MANAGING NON-NATIVE SPECIES IN CALIFORNIA

THE RED FOX

DEPARTMENT OF FISH AND GAME

Overview

They go by many names, ranging from "non-native" and "introduced" to "alien" and "exotic." Included are a surprising number of species, from red foxes and European starlings to white bass and Asian clams. Whatever the preferred label or description, some species that do not occur naturally in California are a threat to native wildlife and pose serious management dilemmas.

The California landscape and its flora and fauna have evolved together over eons to form dynamic, finely-balanced ecosystems. Just as people living within a community rely on the rules and interrelationships of an organized society in order to function without peril, plants and wildlife similarly rely on an ecosystem's stability for their survival.Many California ecosystems are stressed because habitat is being consumed, fragmented, and degraded at an alarming pace—lost to the roads, businesses, homes, and other developments that drive California's economy and lifestyles. Add the burden of a non-native predator to these ecosystems and the very survival of some native species is jeopardized.

The non-native red fox is one such intruder. Though it looks similar, it should not be confused with the native Sierra Nevada red fox, a threatened species found only in the Sierra Nevada and Cascade mountain ranges. Non-native red foxes were introduced decades ago for fox hunting and fur farming. Over time, these foxes escaped or were released. Their populations have grown and gradually spread throughout the Sacramento Valley, to other lowland areas, and to the coast.

The adaptable mammals have easily adjusted to coastal and valley ecosystems alike, where they actively prey on rodents, rabbits, reptiles, shorebirds, waterfowl, and other ground-nesting bird species. Some species are at greater risk because they have not developed effective defenses against this newcomer. Red foxes are not the only predators to capture and consume these imperilled species but red fox predation is significant, their numbers are growing, and their range is continually expanding.

Cute and capable of arousing a strong emotional response in some people, the non-native red fox is, nevertheless, unnatural in California ecosystems and a threat to some native wildlife. Because of the severity of non-native red fox predation and the ineffectiveness of other management activities, the Department's only recourse at some locations is to reduce or eliminate local red fox populations. Only a very small percentage of California's non-native red foxes are eliminated in this manner.

The Department's management of non-native red foxes has been built on a solid foundation of research, documented information, and expert recommendations. It has received strong support from many individuals, other agencies, academic institutions, conservation organizations, and animal welfare groups throughout the state. This publication examines the need for the red fox control program. It describes the red fox's population and range, discusses its niche within California ecosystems, examines its effect on local wildlife populations, and reviews an array of management actions

