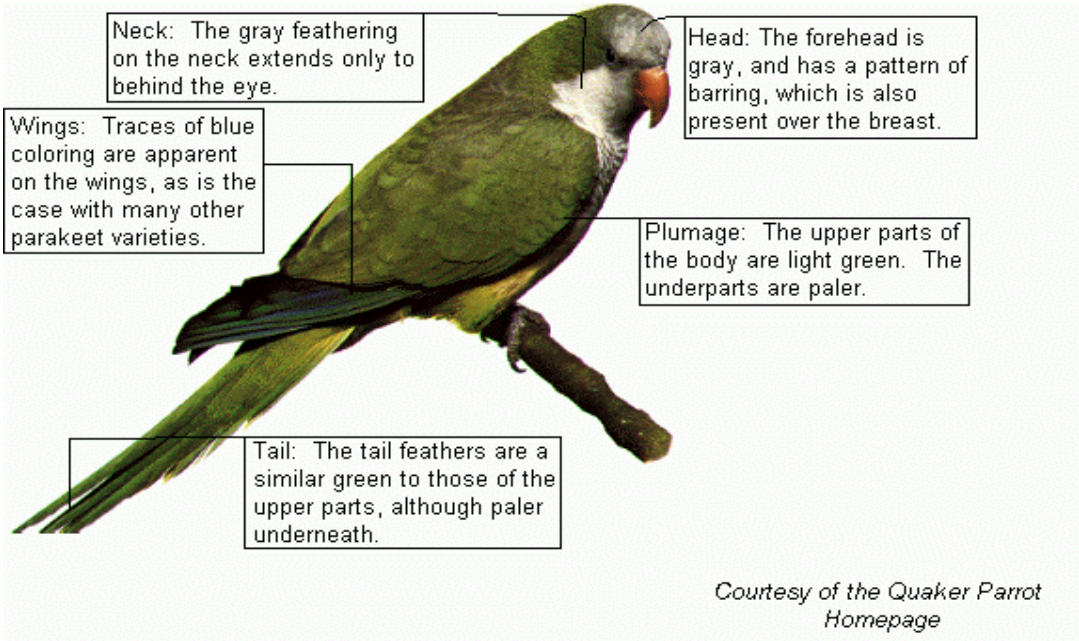
PEST RISK ASSESSMENT FOR THE MONK PARAKEET IN OREGON



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This pest risk assessment follows the format used by the Exotic Forest Pest Information System for North America. For a description of the evaluation process used, see http://www.exoticforestpests.org/english/guidelines/eval.htm.

IDENTITY

Name: *Myiopsitta monachus*
Taxonomic Position: Aves: Psittaciformes: Psittacidae
Common names: Monk parakeet, Quaker parrot, Quaker conure, Gray-breasted parakeet, Gray-headed parakeet

RISK RATING SUMMARY

Numerical Score: 6
Relative Risk Rating: MODERATE
Uncertainty: Very Uncertain
Uncertainty in this assessment results from: The Monk parakeet has not become an agricultural pest in the U.S. as was predicted over 30 years ago. The data regarding the Monk parakeet in Oregon are sparse and unscientific, collected primarily from bird enthusiasts and workers near the parakeets' nesting sites. The reason for the Monk parakeets' stable or declining population in Oregon for over 20 years is unknown. This assessment is a compilation of subjective analyses of others' opinions by the author.

RISK RATING DETAILS

Establishment Potential is MEDIUM

Justification:

In Oregon, there are thought to be two active nesting sites of Monk parakeets, and one of these may be abandoned. In the past there have been several others, all in or near Portland, and all of which have been abandoned. The bird's nesting and food requirements are adaptable to a wide variety of hosts and its possible range is therefore increased, but the probable nesting would be limited to cities and suburbs. The Monk parakeet is a largely sedentary bird and relies on food produced by people in the winter months. There are limiting factors to the parakeet's expansion in Oregon that are not well understood at this time.

Economic Impact Potential is MEDIUM

Justification:

Monk parakeets are capable of becoming agricultural pests in Oregon, but only if their population increases and large colonies are formed closer to agricultural areas. If such nesting occurs, the birds could cause significant if not widespread damage to grain and fruit crops resulting in reduced yield. The Monk parakeet's nests could cause problems for the utility industry with fires and collapses of nesting structures. The bird is currently a popular pet in Oregon, and altering its legal status could cause significant economic disruptions in the pet trade.

