THE DETECTION OF EXOTIC VERTEBRATE PESTS IN CALIFORNIA

MICHAEL O. KEFFER, Weed and Vertebrate Pest Detection Specialist, California Department of Food and Agriculture, Sacramento, California

ABSTRACT: Numerous exotic vertebrates are imported into California each year for use in scientific research, zoological gardens, the commercial pet trade, and private collections. Certain of these imported species are known within their native range to depredate agricultural commodities, compete with other species of wildlife, and facilitate the spread of diseases detrimental to humans or other animals.

The California Department of Food and Agriculture, in cooperation with other governmental agencies and conservation-oriented societies, is active in the exclusion, detection, and eradication of these detrimental species. Exclusion procedures include inspections of air cargo, truck, and postal terminals in addition to private automobiles. Detection procedures involve surveying urban areas, cropland, entryways, rangeland, and high hazard situations.

The results obtained indicate these preventative procedures are both efficient and effective.

INTRODUCTION

The quantity of live exotic vertebrates imported into the United States has increased steadily during the past decade. These exotic species were destined for zoological gardens, scientific research laboratories, the commercial pet trade, and private collections (Larsen, 1970). Some were subsequently released or escaped from their confinement and entered unfamiliar habitats. Most failed to adapt to these new conditions and died, primarily through starvation or predation. Those that possessed the ability to survive and establish wild populations pose the threat of becoming vertebrate pests.

Exotic vertebrate pests and the complex problems that relate to their control have been discussed in numerous papers presented at this and former California Vertebrate Pest Conferences. These pests depredate agricultural crops, compete with native wildlife species, and assist in the spread of diseases affecting humans or other animals.

Within California various governmental agencies are active in preventing exotic vertebrate pests from becoming established. The following paper will outline the programs in operation for excluding and detecting pest species in California.

EXCLUSION

The first line of defense against the introduction into California of exotic vertebrate pests is to exclude them. Exclusion methods are most effective if directed toward the primary means of entry, namely air, truck, and automobile traffic.

AIR TRAFFIC

The majority of exotic vertebrates entering California arrive via air cargo. International shipments are directed to San Francisco and Los Angeles Airports, the only two air facilities in California approved to receive them.

Prior to the release of live vertebrate cargo, inspections are conducted by numerous Federal agencies. Among them are the U. S. Bureau of Customs, U. S. Public Health Service, U.S.D.A., and U.S.B.S.F. and W. This latter agency is responsible for enforcement of Section 13, Part 13, Title 50, Code of Federal Regulations pertaining to the importation of live wild animals.

The California Department of Fish and Game also assigns personnel to inspect international live animal cargo. This is to insure that vertebrate species permissible for importation into the U. S., but prohibited by California regulations, are not mistakenly

released to persons within the State. The list of vertebrate species illegal for importation into California without a permit is contained in Section 671, Title 14, California Administrative Code.

Noninternational air cargo, that entering California from points within the United States, need not pass through San Francisco or Los Angeles, but may enter directly into air facilities in Burbank, Monterey, Ontario, Santa Ana, Long Beach, Fresno, Oakland, and other cities within the State. Live vertebrates within such cargo must also be inspected, due to the nonconformity of State regulations concerning the importation of vertebrate species.

The County Agricultural Commissioner, within whose county noninternational air shipments arrive, is responsible for inspecting all live vertebrate cargo. Usually airport freight personnel notify the Commissioner's Office when such cargo arrives, avoiding unnecessary trips to the air facilities by County personnel.

The exclusion of vertebrate pests through inspection of air cargo is, unfortunately, not 100 percent effective. Some of the reasons for partial failure are as follows:

1. Excessive cargo for the limited number of inspectors.

2. Incorrect identification of species on importation papers.

3. Numerous species in a single container.

4. Failure of airport personnel to notify inspecting agencies on arrival of live vertebrate cargo.

5. Smuggling.

The tremendous increase in the importation of live animals within the past decade was not counteracted by a proportional increase in inspecting personnel. Failure to detect prohibited species of vertebrates is not due to incompetency but to inadequacy of trained inspectors.