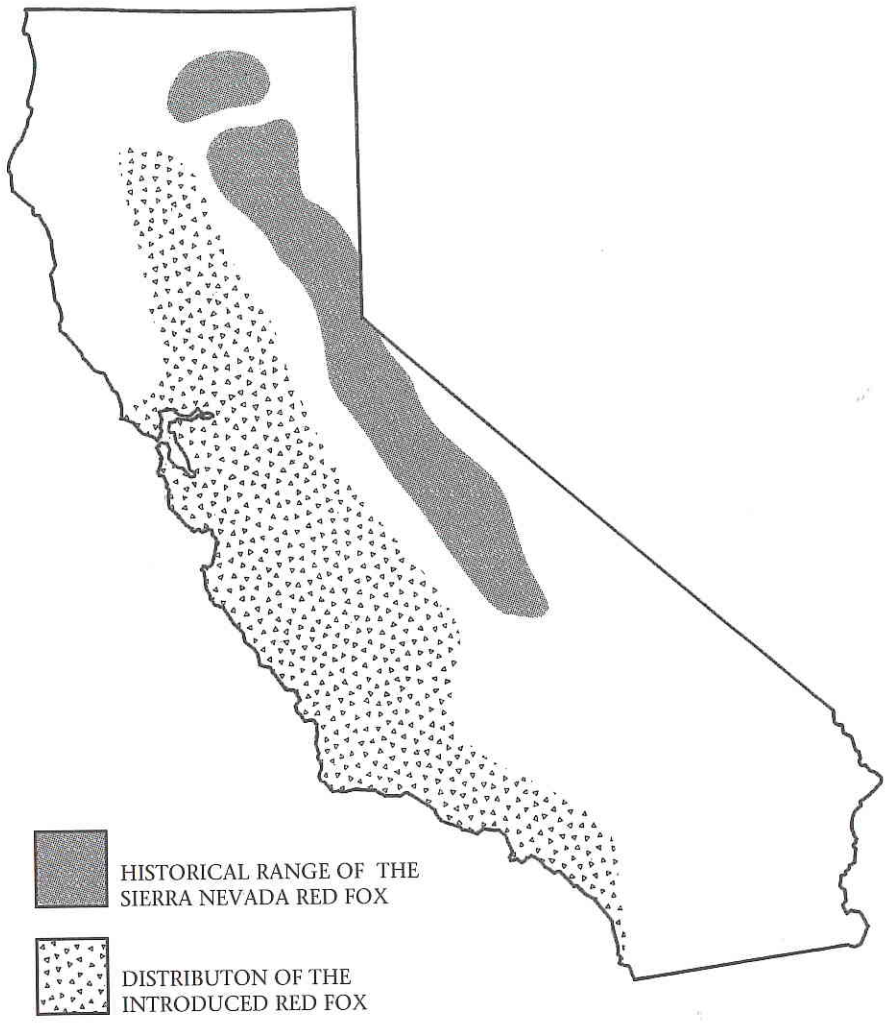
California's Red Fox Populations

Within the ranks of carnivores, those mammals which prey on others, the red fox (Vulpes vulpes) is the most widely distributed carnivore in the world. There are dozens of subspecies of red fox and each subspecies has adapted to the special habitat and prey conditions within its range. The red fox is native to Canada, the continental United States, Europe, northern Asia, the Middle East, and northern Africa. People have also introduced red foxes to Australia.

Only one subspecies occurs naturally in California: the Sierra Nevada red fox (Vulpes vulpes necator). The range of the Sierra Nevada red fox is limited to the conifer forests and rugged alpine landscape of the Sierra Nevada and Cascade ranges between 4,000 feet and 12,000 feet—mostly above 7,000 feet. The Sierra Nevada red fox is so uncommon that the California Fish and Game Commission declared it threatened in 1980.

Populations of red foxes are found elsewhere in California but these animals are not native; they have been introduced by people. They are now numerous at many locations.

Red Fox Range Map



Non-Native Red Fox Introductions and Range

Non-native red foxes were brought to California by people interested in recreation and profit. The earliest known red fox introduction occurred in southern Sacramento Valley lowlands during the 1870s, probably soon after the completion of the railroad connecting the eastern United States to the west. Early settlers imported and released eastern red foxes for fox hunting and fur trapping. These highly adaptable carnivores fit into an environment unprepared for their predatory skills and diverse appetites—and the first non-native red fox populations became established in California's lowlands.

After World War I, red foxes were also imported for fur farming and by the 1940s, California had 125 fox farms. Some foxes escaped and others were released during periods when fox hunting or fur farming were in decline. By the 1970s, non-native red fox populations were firmly established in the Sacramento Valley, expanding into the San Joaquin Valley, and appearing in other isolated regions of the state.

Non-native red foxes were observed occasionally at a few south coast locations during the 1940s. Their numbers increased during the 1970s and ten years later, they were common at many Orange and Los Angeles county coastal sites. Non-native red foxes were not observed at Monterey and San Francisco bay marshes until the 1980s but they have become well-established in barely one decade.

Native vs Non-Native Species

The distinction between native and non-native is critical to wildlife managers. The Department of Fish and Game and the Department of Food and Agriculture determine which species are native by using historical reports, museum records, natural history surveys, and paleontological and archeological studies. Among experts, plant and animal life is considered native if it develops and occurs naturally in an area. Other plants or animals are considered non-native, alien, or exotic species.

Native Sierra Nevada red foxes were described in the late 1800s and their distribution was documented by University of California studies in the 1930s. However, numerous wildlife inventories and surveys conducted during the first half of this century provide no evidence of other native red fox strains in either the coastal areas or lowlands of the state, except for the southern Sacramento Valley.

