Parrots in Peril?

by Jill Hedgecock Walnut Creek, California

I was lying on a remote beach in Costa Rica near dusk, listening to the quiet surge of calm ocean waves. Insects maintained their dull, monotonous hum behind us in the tropical forest that bordered the beach. Suddenly, the peaceful air was disrupted as a flock of squawking, screeching birds flew into a nearby coconut tree. Caught without my binoculars and in the fading light, I could just discern approximately 15 or so green, conure-sized birds. Occasionally, a flash of orange, presumably from feathering underneath the wings, could be seen. After several minutes, these busy, boisterous birds disappeared just as suddenly as they had appeared. This was not my first, nor my only, encounter with wild psittacine birds during my brief visit to Costa Rica. However, it was one of the most memorable.

Like this flock of birds, which disappeared so suddenly, so are the rainforests rapidly disappearing. Tropical rainforest destruction, perhaps the most ecologically disastrous event in human history, is occurring at an alarming rate of 50 to 100 acres per minute!,² While occupying less than 7% of the earth's land surface (a mere 2% of the globe), tropical rainforests provide a home for over one-half the world's species³,⁴ To date, we have already lost one-half of the original tropical rainforest⁵

Except for Australian cockatoos, one-fifth of all birds and plants on Earth evolved in the Amazon Basin⁶ Through 65 million years of evolution, primary rainforest habitat represents the most biologically diverse and the most critically threatened habitat on the planet. Tropical rainforest, best defined by rainfall (160 to 400 inches) and temperature (approx. 80°F), are located in areas of Central and South America, Indonesia, northeast Australia and west Africa. The Amazon holds, by far, the largest tract of rainforest. In addition to parrot species, tropical rainforests are the

habitat for other common pet bird species such as toucans, lories and lorikeets.

While Australia maintains a population of many cockatoo species which are so abundant they are often shot as agricultural pests, a small tract of Australian rainforest is the sole habitat for a number of sensitive cockatoo and parrot species. Species dependent on this rare and important habitat include the Palm Cockatoo (Probosciger aterrimus), which was recently (1987) added to the CITES endangered species list. Other parrot species dependent on this rainforest include the Double-eyed Fig Parrot (Opopsitta diophthalma), Redcheeked Parrot (Geoffrovus geoffrovi) and the Eclectus Parrot (Eclectus roratus).

Species most sensitive to deforestation are those with limited distribution, specialized diets or specific habitat requirements. Such is the case for the Golden Parakeet or Queen of Bavaria Conure (Aratinga guarouba). The Golden Parakeet is found in a limited area in northern Brazil, south of the Amazon River. This species requires extensive stands of tall Amazonian rainforest during the nonbreeding season and cleared areas adjacent to the forest during breeding season. During both the breeding and nonbreeding season, these birds forage for food primarily in the tall forest. As a result of deforestation, species competition for habitat in the Golden Parakeet's range has developed? The Jandaya Parakeet (Aratinga solstitialis jandaya) utilizes the dried second growth which replaces the original rainforest habitat of the Golden Parakeet once it has been destroyed. Although the Golden Parakeet is protected as a threatened species in Brazil, pressures from largescale development, increased road access, increased value in the black market pet trade, as well as hunting pressure from local residents who either shoot the bird for meat or to

rid their crops of pests, have resulted in rapid and widespread population declines in the eastern part of its range. Scientists David C. Oren and Fernando C. Novaes predict, as a result of a biological study conducted from 1981 to 1984, that unless measures are taken to secure a biological reserve for and alter domestic trade of this species, it is likely the Golden Parakeet will be extinct east of the Rio Tocantins by the year 2000.

Particularly susceptible species are island inhabitants, such as the St. Lucia (Amazona versicolor), Puerto Rican (Amazona vitto), Cuban (Amazona leucocephala) and Saint Vincent (Amazona guildingii) Amazons. All large macaws are also particularly susceptible to tropical rainforest destruction. Although some parrot species have been studied extensively for habitat requirements, such as the Puerto Rican Parrot, no or limited information is available for breeding and natural habitat requirements for the vast majority of parrot species. Without this critical information, tracts of rainforest left standing could be of insufficient size or vital habitat requirements could be destroyed, dooming these species to extinction. Clearly, further field work is necessary in this area.