Environmental Impact Potential is LOW

Justification:

Monk parakeets generally do not compete for nesting territories with songbirds, most of which nest in cavities. However, food resources are limited, especially in winter, and the Monk parakeet could conceivably be consuming food that would sustain other birds. Monk parakeets, like all parrots, can carry diseases that could affect wild bird populations, the poultry trade and humans. Wild bird enthusiasts eagerly observe Monk parakeets at their feeders and in the wild, and some even consider it to be a viable replacement for the only North American parrot, now extinct.

GEOGRAPHICAL DISTRIBUTION

The Monk parakeet is native to South America, occurring primarily in subtropical and lowland areas with low rainfall, such as in Brazil, Uruguay, Bolivia and Argentina. These are generally warm climates, but temperatures can fall well below freezing in winter. The bird has been exported from its native lands for the pet trade. Monk parakeets escaped during shipping mishaps and some were deliberately or accidentally released. Some of these birds formed successful feral colonies throughout the world. The current feral colonies are suspected to have originated with these imported birds. The ability of captive-bred parakeets to colonize in the wild has never been determined.

The most abundant and widely distributed of the naturalized parrots in the U.S. is the Monk parakeet (Pruett-Jones and Tarvin 1998). During the 1960's and 1970's tens of thousands of Monk parakeets were imported into North America. Importation of these birds was briefly suspended because of the fear of transmission of Newcastle disease in 1972 (Lever 1987), and then ended with the 1992 Wild Bird Conservation Act, which bans the importation of all wild parrots into the U.S. Feral populations of Monk parakeets built up around shipping ports. Earliest reports of feral Monk parakeets occurred in New York in 1967, and they formed successful colonies in at least 7 states. During the early 1970's, the USFWS conducted a 'retrieval' (eradication) program that resulted in a 44% reduction in Monk parakeet population, and succeeded in eliminating the parakeets from some states, including California (Niedermeyer and Hickey 1977). However, by 1995, Monk parakeets were reported in Canada and 76 locations in 15 states, including several from which they were eradicated 20 years before. Pruett-Jones and Tarvin (1998) calculated the North American Monk parakeet population doubling every 5.4 years. Their analyses show that from 1975 to 1996, the Monk parakeet population increased exponentially, but since then, population growth on a national scale has slowed considerably, and no longer shows a statistically significant increase. They suggest that the species may be approaching its carrying capacity, but provide no supporting evidence.

Information regarding current distribution on Monk parakeets is often conflicting, likely because populations disappear and reappear (Spreyer and Bucher 1998), and the relatively unreliable sources of the information (such as the Christmas Bird Count). In general, the birds are most common in southern and coastal U.S. regions (Spreyer and Bucher 1998). The greatest number of Monk parakeets, estimated at roughly 80% of the total U.S. population, occurs in Florida and Texas (Van Bael and Pruett-Jones 1996). The population estimates of Monk parakeets in the U.S. vary widely depending on the source, from 6,000 to 200,000 birds (Campbell 2000 and Van Bael and Pruett-Jones 1996).

There are no federal regulations concerning the Monk parakeet. About 2/3 of U.S. states have no restrictions against Monk parakeets. The remaining 1/3 have either limited controls (such as requiring an ID band) or have banned the bird outright out of fear of potential economic or environmental damage. The state regulations are frequently not in working order, such as requiring a permit but having no permits to issue, or being able to breed the parakeets for exportation but not keep them as pets, or they are simply not enforced.

According to Nehls (2002), feral parakeets in Oregon were first documented in 1977 when one was killed by a dove hunter in North Portland. Also in 1977 a pair escaped from captivity and built a nest on a power pole in SE Portland. By 1980 a colony of 10 birds could be found at this location, but the nests were abandoned by 1984. During 1980-1981 Monk parakeets were reported from several locales in the NE and SE Portland area and a large stick nest was constructed near Portland International Airport. The colony flourished and several nests were added. Up to 24 birds have been seen at the nest, but it is suspected that these nests are being abandoned (Nehls, personal communication). There is also a nest near Scio, built in 2000 on a telephone pole, that at one time contained up to 8 birds, but is speculated to be currently abandoned. There have been sporadic sightings of Monk parakeets in Hillsboro, Gaston, Oregon City, and even in northern Oregon coastal regions.

Because there is no attempt to keep track of the feral Monk parakeet population by federal or state agencies, population estimates come from bird enthusiasts. It is estimated that at this time, there are no more than 20-40 feral birds in Oregon.