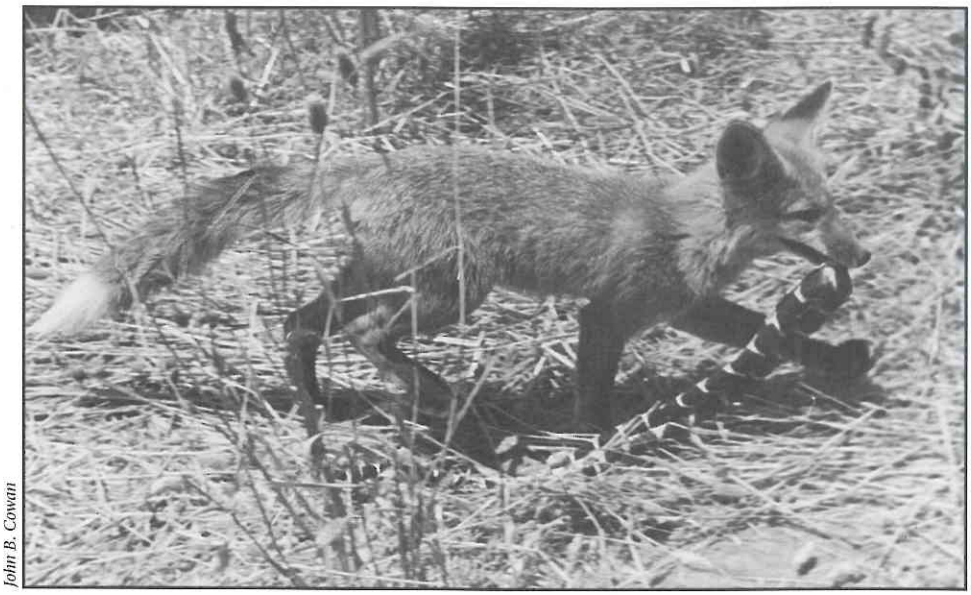
Studies indicate that red foxes imported to the Sacramento Valley have attributes most like the red foxes of Iowa or Minnesota—the Northern Great Plains fox subspecies. It is probable that other subspecies were introduced elsewhere in the state.

Researchers are able to use fox physiology, body measurements, and other identifying characteristics to distinguish native Sierra Nevada foxes from their introduced valley counterparts. Little is known about the origin of coastal red foxes, except that they are not the same as red foxes from the valley and were probably imported from some other region of the United States.

A Threat to Some Ecosystems

When non-native species are introduced, they can permanently disrupt the fragile balance of an ecosystem. An ecosystem is an interrelated complex of soil, water, plants, and animals. The organisms in an ecosystem are interrelated by complicated food webs involving predator and prey, where some species exist by feeding on others. Native predators and prey evolve together over countless generations, each developing specific traits to aid in its survival.

Human development has altered



John B. Cowan

Non-native red foxes are capable hunters with far-ranging appetites. They consume everything from berries and eggs to reptiles, birds, and small mammals.

California's rural, suburban, and urban landscapes, abruptly changing the amount and type of food, water, cover, or space available to its wildlife residents. By themselves, changes in habitat can have a profound effect on well-established relationships within an ecosystem. When a predator alien to this disrupted environment is introduced, the non-native has an unnatural advantage because the native species are struggling to survive and have no effective way to defend against this new predator. Often, the non-native predator replaces native predators and interacts with the prey in a different manner. This is clearly the case at several southern wetlands, where endangered least tern and light-footed clapper rails coped with coyotes but were decimated by introduced red foxes.

Adaptable and Extremely Successful

Non-native red foxes pose a threat to ecosystems because they are highly adaptable. Introduced red foxes in California now reside in lowland valleys, farmlands, semi-desert terrain, wetlands, and urban areas.

They are adept hunters with far-ranging appetites, consuming everything from berries, eggs, and birds to insects, lizards, and small mammals. Red fox hair, scat, and tracks are routinely observed at nesting sites. Studies reveal that red foxes can destroy dozens of eggs or young birds in one hunting foray and will "cache," or hide, the eggs and unconsumed prey. Frequently, the non-native red fox is at the top of the food chain, virtually without natural predators of its own.