In a recent Federal publication, mention is made of mammal and reptile scientific names appearing on Customs forms accompanying bird shipments (Banks, 1970). Surely, inspecting governmental personnel cannot be expected to know the scientific and common names of all vertebrate species. Shipments, whose approval for importation is solely dependent upon the declaration papers accompanying them can, therefore, contain misidentified and illegal species.

Containers arriving via air cargo often contain numerous vertebrate species within a single unit. The problems related to identifying each species as it moves rapidly around inside the unit make a thorough and accurate inspection impractical and impossible.

Failure of airport personnel to notify inspecting agencies of live animal cargo is of particular importance at noninternational air facilities. Motivation of such personnel, by indicating the importance of reporting animal shipments, seems to be the only solution to this problem.

Smuggling of live animals into California is usually dependent upon a substantial profit to those persons undertaking such risky activities. With the enactment of the Newcastle Disease Quarantine in 1972, profits gained from smuggling exotic birds into the U. S. skyrocketed. Fines levied against those caught are usually far below the profits to be gained.

Live vertebrates entering California via U. S. Air Mail are not inspected at the airport facilities, but forwarded to 28 U. S. Postal Sectional Centers throughout the State. Prior to July, 1973, personnel of the County Agricultural Commissioners' Offices inspected major post offices in their counties on a routine basis. The Sectional Centers have eliminated the necessity of many such inspections as all live animal shipments are held for inspection at the Section Centers before distribution to local facilities. The responsibility of inspecting these animal shipments is that of the Agricultural Commissioner, but the efficiency with regards to man-hours and manpower has been improved considerably.

TRUCK AND AUTOMOBILE TRAFFIC

In 1921, the State of California established Agricultural Inspection Stations on major highways leading into the State from Oregon, Nevada, and Arizona. These stations are operated by California Department of Food and Agriculture personnel and serve as exclusion barriers against all plant pests entering California via truck and automobile traffic. Some of these inspection stations operate on a year-round, twenty-four hour per day basis, others only seasonally.

The California Department of Food and Agriculture and the Arizona Department of Agriculture and Horticulture recently signed a cooperative agreement placing the responsibility of inspecting vehicles bound for California via southern routes on Inspection Stations located in eastern Arizona. A similar agreement is being contemplated between California and Nevada.

The Agricultural Inspection Stations have been credited with numerous interceptions of prohibited vertebrate species, primarily those considered as popular pets. The Mongolian gerbil Meriones unguiculatus is a prohibited vertebrate species in California, but has become a popular pet in other states where no laws or regulations prevent it from being imported. Gerbils found in private automobiles entering California are destroyed by station personnel or returned out-of-state by their owners.

Cargo trucks are unlikely to contain live animal shipments due to the feeding and watering problems in transit. Papers indicating the contents of trucks are examined though by Inspection Station personnel.

Again problems arise in making the stations completely effective. Some prohibited vertebrates may enter California in vehicles when the stations are not in operation. When the volume of traffic is heavy, such as during holidays or the summer months, it is impossible for inspections to be thorough enough to locate live animals the owners fail to claim and have concealed from detection by the inspecting officer.

The U. S. Border Stations between California and Mexico also contribute to the exclusion of prohibited species. Many of the attempts to smuggle exotic birds into California during the Newcastle Disease Quarantine were stopped by Border Station personnel before they reached private citizens or the pet trade in California.

DETECTION

Prohibited vertebrate species that successfully enter California by avoiding the previously discussed exclusion procedures, are not completely forgotten. In fact, carefully organized detection surveys are being conducted throughout the State by California Department of Food and Agriculture personnel in cooperation with the County Agricultural Commissioners' Offices. If a prohibited vertebrate is detected during these surveys, procedures are initiated to retrieve it for subsequent disposition.