BIOLOGY

Monk parakeets are medium sized birds, about 12 inches long. The bird is mostly green, with a yellow belly, grey markings on its face and chest, and blue feathers in its wings and tail. Wild birds live around 10 years, and caged birds up to 20. Monk parakeets are the only species of parrot that builds a woven stick-nest. These can be quite small, housing a single pair of birds, or become the size of a small car, housing dozens of pairs, and weighing up to 500 pounds. It is generally built in urban landscapes near water and food sources, such as fruit-bearing trees and grasslands. The nest is used year-round, both for breeding and shelter, and is repaired and added to by maturing offspring. The nests

provide protection from predators and bad weather and are a key component of the monk's survival as exotic birds in northern climates with harsh winters (Campbell 2000 and Spreyer and Bucher 1998).

Wild Monk parakeets breed only once yearly in their native lands (Bucher 1992) but when pet birds were kept in outdoor aviaries in California they produced several clutches per year (Davis 1974). However, Monk parakeets have lower fledging success than other parrots, estimated at around 25% (Spreyer and Bucher 1998). Monk parakeets display delayed and communal breeding which results in reduced dispersal of the offspring, which rarely go further than 500 yards from the their parents' nest site to build their own nests (Martin and Bucher 1993). Even though they reach breeding age at around 2 years, they may still reside with their parents, remodeling their nests, and assisting in the care of their siblings. A large stick nest is difficult to make and it has been suggested that this behavioral trait is a training technique for the inexperienced birds (Martin and Bucher 1993). Even when an entire nest site is destroyed, the displaced birds almost never settle more than a few hundred yards away from the original site (Beaulieu 2001). The instincts that govern Monk parakeets' nesting habits make it difficult for them to disperse rapidly and classify them as a nearly sedentary bird. However, Pruett-Jones and Tarvin (1998) suggest that the Chicago community of birds is serving as a source population for new colonies up to 20 miles away in Illinois.

Although Monk parakeets are not migratory birds, they will travel considerable distances, often in large flocks, for food in their native lands. There, the birds are essentially granivorous, eating seeds of wild grasses and weeds as well as cultivated crops such as corn and fruit. In the U.S., small groups of Monk parakeets have been observed feeding on a wide variety of foodstuffs, including berries, tree buds and flowers, nuts, dandelions, corn and other vegetables, insects, and birdseed from birdfeeders. This last behavior has been implicated in the Monk parakeet's success as an alien invader in cold climates where winter food is scarce. In the Chicago population of Monk parakeets, their diet was found to consist of approximately 80% tree flowers and buds during the spring, 80% fruit and seeds during the summer and fall, and 100% birdseed during the winter months (South and Pruett-Jones 2000).

PEST SIGNIFICANCE

Economic Impact:

Many types of parrots are known to damage agricultural crops, but the damage is generally light and the economic impact minor (Bucher 1992). In Argentina, Monk parakeets have been blamed for 2-15% of crop losses, mostly corn and sunflower, with the occasional reporting of a 45% loss (Neidermyer and Hickey 1977). However, the bird's reputation as an agricultural pest in South America is increasingly believed to be overstated and undocumented (Bucher 1992, Pruett-Jones and Tarvin 1998, and Spreyer and Bucher 1998), with parrot damage exaggerated by farmers in order to receive governmental aid. This aid is usually

in the form of compensation and lethal control techniques, such as shooting, poisoning, and nest destruction (Bucher 1992). Bucher further notes that control has been mostly unsuccessful because of the cost, logistical problems, and political controversy.

Feral colonies of Monk parakeets have been present in the U.S. for over 30 years. They have not exhibited the massive outbreaks and agricultural devastation once predicted (Spreyer and Bucher 1998). There are few reports of Monk parakeets damaging crops in the United States; the most notable of these occur in Florida, where the birds forage on tropical fruit crops (South and Pruett-Jones 2000). No actual figures of monetary loss have been reported. Connecticut has had sporadic reports of minor damage to backyard gardens and ornamental trees (Pearson and Olivieri 1995).

The Monk parakeets' generalist diet suggests it could consume almost every food crop grown in Oregon. However, agricultural damage has never been reported. The birds are occasionally sighted eating birdseed from winter feeders or pecking up grain spilled from train cargo containers (Nehls, personal communication). They are more often spotted foraging in grasslands or picking berries off trees. If large colonies were formed in fruit or grain growing regions of the state, significant damage could result, with the farmers having to protect their crops with costly netting or other repellants. However, the likelihood of the parakeets maintaining nests in rural areas seems unlikely as the birds require food produced by people in the winter. In Argentina, the amount of damage caused by Monk parakeets is locally severe, but regionally negligible (Bucher 1992). When it occurs, it is primarily through bird-damaged crops and reduced yields. Agricultural trade between states or countries would not be impacted through quarantines as no birds would be harvested with or accompany the crop to its destination.