In addition to consuming native prey, urban red foxes raid garbage cans, eat out of pet food dishes, take an occasional pet, and often are fed by people. Even though feeding wild foxes violates some public health and safety ordinances, this has not stopped misguided people from putting out food. The heaviest red foxes, some weighing up to sixteen pounds, invariably come from urban areas.

When food is abundant, red foxes are prolific, breeding during their first year of life and raising litters of four to seven pups annually. Pups are born in late winter or early spring—in concert with the birth of birds, small mammals, and other prey species. The foxes travel across roads, through culverts, and along flood control channels to hunt. They build dens in golf courses, at parks, along creek banks, even along the shoulders of busy freeways.

Many wild foxes live for several years and a few live longer than five years. As populations swell, young foxes disperse, often forming new territories many miles from their place of birth. This

John B. Cowan

Understanding the Cuddle Factor

People are readily drawn to red foxes—those dainty, furry animals with endearing faces. Some people are struck by their smallness and others are engaged by their intelligent or inquisitive eyes. Whether this is labeled anthropomorphic (ascribing human traits to an animal), a subjective response, or just plain "cuddle factor," people respond to warm, furry animals. Show people pictures of a red fox and a drab, but endangered, chicken-sized bird and most will immediately respond to the fox.

It is natural for people to react emotionally to wildlife. Wildlife managers also respond with feelings to the natural world and is likely one of the reasons they have chosen their profession. But because it is their mission to protect all fish, wildlife, and native ecosystems, they must temper their feelings with good science and consistent management ethics, a tough path where there is often little room to indulge the cuddle factor.

natural dispersal, supplemented by foxes illegally relocated by people, has significantly extended the range of these non- natives.

Examples of Non-Native Red Fox Problems

Savvy, successful, and even endearing to some people, non-native red foxes are, nevertheless, well-documented killers of water birds, ground-nesting birds, and rodents. They are clearly jeopardizing the survival of many threatened and endangered species that are the subject of vigorous protection and restoration programs. Numerous studies, field observations, and analyses of kill sites document predation and link declines in some wildlife populations directly to the non-native red fox. Here are some specific examples:

El Segundo Dunes: Red foxes reduced populations of or eliminated nearly 20 species of snakes, lizards, rodents, and mammals.

Moss Landing: Red foxes prevented several shorebird and gull species from nesting. During 1989 and 1990, they frightened nursing adult harbor seals from the beach and many completely abandoned their recently-born pups.

San Francisco Bay National Wildlife Refuge: The non-native red fox is largely responsible for furthering the decline of endangered California clapper rails—from 1,200 to 1,500 rails in the 1980s to less than 500 today. A radiotelemetry study documented that the foxes kill nestlings, adult rails, and take eggs. Also at risk are endangered salt marsh harvest mice and California least terns and threatened snowy plovers. At nearby Bair Island, the foxes decimated the bay's largest nesting colony of egrets and herons, ravaging about 500 nests.

Monterey Bay: Non-native red foxes appeared in 1985 and their numbers increased dramatically. This area includes a major nesting site for threatened snowy plovers that has been studied for twenty years. During 1990, 205 plover nests were counted and 137 nests were destroyed. Red foxes were responsible for the predation of 60 of the destroyed nests.

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Non-native red foxes are able to find cover in and around urban areas, enabling them to easily reach coastal marshes where they kill ground-nesting birds and other vulnerable species.

Seal Beach National Wildlife Refuge: Non-native red foxes appeared in Orange County in 1979. The foxes preyed heavily on one of the state's last large populations of the endangered light-footed clapper rails and by 1986, only five pairs remained. During 1988, foxes penetrated a fenced, three-acre nesting area for endangered California least terns and took eggs from 44 of the 69 nests.

Ballona Wetlands: The foxes made their first appearance at this small, Los Angeles County marsh after 1981. Eventually, red fox numbers soared and posed a serious threat to many native marsh birds and mammals, including threatened snowy plovers and endangered Belding's savannah sparrows. An owner/developer is preserving and restoring 350 acres of the wetland in conjunction with approved development of the area. To protect vulnerable marsh species, the DFG authorized a fox trapping and euthansia program, with limited relocation of some foxes to research facilities. Trapping and restoration efforts were intermittently stymied because animal rights activists harassed trappers, obstructed trapping efforts, damaged property, and threatened people involved with the project. Harrassment continued despite court orders to stop such behavior and one of the group's officers was indicted and found guilty.

