



Parrot Conservation Education: the Way Forward

By Rosemary Low

None of us need to be reminded of the fact that, as a group, parrots are the most endangered birds in the world, with 90 species, that is 26%, threatened with extinction. This compares with 11% for bird species as a whole. Another 40 species (11%) are listed as “near-threatened”. There are protocols set by IUCN to define the status of threatened which, simplified, means that a species is declining at a rate of 20% over ten years or three generations, or it has a range of less than 20,000 sq km and is declining, or it has a population of fewer than 1,000 birds or a range of less than 100 square km.

During the past two decades and especially from about 1990, countless parrot conservation programs have been initiated to try to stop the decline of many of these species. Different aspects have been addressed, such as protecting habitat, declaring reserves or national parks, attempting to stop the capture of wild parrots, erecting nest-boxes for species whose nesting trees have been destroyed, and protecting birds at their nest sites and roosting areas. Unusual measures have been taken, such as growing food trees (licuri palms) for Lear’s Macaws (*Anodorhynchus leari*) and planting wax palms for Yellow-eared Parrots (*Ognorhynchus icterotis*).

One lesson that is quickly learned by people involved in conservation projects is that the interest and sympathy of local people is essential if they are to be successful. An excellent example is provided by the re-introduction of the Blue and Gold Macaw (*Ara ararauna*) to the Nariva Swamp in Trinidad. In May 2000 I travelled to this island to find out how this was being achieved. This swamp was the only location where the macaw had been found. It was trapped out of existence during the 1960s. Bernadette Plair, originally from Trinidad and now with Cincinnati Zoo’s Centre for Research of Endangered Wildlife, played a large part in the



macaw's reintroduction. She brought wild-caught birds from Guyana for release into the swamp which had been made a reserve since the loss of the macaw.

In December 1999 and January 2000 a total of 12 macaws were released. An education programme was essential to safeguard their survival. Local TV and newspaper coverage ensured that everyone was well informed. Sixteen hundred brochures were distributed to various groups throughout the island. Public interest and enthusiasm for the reintroduction was high.

People from the villages in the swamp area volunteered to monitor the macaws and to report their presence to Forestry Division officers. How times had changed! The local people were no longer trappers: they were guardians. Bernadette Plair had already held a couple of workshops among them and, at the time of my visit, I unexpectedly found myself as a minor participant at another workshop. In the community centre in Plum Mitan, one of the villages close to the swamp, I witnessed conservation education first hand. I learned about the local incentive to develop ecotourism based on the macaw's presence. The participants distribute information on the wetlands and on the macaw.

I visited the village school – a truly unforgettable experience. Here an environmental education program had been incorporated into the curriculum in an imaginative way. It made learning about biodiversity and the natural treasures of Trinidad great fun. The enthusiastic young teachers had put enormous time and effort into this. Every morning a talk was given to the assembled 140 children. People were invited from various institutions to talk on environmental issues, especially those concerning the swamp. Competitions relating to these lessons were held weekly and prizes were awarded to “Green Samaritans”. The classrooms were decorated with posters and pictures of Trinidad's fauna, especially paintings of the macaw made by the pupils. They performed the theme song about the swamp, with one girl playing steel drum and a boy



on the keyboard. The children gave a touching and tuneful performance, one that I will never forget.

The environmental program ran from World Wetland Day on January 29 until World Environment Day on May 31. In a tiny swamp village with extremely limited resources, this program was a model for schools throughout the world. The teachers can be very proud of their achievements for I know nothing like them in my own country.

Later I visited the swamp camp near Plum Mitan. It is manned around the clock by a remarkable group of men. Originally formed as unpaid fire fighters, they now keep watch over the area that the macaws inhabit, preventing entry by strangers. These remarkable men guard the area day and night, leaving their families to do so. Between January and May they had clocked up a total of 8,640 man-hours of monitoring macaw habitat (Low, 2001a, 2002a). Their dedication brought rewards in the following year when the first young for nearly 40 years fledged into the swamp habitat. By the year 2002, nine young had fledged successfully.

In 2002 eleven schools were participating in conservation education, involving a total of 3,800 children. In January 2003 four thousand macaw activity booklets were to be printed for distribution. A box of crayons was to accompany each booklet. Twenty four Blue and Gold macaw costumes were ordered for a children's Carnival competition in February 2003. Costumes will depict adult and baby macaws. Other costumes will simulate live and hollow palm trees and children will carry banners with conservation messages celebrating the macaws' successful return to the Nariva Swamp.

