break the levee, especially during high water stages. A break in the levee would result in the flooding of the downtown business section of Lewiston. There existed a potential for significant property damage and even loss of human life.

Marmot damage was of greatest concern on a three mile stretch of levee which the COE had developed into a recreational parkway and popular bicycle and foot path. The public also uses the greenbelt for other activities which include feeding and viewing wildlife such as ducks, geese, and marmots. The actual number of marmots in the area was unknown, but initial population estimates ranged from 200 to 400 individuals.

In discussions with COE, ADC outlined an Integrated Pest Management (IPM) program. This IPM approach allows for consideration of a variety of strategies which may be effective in managing a species. Among the methods mentioned were the following: (1) Habitat modification--Place artificial turf or plant undesirable vegetation, (2) Birth control--With new research on sterilization this subject also received attention, (3) Lethal and nonlethal snares, (4) Conibear traps, (5) Shooting with high powered air rifles, (6) Zinc phosphide--the Idaho State Department of Agriculture had previously issued a Special Local Needs (EPA Section 24[c]) pesticide label to ADC for the use of zinc phosphide to control marmots, and (7) Cage trapping--it was believed that some marmots would be captured in a cage trapping effort.

It was the desire of COE to request ADC to poison the marmots on the levee. Zinc phosphide seemed to be a desirable method because of the low cost and rapid effectiveness of marmot population reduction. Therefore, in an attempt to measure public

sentiment, the COE announced to the public the draft proposal of toxicant use on the levee.

Public Concerns

Immediate opposition arose against the notion of toxicant use in such an area. Many groups and individuals spoke out against this action. Among these were a local veterinarian, Lewis and Clark Animal Shelter, and the Humane Society of the United States (HSUS). Some members of the public insisted that there was no problem and the marmots should be left alone. Other opinions appeared in the media which favored such an action regarding a human/wildlife conflict. Nevertheless, it was apparent to COE and ADC that this subject was not only of great public interest but also potentially volatile. Due to these factors, project action was postponed until a plan could be developed through further public involvement.

Public Involvement

On March 9, 1993, ADC and COE met with all interested parties to determine an amiable solution to the problem. Representatives from the HSUS, Idaho Department of Fish and Game, Lewis and Clark Animal Shelter and other individuals attended the meeting. The group concluded that the marmots posed a threat to the levee and control of some form was warranted. However, the use of zinc phosphide or any toxicant was dropped from further consideration due to social concerns specific to the levee/greenbelt. With input from this group, a plan was developed for cage trapping and euthanasia of the marmots. Carbon-monoxide gas was the selected form of euthanasia as endorsed by the American Veterinary Medical Association (AVMA) (AVMA 1986). ADC agreed to supervise and lead the project and HSUS agreed to monitor the trapping and handling of the animals.

Special concerns identified in this meeting were: (1) For protection of human life (should the levee break) and property, the levee marmots should be managed, (2) Animals should be handled kindly, (3) Project timing should be such as to avoid the reproductive stage which would leave young marmots in the den without parental care, (4) The public would be made aware of the project ahead of time, (5) Euthanized marmots should be disposed of properly, and (6) Marmot colonies adjacent to but not on the levees should not be removed or controlled.

The option to relocate the marmots was discussed but not recommended. Translocation of free-ranging, wild animals is a complicated, costly and often overrated wildlife management technique, which may jeopardize the animals involved and adversely affect the environment into which they are introduced (Leon 1988). The AVMA, National Association of State and Public Health Veterinarians and the Council of State and Territorial Epidemiologists oppose the relocation of mammals because of risk of disease transmission among mammals (Centers for Disease Control 1990).

Other factors that might affect implementation of the project were discussed. These were: media involvement (radio, newspapers, T.V.), vandalism of traps and equipment, irate individuals and possible protests. There were also concerns that project workers may be confronted by extreme individuals attempting to hamper the effectiveness of the effort.

Implementation

The COE placed signs on the levee which featured a general explanation of the purpose and need of the project. A news release also explained the new direction of the proposed action. Pamphlets describing the control also were available to the public. Cage trapping began March 22, 1993, more than a year from the time that control work had been requested. Approximately 50 cage traps were baited with carrots and placed on top of the levee.

RESULTS

It became apparent that the marmots were habituated to humans, and being neither wary or trap shy, readily entered the traps. Commercially available marmot attractants were used to coax the more hesitant individuals. It also became evident that there were far fewer marmots on the levee than was indicated by original estimates.

In three days of trapping 48 marmots were captured and euthanized with carbon-monoxide gas. Of these, 26 were females and 22 were males. Physical condition of the marmots was determined to be fair to poor. Project workers estimated that 90% of the marmot population on the levee was captured. This estimate was derived after workers counted only 3 marmots during surveys conducted on the 3 mile

stretch of the levee/greenbelt after completion of the project.

Necropsies performed on female marmots by HSUS and ADC revealed that female marmots were in the early stages of gestation. This discovery reassured those concerned that young marmots should not be left without parental care. Project workers devoted effort to answering questions and conversing with park users and media representatives. No objections were heard from the public or in the media. Two local T.V. stations gave favorable coverage following the first day of cage trapping.

DISCUSSION

Public perception is critical in a project such as this. It was clear that the public viewed this project as a serious matter and expected it to be conducted accordingly. Observed also, was the public aversion and bias toward poisons. These feelings are often taken to the point of creating unrealistic fears in some people. People were fully aware that the marmots captured were being taken away and euthanized. However, they showed little concern when seeing a live marmot being transported for euthanasia. This is in direct opposition to the perception many individuals have toward toxicants.

Cage trapping of marmots proved to be an effective method of control. In circumstances similar to this, cage traps should be considered as a viable and efficient tool.

Also demonstrated was the importance of involving the public in sensitive projects. Acknowledgment and inclusion of their views creates consensus and minimizes potential conflicts. This experience showed that groups with a tradition of differing viewpoints on wildlife management can work together in solving difficult problems. Their willingness to use diverse methods and broaden approaches was instrumental in the success of this project. This sends another signal to wildlife managers for the need to be skilled when dealing with sensitive public issues. The concern with and enjoyment of wildlife is at an all time high. Wildlife managers should note that often the least difficult aspect of managing wildlife is in the implementation of the project, not in the planning and preparation.

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