Let it be understood that permits are granted to universities, private laboratories, zoological gardens, and other similar establishments to import prohibited vertebrate species. These permits, obtained from the Department of Fish and Game, require close examination of proposed animal holding facilities before approval for a permit is issued. If at any time the holder of the permit fails to follow the requirements stated therein, the permit is immediately revoked.

Detection surveys enter many diversified physical and environmental situations. Among them are urban areas, cropland, entryways, rangeland, and high hazard situations.

Urban areas are surveyed using a statistically-developed system of grid location. Maps are prepared prior to the actual inspection procedures, each area to be inspected coded with a particular color. Additional copies of the urban grid survey maps are kept for permanent recording and reference.

Survey teams, often consisting of both County Agricultural Commissioner and State Department of Food and Agriculture personnel, select specific properties within the coded areas for inspection. After obtaining the property owner's permission, the yard surrounding the residence is surveyed for all possible plant pests.

If prohibited exotic vertebrates are detected either in confinement or moving freely, initial procedures are begun to obtain possession of them. The California Department of Fish and Game has jurisdiction if the animal is confined, necessitating a close working relationship between the inspecting and enforcing governmental agencies.

Many of the exotic birds that have been detected and reported in urban areas are initially sighted by members of such organizations as the National Audubon Society. These organizations have been most cooperative when the goals of the detection program have been explained thoroughly to them. Their continued assistance has been requested.

Cropland detection surveys are also conducted by utilizing a method of statistical sampling. The surveys are completed during the months when pests of various types are most active. If the property owner is contacted, questions concerning unusual crop damage or other similar problems often lead to further investigation of specific cropland areas.

Damaged areas often do not allow immediate identification of the pest responsible, thereby necessitating the use of trapping or similar procedures. Cooperation from growers, growers' organizations, 4-H Clubs, and other agricultural groups assists in the early detection of vertebrate pests.

Entryway-Rangeland surveys investigate roadways, water channels, railroads and those rangeland areas they penetrate. A two-man crew utilizing field glasses scan these areas for possible vertebrate pests. Nutria Myocastor coypus have been reported along various water channels in California since the commercial nutria-raising boom began its rapid decline. These reports are investigated after the reporting individual is contacted. Other such reports are dealt with in a similar manner.

High hazard situations are defined as those areas not covered in other detection surveys that have high probability for introduction of new pest species. Military bases, pet shops, grain storage facilities, junior museums, roadside zoos, shipping wharfs and storage buildings, and large metropolitan parks are among those areas designated as high hazard.

Periodic surveys of pet shops by County and State agricultural personnel working together have detected numerous prohibited vertebrate species. Two female Quelea quelea were found less than three weeks ago in a pet store here in southern California. Other prohibited species detected recently in pet shops were prairie dogs Cynomys parvidens, coati Nasua nasua, ricebirds Padda oryzivora, fox squirrels Sciurus niger, and gerbils Meriones unguiculatus.

Many exotic birds are released in large metropolitan parks by owners who no longer desire to keep them as pets. Amazon parrots Amazona sp., canary-winged parakeets Brotogeris versicolurus, and numerous others have been detected in parks from San Francisco to San Diego. These parks were also favorite release points for the Eastern fox squirrel Sciurus niger by well-meaning migrants from eastern states who thought California needed more colorful squirrels. Unfortunately, the squirrels have now found their way into walnut orchards and become a definite pest.

SUMMARY

California is proud of its agriculture, its numerous species of wildlife, and its diversified habitats. To protect these from the biological pollution of exotic vertebrate pests, programs have been designed to exclude their entry or detect their presence before establishing large wild populations.

It is hoped that other states and other nations will assist in preventing the unnecessary shipment of vertebrate pests outside of their native range. The exchange of technical information concerning these pest species can also assist in preparing successful detection programs.

LITERATURE CITED

BANKS, R. C. 1970. Birds imported into the United States in 1968. Special Scientific Report - Wildlife No. 136. Bureau of Sport Fisheries and Wildlife, Washington, D. C.

LARSEN, HOLGER. 1970. Importation of wildlife. Proc. Fourth Vertebrate Pest Conference, (West Sacramento, California).