All Indonesian cockatoos require mature tropical rainfoest. In the Moluccas, where a growing human population has converted rainforests to cultivated land, 26 parrot species are known to occur. Species of cockatoos in Indonesia include the Salmoncrested (Cacatua moluccensis), Sulfur-crested (Cacatua galerita) and the Palm (Probosciger aterrinus) Cockatoos. In addition to population pressure, 90% of all Indonesia's tropical timber has been allocated to Japan. Faced with this type of onslaught, it is doubtful sufficient rainforest habitat will remain to accommodate the diversity of psittacine birds that currently exist in this

area. Other species at risk due to rainforest destruction in Indonesia are the Black-lored Parrot (*Tanygnathus* gramineus), the Purple-naped Lory (*Lorius garrulus*) and the Amboina King Parrot (*Alisterus amboinensis*) to name a few.

Malay Lorikeets (Loriculus galgulas) occur in treetops in Borneo's rainforests. Malaysia has the highest deforestation rate in the world. The devastation of Borneo's rainforest. particularly Sarawak - an area in northern Borneo considered home by a tribe of indigenous Penan Indians is massive. According to the Penan, "If we are lucky, we may come upon food after walking and searching for two to three days." An estimated five square miles of rainforest per day or approximately three hectares a minute is being cleared by the Malaysian logging industry⁸ Eighty percent of the timber, mostly a type called Meranti, is imported by Japan. Products such as disposable chopsticks and plywood sheets used to mold concrete are developed from the wood. The plywood sheets are used only two to three times before being discarded. One-third of Sarawak's forests have already been destroyed.

More and more parrot species are being added to the CITES (Conference on International Trade in Endangered Species (endangered species list as their populations decline. According to Rosemary Low, author of the book Endangered Parrots, trade accounts for only 3% of the reason parrots are endangered, while habitat destruction accounts for 50%. While limiting trade of species may reduce population pressures, corresponding measures to protect endangered species habitat must be implemented. Prevention of illegal smuggling and black market trade must be enforced for the bird populations to recover and thrive. For some species, such as the Yellow-eared Conure (Ognorbynchus icterotis) and the Maroon-fronted Parrot (Rhynchopsitta terrisi), habitat destruction is considered the sole cause of declining populations.

Trade is considered to accelerate population declines of some species such as the Palm Cockatoo (*Probosciger aterrinus*), the Eclectus Parrot (*Eclectus roratus*), and the Bluestreaked Lory (*Eos reticulata*) to name a few. Although these species maintain a protected status (making trade of these species illegal in their home country), the law is often

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ignored and the penalties are not enforced. The financial incentives for smuggling and black market trade of protected species increase as the birds become rarer and more valuable. Endangered birds that are considered a food source also must often persevere hunting pressures. While the sale of a macaw may feed a family for a week, the same macaw may provide just one meal. Even smaller birds, such as the Golden Parakeet, are considered a food source to some forest residents.

The Buffon's Macaw (Ara ambigua) inhabits the Pacific slope of east Panama. Panama has lost approximately 60% of its rainforest.¹², ¹³

Artwork by Gamini Ratnavira



Since World War II, over one-half of the world's rainforest has disappeared.





Populations of the Chestnut-mandibled Toucan (Ramphastos swainsonii) have greatly decreased due to deforestation.¹¹

Indonesia is bome to a variety of cockatoo species; 90 percent of all Indonesia's tropical timber bas been allocated to Japan.





Mark Hagen is Research Director at HARI. He has a Master of Agriculture from the University of Guelph and specializes in Psittacine Aviculture. His continued Research includes Nutrition, Incubation and other Psittacine Aviculture research projects.



The HAGEN AVICULTURAL RESEARCH INSTITUTE (HARI) located in Rigaud, Québec was established in 1985 to study the captive breeding and maintenance of companion birds. At present, the breeding colony houses 150 pairs of 40 various parrot species.

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- 400 watt sodium and fluorescent lights with timers provide photoperiodic manipulation.
- Green House misting system provides continuous humidity control and a rainlike effect which the birds love.
- Large eight and ten foot suspended flights and gravity feeders provide privacy and minimal human disturbance.

Research fields include disease control, pair bonding, nutrition and the influence of temperature, humidity and light cycles on breeding. Progress has been rapid in the area of feeding research at HARI.

Hagen's new VME seed line (Vitamin and Mineral Enriched) incorporates the most effective supplementation for smaller bird species. HARI research determined that vitamin and mineral enrichment of dehulled seed kernels was more effective than other industry methods, such as coloring the outside hull or simply mixing seeds with poultry type pellets, which are often rejected by the birds.