San Joaquin Valley: Non-native red foxes have moved into the range of the San Joaquin kit fox, a threatened species. There are exanding populations near Bakersfield and Fresno. Non-native red foxes have killed some of their threatened cousins inhabiting the Carrizo Plain.

Most serious predation in these areas can be attributed to the non-native red fox; however, American kestrels, ravens, feral cats, and Norway rats also prey on vulnerable species and these offenders are also controlled on a case-by-case basis.

It should be noted that problems with red foxes and other non- native species have so escalated nationwide that the first national conference on "Biological Pollution: The Control and Impact of Invasive Exotic Species" was held in Indianapolis during October 1992.

Management Options

It is the Department's mission to manage and protect California's diverse fish and wildlife and the habitats on which they depend. Because non-native

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Endangered light-footed clapper rail numbers at Seal Beach plummeted to only five breeding pairs primarily because of non-native red fox predation. Following fox control, rail populations rebounded to nearly 200 birds.

A Case Study: Seal Beach National Wildlife Refuge

Non-native red foxes were first observed at Orange County's Seal Beach National Wildlife Refuge in 1979. By 1986, their numbers had soared and endangered light-footed clapper rail population had plummeted precipitously to just five breeding pairs.

That same year, the US Fish and Wildlife Service (USFWS) completed an Environmental Assessment suggesting the immediate removal of non-native red foxes to allow rail numbers to rebound. The plan sparked opposition from an animal activist group which filed a lawsuit and an injunction to stop the fox removal. The presiding judge recognized that granting an injunction would amount to a sentence of extinction for the rails and allowed the trapping to proceed as the lawsuit progressed.

The judge eventually ruled in favor of the USFWS and the animal activist group appealed, claiming failure to meet federal environmental protection guidelines involving the "social" impacts of fox removal. They won this appeal and in winter 1988, the USFWS was told to prepare a full Environmental Impact Statement (EIS).

During this time, the Service was allowed to continue trapping the foxes to protect the rail population. In 1988, the foxes penetrated a fenced, three-acre endangered least tern nesting area on the refuge and took eggs from 44 of the 69 nests. In 1991, after more than five years and a cost to taxpayers of nearly $500,000, the court ruled in favor of the USFWS's newly- submitted EIS—a document that was essentially unchanged from the original plan filed in 1986.

Since 1986, nearly 300 non-native red foxes have been removed from this 1,000-acre refuge and nearby federal land. During the same time frame, rail populations have rebounded from ten to nearly 200 birds. Nesting increased from five pairs in 1986 to 65 pairs in 1993.

red fox numbers and the extent of their range are so large, management efforts normally focus only on areas where these non-natives pose a significant threat. Some local populations are simply being monitored and no action has been taken. Clearly, the Department does not intend to eradicate all non-native red foxes.

However, aggressive red fox management has been required at coastal wetlands where habitat has been specifically preserved for threatened and endangered wildlife. These beaches, lagoons, and estuaries are intensively-managed ecosystems where tidal barriers are artificially breached, freshwater flows are regulated, and artificial islands are built for nesting species. Red fox management is just another factor to be considered in balancing the ecosystem.

Fish and Game has adopted a multi-level approach to non-native red fox management that takes into account the site, habitat conditions, species involved, existence of other predators, and severity of the predation. Most management activities fall into two classes: managing habitat and managing red foxes.

Managing Habitat

Good habitat management programs include projects that have nothing to do with red foxes, such as improving water quality, eliminating contaminants, and limiting human/pet access. They also include specific programs to help vulnerable species evade predation, such as:

Keep nesting areas safe and appealing. Fish and Game creates, augments, and maintains specialized nesting habitat. For example, endangered California least terns and other shorebirds use artificially-created nesting islands when the islands are isolated, high enough not to be flooded by the tide, and kept free of vegetation that could hide predators. By contrast, endangered light-footed clapper rails require areas with plenty of dense cover. Strategically-placed artificial rafts at Seal Beach and Kendall-Frost Reserve have attracted nesting rails—although determined red foxes swim to these rafts and, once rewarded, become repeat visitors.