I was elated when I left the school, confident that the young generation of swamp people have had such a firm grounding in the value of the habitat and the macaw, and their pride in this beautiful bird is so intense, that its future is secure. As the first stage of the reintroduction has been such a success, there are currently plans to import 16 more birds from Guyana later this



year.

When parrot conservation becomes part of the school curriculum, children grow up with a strong sense of the value of their native parrot, in spite of the fact that their parents have considered parrots solely as a source of food or an item of trade. Many adults have reassessed the value of their local parrot as a result of the enthusiasm of their children.

In Central America, the Belize Zoo educational staff have raised local awareness of the plight of the *belizensis* sub-species of the Double Yellow-headed Amazon. The education programme has focussed on the school and the village of La Democracia. In 1999, for example, they sent hundreds of calendars featuring this parrot to schools. Pupils made observations of activity at parrot nest-boxes (apparently used by other species) in the grounds of the zoo. The Yellow-headed Parrot curriculum combines aspects of science, language and social studies and exercise books contain conservation messages.

In Brazil an effort is being made to conserve the Red-spectacled Amazon (*Amazona pretrei*). This beautiful parrot has lost most of its habitat to deforestation and intense grazing and more recently is threatened by trapping. A public awareness campaign which commenced in 1991 has been directed at students, professors, ranchers and rural workers, using posters, presentations and published information. An encouraging aspect is the protection of nest trees by landowners. Nest-boxes had been installed in the recently created Carazinho Municipal Park, located in a breeding area with communal roosts (Snyder *et al*, 2001).

Elsewhere in southern Brazil's Atlantic forests, an environmental education project for the Red-tailed Amazon (*Amazona brasiliensis*) was developed for Superagui National Park. This park, which covers 21,400 hectares, was created in April 1989. The Red-tailed Amazon is one of the most gravely threatened parrots in South America, due to poaching of chicks and trapping of adults, and deforestation. An education program was supported by Dresden Zoo,



Germany, and a German conservation organisation (ZGAPS) in 1997. A poster, distributed in villages across the range of the Amazon, was pinned to every school and church door and handed to customers in bars and restaurants. A car, covered in pictures of the Red-tailed Amazon, was driven from village to village by a local teacher, informing people about the threats to the species and its habitat (Luckner, 2000). Residents of the community of Vila Barro do Superagui took part in local art exhibitions, field activities and games, and the sale of craft, relating to the parrot and the Black-faced Lion Tamarin. Their products even reach Europe where the Amazon puppets are sold in the gift shops of zoos.

In the Bahamas the endemic sub-species of the Cuban Amazon (*Amazona leucocephala bahamensis*) is found on only two islands. One of these is Abaco, where shooting and the theft of chicks from nests, have threatened the survival of this handsome parrot. As a result of two chicks being stolen from a nest in 1990, Rosemarie Gnam launched “Friends of the Abaco Parrot” in 1991. A children’s colouring book was one of the first projects, aimed at increasing awareness. This project has been outstandingly successful.

On the Isle of Pines (Isla de la Juventud), Cuba, the Cuban Amazon and the Sandhill Crane (endemic sub-species) are the subjects of conservation education. In 1998 an environmental festival was organised by scientists in Havana. It included talks on conservation, art contests for children and censuses. It culminated in a community fiesta to thank the 400 bird count volunteers, 300 of whom were school children. The populations of the parrot and the crane had risen by 3% and 7.2% respectively since the previous counts in 1995.

In the Cayman Islands, protection of the endemic sub-species of the Cuban Amazon, the Grand Cayman Parrot (*Amazona leucocephala caymanensis*) was a long time coming. It was not removed from the list of game birds until 1990! Before then it could be legally shot. In some areas it is still shot as a crop pest. An intensive education programme was inaugurated in 1990



by the National Trust for the Cayman Islands, in alliance with RARE Centre for Tropical Conservation. In 1992 the latter organisation ran a year-long Promoting Protection through Pride campaign to raise local awareness of the parrot which was still hunted and trapped. It helped to facilitate the declaration of the Cayman Parrot as the national bird.