The nests of Monk parakeets have been the cause of some problems for the utility industry in Oregon and elsewhere (Nehls 2002 and Buhler et al 2001). If their nests are built on light or power supply poles, the bulbs or transformers can overheat, causing fires and blackouts. The weight of a nest can cause its support, trees or man-made structures, to collapse. Several states experiencing these problems believe them to be more significant than possible agricultural damage, although actual dollar estimates of damage aren't readily available.

The pet trade could be economically impacted by altering the Monk parakeet's status in Oregon. The bird has an engaging personality, considerable intelligence, and can be quite affectionate – all of which make it a popular avian pet. There could be a significant cost to both the state government to design, implement, and enforce any regulations concerning the availability and movement of this bird, and to the breeders and pet shop owners to comply with the new regulations.

Environmental Impact:

Once established in the wild, exotic birds inevitably have environmental impacts (Temple 1992). But except for a few sporadic and unconfirmed cases of Monk parakeets attacking other birds in territorial or feeding disputes, the parakeets seem to have little conflict with native wildlife. They have been known to share their nests with some mammals, other birds, and even raptors. They build their nests most often in areas which are environmentally disturbed (Campbell 2000). The Monk parakeet can cause a small amount of damage to trees when it strips them of small branches for its nest.

There is a nuisance factor associated with the Monk parakeet. The birds are continuously vocal and extremely loud, especially while in flight, and their calls can be heard up to 5 blocks away (Davis 1974). Their nests may interfere with man-made structures such as utility poles, radio towers, fire escapes, and grain elevators.

Feral Monk parakeets could potentially vector avian diseases such as (Exotic) Newcastle disease which can be devastating to both wild bird populations and the poultry industry (Buhler et al 2001). They also carry psittacosis, a viral disease rarely transmissible to humans that can be found in the droppings of roosting birds.

Although serious bird conservationists oppose the introduction of non-native birds as a potential threat to the existing biota, some bird enthusiasts eagerly observe the colorful Monk parakeets at their feeders and in the wild. There has been some interest in the potential for Monk parakeets to fill the vacant niche of North America's only native parrot, the Carolina parakeet, which became extinct in the early 1900's (Garber 1993). The Carolina parakeet was similar to the Monk parakeet both in appearance and habits, in that it built large communal stick nests, had a generalist diet, and could feed upon cultivated crops. It was hunted to extinction by sportsmen and agriculturists.

DETECTION AND IDENTIFICATION

Almost all of the Monk parakeet sightings come from bird enthusiasts. Once a colony is located, residents will watch it and birders will travel to it hoping to see the birds. The only way to currently track the Monk parakeet's activity in Oregon is follow the sightings that are posted on OBOL (Oregon Birders On Line: http://lists.orst.edu) or reported at the yearly Christmas Bird Count (reported in the journal Field Notes).

MEANS OF MOVEMENT AND DISPERSAL

Monk parakeets are considered nearly sedentary birds. A large woven stick nest requires considerable energy and resources to build and is used year after year. However, Monk parakeets have been known to travel many miles to raid crops in South America. Also, the parakeet has abandoned many nests in Portland. It is unknown whether the birds perished or just moved to a better site. There have

been sightings of the parakeets in the northern coastal regions but the only nests located were in Portland and the Willamette Valley.

Monk parakeets are known as Quaker parakeets in the North American pet trade. There are countless websites devoted to these birds, some of which have references to various advocacy groups protecting feral and pet birds from further state regulations. A previously owned or hand-raised baby Quaker can be purchased over the internet (such as BirdMart.com) and shipped across state lines. In Oregon, a Quaker can be obtained easily from pet stores or bird breeders for between $150-$300.

CRITICAL INFORMATION NEEDS

Many questions about the Monk parakeet in Oregon remain unanswered:

- Exactly how many are there, where do they live and what do they eat?
- What is the reason for their stable or declining population?
- Can escaped pet birds that were reared in captivity survive in Oregon?
- If Monk parakeets damaged Oregon's agricultural crops, would the damage be economically significant?
- Could they be captured and made pets?
- What would be the cost to the state of such a capture program, and would it have to be repeated?
- Who would underwrite this program, and develop and enforce the new regulations?
- What other control/eradication alternatives are available and what are their potential costs?
- Would these regulations affect the pet birds already in the state?
- Would a monitoring program of feral populations be effective in preventing future problems?
- What is the public opinion of Monk parakeets in Oregon?