PRIME, a unique vitamin/mineral and limiting amino acid supplement which includes beneficial bacteria and digestive enzymes, was also developed by HARI. The formula is designed for birds on a soft food or seed diet, ensuring that all essential nutrients are made available in the diet.

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supplying pet stores with tame babies.



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When most people think of rainforest destruction, they think of slash and burn techniques used for agricultural development. In fact, the problem is much more complex. For instance, road-building is a severe problem. Why? Because not only does the open space create barriers which some mammals, birds and some butterflies will not cross, but it also opens up the land to logging trucks. In a ten year study of the Amazon rainforest launched by Thomas Lovejoy, it has been noted that, in a 25 acre section of rainforest, 75% of the population of low flying birds disappeared in only six weeks after the adjoining land was cleared? Once the commercially valuable hardwoods have been extracted by logging companies, small-scale agriculturists move in and after only a few years must abandon these fields and destroy even more rainforest due to nutrient depletion of the soils. Unlike soils in temperate forests here in the United States, tropical soils are actually quite nutrient-poor with the majority of nutrients retained in the vegetation. Once the vegetation is destroyed or removed (logs), so also are the nutrients.

Although agricultural plants cannot grow, grasses can still be planted and cattle brought in. Once this stage is reached, the destruction of the rainforest is virtually irreversible. In Central America, the conversion of rainforest to cattle pastures has been the primary cause of deforestation. With the loss of the canopy for an extended time, in combination with nutrient depleted soils, the intense sun rays bake the clay soils to hardpan rendering the land useless. Of the beef exported from Central America, 90% is brought into the Untied States, most of it going to fast food restaurants¹⁰ Due to the lack of labelling laws, once the beef arrives in the U.S., it is stamped USDA approved. Without an indication of origin, it is virtually impossible to track its destination. After a one-and-a-half year boycott on Burger King spearheaded by the Rainforest Action Network, this fast food chain cancelled contracts to buy rainforest beef. Other fast food restaurants which are believed not to use rainforest beef are McDonald's and Wendy's.

Short-sighted economic policies are another cause of deforestation. According to a report by the World Resources Institute, tropical countries often sell logging rights much too cheaply. The administrative costs of managing the contracts and the loss of tax revenue can actually exceed the amount the government receives from the logging concessions. This report challenges the idea that economic benefits outweigh the harmful consequences of deforestation.

Most of us were affected by the drought last year and although scientists were not certain of the cause, many said the condition was aggravated by the loss of the rainforests. Other global issues such as the greenhouse effect also are being compounded by rainforest destruction. The greenhouse effect is the term used to describe global warming as a result of the trapping of the sun's rays by the build-up of gases, particularly carbon dioxide, in the atmosphere. These light rays, which would normally reflect out into the atmosphere, are heating up the planet and could dramatically alter regional climates. The destruction of rainforests contributes to the build-up of carbon dioxide in the atmosphere in two ways. Carbon dioxide is generated directly by the burning of vegetation. According to a recent Environmental Defense Fund newsletter, 6,000 fires were counted as a small aircraft flew over Brazil in one day. Second, with the loss of rainforest vegetation, plants which would normally convert CO_2 to oxygen during the process of photosynthesis are no longer present. It is estimated that an area of rainforest equivalent to the size of Pennsylvania disappears every year. By the year 2000, most of the smaller, unprotected tracts of rainforest will be gone and by the year 2050, all unprotected rainforest will have disappeared. And with the rainforest, the birds and animals dependent upon it disappear.

Fortunately, there are many ways individuals can help to stop the destruction of the rainforests and assist in the preservation of pet bird species. Here are just a few suggestions:

• Don't buy products made from rosewood, mahogany, teak and other tropical hardwoods unless you can confirm these woods were produced from a renewable source.

• Letter writing — members of the Rainforest Action Network are provided with monthly newsletters on a specific rainforest issue.

• Write articles for your local bird club newsletters letting them know

what is happening to "our" pet birds.

• If you own birds such as Blue & Gold and Scarlet Macaws which breed readily in captivity, set them up to nest. Not only will raising these birds be enjoyable, but you can help meet the demand for domestic pets and diminish the import of wild birds.

• Educate your friends and family and encourage them to participate.

For further information, contact the Rainforest Action Network, 301 Broadway, Suite A, San Francisco, CA 94133.

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