Provide adequate hiding and nesting cover. The Department uses both natural habitat and artificial means to protect nesting birds. Clapper rails and Belding's savannah sparrows have excellent natural camouflage when hidden among pickleweed or cordgrass. In areas where habitat loss has been heavy, such as Upper Newport Bay, site managers have enhanced conditions for these marsh plants to proliferate. Ceramic pipes have also been placed at several wetlands to provide shade and hiding places for young least tern chicks.

Esther Burkett

When the habitat conditions are right, specialized fencing has been used to exclude foxes from nesting sites. The fences do not always stop the foxes from digging beneath them, squeezing through them, or even climbing over them.

Install fencing to keep foxes out of nesting areas. Fencing has been used to exclude foxes from nesting sites where habitat conditions warrant, such as at Seal Beach National Wildlife Refuge, Huntington Beach State Beach, and Salinas River National Wildlife Refuge. Fencing is most effective in small areas not exceeding a few acres.

However, foxes can dig beneath fences, squeeze through them, and even climb over them. If these behaviors are "rewarded," the red fox will try them at other exclosures. Fences may protect the nests until the eggs have hatched but foxes and other predators often capture chicks or adults as soon as they wander from the exclosure to feed. Some hawks boost their hunting success by using the fence as a perch.

Fence maintenance is continual and costly. An area of just a few acres can cost more than $10,000 to enclose. The use of special wire to discourage perching and other fence-design features which deter predation make such fences expensive to install and maintain. Brush and windblown sand must be removed to keep the fences from being buried or pushed over. Special coating is required to protect the metal from salt and moisture. Electrical fences corrode easily and are subject to power failures—a time that leaves the nesting colony unprotected and vulnerable to predation.

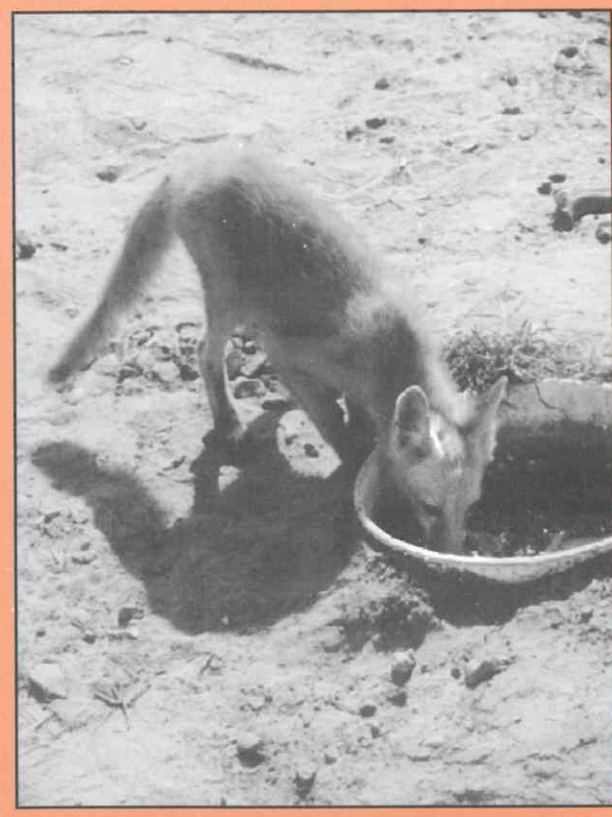
Managing Red Foxes

Habitat management is usually tried first, but it is most effective—and sometimes only effective—when used in concert with the control of local red fox populations. Control methods include

Non-Native Red Fox Study

The purpose of this 1990-1992 study by Humboldt State University was to determine the non-native red fox's range in California, its eating habits, its movements in urban areas, and its effect on several threatened or endangered species. In Orange County, 23 animals were fitted with radio telemetry collars and studied for two years. Here are some of the findings:

- Red foxes have been reported in 36 of 58 counties.
- They are extremely mobile, can travel large distances in a short period of time, and can have large home ranges.
- Radio-collared foxes were observed using all features of Orange County's urban environment, including natural areas, shopping malls, flood control channels, culverts, railroads, powerline and highway corridors, freeway underpass, tunnels, athletic fields, golf courses, vacant lots, etc.
- Direct observation and analysis of scat samples, den, and cache sites revealed that Orange County foxes prey on ducks, gulls, songbirds, shorebirds, marine birds, bird eggs, small mammals, and domestic chickens and cats. Red foxes also consume insects, seeds, fruit, and human food, including garbage.
- Orange County foxes were fed by people at every site studied; some feeding was done on a daily basis. In some areas supplemental feeding may artificially increase the local carrying capacity.
- Fox reproduction can occur every year with litter size ranging from one to nine pups. Young may reproduce in the spring following their birth. Fox dens were located in flat open areas, embankments, golf course sand traps, plantations, and rock or scrap metal piles.



Jeff Lewis

This Humboldt State University study documented that people have contributed to non-native red fox problems by providing food and water on a daily basis at some sites.

Jeff Lewis

These versatile foxes proliferate in urban areas in part because they find denning sites and cover in drainage pipes, along freeways, on golf courses, and among other urban structures.

maintaining naturally occurring coyote populations, fox trapping, and euthanasia. Some control methods are not viable; these include relocation, sterilization, and adoption as pets.

Encourage naturally occurring coyote populations. The presence of coyotes seems to discourage red foxes and improve nesting success. A 1990-1992 North Dakota/South Dakota study found that duck nesting success was nearly twice as high in areas dominated by coyotes (32 percent); red fox-dominated areas had just 17 percent nesting success.

Coyotes were a natural part of most coastal ecosystems but now persist only where there is adequate prey and undeveloped open space—both limiting factors in most coastal and many inland communities. After coyotes disappeared from Mugu Lagoon, red foxes gained a foothold and persisted in damaging endangered bird populations; the coyotes have since recolonized the marsh and nearly eliminated red foxes. At present, red foxes are being discouraged at Upper Newport Bay by a few coyotes using a single landscape corridor connecting the wetland to outlying areas.

Capture Alive with Traps. If other alternatives have been considered or tried and predation cannot be stopped, the Department recommends trapping of non-native red foxes. In addition to walk-in box traps, specially-modified leg-hold traps are used. The well-padded leghold trap, known as the "Soft Catch" trap, is efficient and humane when used properly. Its design also greatly reduces the chance of injuries. Traps must be checked daily as prescribed by law.

Euthanasia. Non-native red foxes caught in traps are quickly and humanely killed, usually by a lethal injection of sodium pentobarbital, a drug commonly used by veterinarians. If foxes must be trapped during the breeding season, pups in dens are removed by hand and euthanized by injection.

Follow-up studies effectively measure the appropriateness of fox reduction programs. At San Francisco Bay and Seal Beach National Wildlife Refuges, endangered clapper rail populations began rebounding after the initiation of red fox reductions.

Relocation Is Not an Alternative

People read about and hear of the Department's efforts to restore native populations of elk, bighorn sheep, or antelope by relocating animals, so one of the most commonly asked questions is "Why can't red foxes be relocated?" The Department routinely denies all requests to relocate non-native red foxes for a number of reasons:

Cannot Relocate Known Problems: Non-native red foxes have clearly demonstrated their ability to disrupt ecosystems, displace other wildlife, and prey on vulnerable species. It is irresponsible and environmentally unsound to take a known problem and move it elsewhere. In 1988, a wildlife rehabilitation group cared for two non-native red foxes trapped at Seal Beach. The group illegally released them near Sequoia Kings Canyon National Park, where they could compete with and prey upon the threatened Sierra Nevada red foxes of that area.

Cannot Relocate or Keep Prohibited Species: Under state law, the non-native red fox is classified as a "prohibited species," which means that it may not be imported to California. Those foxes within the state cannot be possessed, transported, or released to the wild without the permission of the Department. Nor can they be kept as pets. Cute young pups quickly become aggressive, unmanageable animals that are inevitably released to the "wild" out of exasperation. One of the first red foxes recorded in Los Angeles County in 1968 was a road-killed individual wearing a dog collar.