DISCUSSION

The problem of what action to take with the feral Monk parakeet in Oregon is complex. Given the small population, the bird could probably be extirpated from the wild in the state. Is the Monk parakeet a sufficient threat to Oregon that the controversy and expense of a control program would be justified? The costs of such a program would be considerable, and may not be understood or condoned by taxpayers since the birds have never caused any damage in Oregon. Bucher (1992) notes that in Argentina, the costs of parrot control programs can rapidly become higher than the losses. But can we afford to do nothing? With invasive species, many believe that a penny of prevention is worth a dollar of cure.

Because Monk parakeets are non-native, they are not protected from harm by any laws. Utility companies have used this freedom to destroy their nests when they cause problems. However, although nest destruction can result in fewer parakeets, it is not an effective population control technique, as the birds can rebuild elsewhere. Trapping the parakeets and returning them to the pet trade

could be effective if the feral birds and their immediate offspring were not allowed to escape, a scenario that is impossible to predict. There is a possibility of not only accidental releases of the captured Monk parakeets, but deliberate releases because the owner is fed up with the noise they produce. Buhler et al (2001) found evidence of feral Monk parakeets being collected in Florida, possibly to re-enter the national pet trade, with their survival skills intact, perhaps taught to their offspring.

Strictly speaking, the birds could legally be captured or destroyed in a humane manner. History shows, however, that lethal control techniques are rarely acceptable to the public. Birders, animal rights organizations, politicians, and even ornithologists have come to the defense of the Monk parakeet, asserting that the bird, having not become the next starling as predicted 30 years ago, is not likely to become a significant pest, and that prudent scientific caution has crossed the line into persecution (Beaulieu 2001 and Spreyer 1998).

No matter how well justified, programs aimed at reducing populations of exotic birds are almost invariably unpopular and contentious; as a result, few wildlife agencies are willing to risk the bad press that inevitably accompanies control efforts (Temple 1992). Many attempts by state agencies (including ODFW) to deal a preemptory blow to this potential problem have been thwarted by public opposition (such as the Oregon Avian Alliance), and plagued with lawsuits and controversy (Beaulieu 2001). Effective and acceptable means of eradicating established exotic birds have not yet been developed (Temple 1992).

Continuous monitoring of the Oregon Monk parakeet populations may be effective. The current population seems to be relatively benign. This technique, by reacting quickly to changing populations and activities, could enable Oregon to determine if and when more restrictive measures should be taken to control this bird. The costs and participants of such a program have not been determined.

Several states require all pet Monk parakeets to have either permits or a traceable ID, such as a leg band or an implanted microchip. This method enables the states to ensure that pet birds remain pets. If traceable IDs were applied to feral birds, states could follow the bird's movements and make more accurate measures of populations. However, capturing, banding and tracing wild birds is a labor intensive and costly process.

The 'wait and see' approach has several proponents. Campbell (2000) concluded that the Monk parakeet is not a significant problem now, but should be monitored closely to assess range expansion and environmental and economic impacts. Pruett-Jones and Tarvin (1998) assert that although the Monk parakeet has caused some localized damage in a few states, the damage can be appropriately and efficiently dealt with on a local level. They feel that the Monk

parakeet's status as a national pest species is unwarranted, and it should not be subject to widespread control.

Detailed studies on the habits and expansion of feral populations of Monk parakeets in the U.S. are still needed in order to determine its potential threat. Temple (1992) correctly points out that most naturalized U.S. parrots have been so poorly studied that their alleged economic and environmental impacts remain largely undocumented. He cautions, however, that although exotic birds can have positive impacts, most are negative.

The status of the Monk parakeet in Oregon, and in all of North America, remains in limbo. Unless some decision is made on the national level, it seems likely that the Monk parakeet will continue to colonize the U.S. Oregon stands poised to add its square to the perplexing patchwork of state regulations that is largely ineffective and unenforceable. An exotic species that could cause economic losses for some people while bringing joy, recreation and profit to others is presents a seemingly intractable problem (Temple 1992). We all face the same dilemma: how do we balance the interests of the pet trade, wild bird enthusiasts, and agriculturalists without enough data to support any decision?

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