Cannot Export Outside of California: During 1989, every state in the continental United States was asked if it would be willing to take California's non-native red foxes for release to the wild. The survey was repeated in 1990 and 1992. Not a single state or federal wildlife agency is willing to authorize relocation of California's red foxes to their wildlands and most are unwilling to place any in approved captive settings, such as zoos or educational institutions. The Department has tried to place individual foxes but exhaustive, nationwide searches for suitable captive settings have yielded homes for only a few animals.

Cannot Risk Transmitting Diseases: Red foxes carry a variety of transmittable diseases and, in crowded urban areas, pose a potential disease threat to wildlife, pets, and people. This is another reason why other states won't allow relocation of red foxes. Red foxes are one of the primary carriers of rabies in the world. They can also carry distemper, parvovirus, mange, parasites, and other diseases common in pets. Foxes carry several diseases that can be transmitted to people, including rabies and bubonic plague.

Sterilization Would Not Stop Predation

Sterilization of red foxes has been considered and rejected as an effective management tool. Spaying or neutering may affect reproduction over a period of several years, but it has no immediate effect on predation. In

stressed ecosystems where red fox problems exist, threatened and endangered species don't have a buffer of several years. Some populations may not survive even one more year if fox predation is allowed to continue.

Sterilization has been tried among other free-ranging wildlife species without much success. For example, under DFG supervision Bay Area humane society veterinarians attempted to limit population growth of deer on Angel Island by trapping and sterilizing them. Even on this small island, the project was abandoned because not enough animals could be captured and altered to have a significant effect on reproduction.

The Cost of Managing Non-Natives

Non-native species not only pose management dilemmas but cause financial nightmares, as well. Fish and wildlife personnel find it very unpleasant to euthanize any wildlife and always consider or try other management options before choosing a lethal one. Thousands of dollars are spent annually on habitat modifications and fence designs, surveys, and maintenance to protect species at risk from foxes and other ground predators.

At Seal Beach National Wildlife Refuge, where red foxes were decimating endangered light-footed clapper rails, the US Fish and Wildlife Service spent close to $500,000 fighting a lawsuit filed by an animal rights group to stop trapping. The Service won its case and the foxes were removed, but it took more than five years and hundreds of hours of personnel time. In some cases, lawsuits and court actions are simply used as vehicles to harass and derail fish and wildlife agencies and cooperators. They divert biologists from other wildlife protection work and drain funds from other deserving projects.

Jeff Lewis

Non-native red foxes pose a documented threat to many vulnerable species and ecosystems because they are so highly adaptable and are such adept hunters.

Some activist groups urge saving red foxes at any cost. While it may be the mission of advocacy groups to champion such causes, these groups bear none of the responsibilities for planning, implementing, or funding red fox management. The cost of management should not dictate management decisions but accountability for cost is unavoidable.

Management Ethics and Policies

Because of the severity of localized red fox predation on endangered species, the poor success rates of habitat management strategies when used alone, and the need for urgent action, the Department believes that the only way to protect some vulnerable species at some locations is to eliminate or reduce non-native red fox populations. Of the thousands of non-native red foxes in the state, only a small percentage are trapped and euthanized to safeguard threatened or endangered species.

Fox control programs sometimes arouse protestors who champion the foxes, claiming they are the only people who truly care about wildlife. A few animal activist groups have become so extreme in pursuit of their own goals that they have vandalized property where red foxes were being legally trapped, made threats to individuals involved with the project, and ignored court orders to stop these activities.

Feelings and convictions undoubtedly guide conduct and are a personal yardstick used by every wildlife manager in assessing and tempering management approaches. But wildlife management policies must be grounded in good science and wildlife managers cannot pursue one "truth" while overlooking many others. Because the wildlife manager has the more comprehensive mission of managing many species in harmony, it is often necessary to make tough decisions for one species in order to benefit many others. Occasionally the balance must be shifted and some non-native red foxes must yield their place so that native ecosystems and species in jeopardy can survive.

Whenever red fox control issues have been raised, the Department of Fish and Game has received solid support from dozens of conservation, environmental, and citizens' organizations throughout the state. Endorsements have also come from well-known biologists, researchers, ecologists, university professors, and other government agencies.

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