RARE Center was founded in 1973 to conserve tropical wildlife by developing model programs for use by local, national and international organisations. It focuses on areas of urgent need, such as islands where there are precious and declining endemic species. It has run successful programs in more than 20 countries, mainly in the neotropics, also in the Pacific. Its two major programs are Conservation, and Ecotourism and Community Development. Its work includes such practical aspects as developing income-producing nature trails and promoting family planning. Let us not forget that the massively escalating human population is the biggest threat to the survival of nearly all wildlife worldwide (Butler, 2000).

“Protection through Pride” campaigns are now firmly established as a highly effective method of conserving endemic species, especially those found on islands. St Lucia was where it all started. This was achieved with imagination, determination and the charismatic personality of Paul Butler. Now an icon in the world of bird conservation, then a young Englishman not long out of college, he was perhaps the first person to turn conservation into a popular cult. He took up the cause of the St Lucia Parrot with an enthusiasm that spread over the whole island. In 1979 it was declared the national bird. To celebrate its new status, a week of activities included radio and television programmes, children’s essay competitions and walks through the rainforest. Information packs reached 20,000 children in biology classes. To popularise the parrot, he persuaded rap and rock artists to perform songs about it, had plays performed in which the parrot was the central character and persuaded local companies to use its picture on their products. In the 1970s, this was all highly innovative. It was also extremely successful. Hunting and trapping of the parrot ceased and the government allocated more resources



towards forest protection and its sustainable use. At the start of this education program the parrot was declining and only approximately 150 parrots were left in the wild. Today there are a minimum of 350 parrots and perhaps as many as 500.

Another Amazon threatened by the capture for the pet trade is the Yellow-shouldered (*Amazona barbadensis*) from coastal Venezuela and the Netherlandas Antilles. On the island of Bonaire it has been protected by law since 1952; its capture and export were forbidden. At the time of my visit, in 1979, there were countless captive birds. The law was largely ignored. The situation changed in July 2002 when a registration programme commenced on Bonaire. Over a period of three months 600 birds were ringed and registered – an estimated 95% of those in captivity. A leaflet describing the “amnesty” was delivered to all houses on Bonaire. The campaign was reinforced with press releases, TV commercials, flyers (from The World Parrot Trust), and posters and decals in four languages. The emphasis will now be on law enforcement.

During the 1990s the World Parrot Trust found a novel way of bringing the plight of endemic Caribbean Amazons to thousands of schoolchildren on St Lucia, St Vincent and Dominica. This was achieved in the form of conservation buses, one for each island. When I visited St Vincent in 1993 I watched the reaction of children there to the “Vincie Express”. They loved the colourful mural on each side, depicting their native parrot in its natural habitat. When they entered the bus, they could learn about forest and parrot conservation from the exhibits. These included a jigsaw that demonstrated how different aspects of the environment are dependant on each other. The speakers at the front of the bus broadcast a song written by Paul Butler that sent the message that theirs was a special parrot that must be protected.

Like the Amazons, the macaws are a group of parrots that has been heavily persecuted for trade and for food. In the case of Lear’s Macaw, whose tiny range in Brazil was unknown until 1978,



the threat of poaching is ever present because unscrupulous collectors worldwide still generate a demand for these birds. As the entire population consists of only about 250 individuals, it could easily be decimated by trapping. Until the year 2000 about one quarter of all nests were poached every year. Raising public awareness locally now plays an important role in protecting Lear's. This has been achieved through poster campaigns. In the local towns many shops and bars have a poster on the wall. Educating the local people about Lear's Macaw's plight and conservation efforts has generated pride that has helped to raise awareness within the community that the nest cliffs are continuously protected. This is almost as important as the guards actually providing the protection. Sam Williams, who visited the breeding area last year, wrote (in press): "It is the demand for these rare birds that is the problem. It can no longer be socially acceptable among parrot keepers to keep such endangered species".

The Buffon's or Great Green Macaw (*Ara ambigua*) is an endangered species that has received little attention outside its range countries. In 1994 the American conservationist George Powell started a study in Costa Rica. The breeding range of this macaw is limited almost exclusively to Central American almendro (*Dipteryx panamensis*) forests in Honduras, Nicaragua, Costa Rica, Panama and adjacent zones in Colombia, plus one isolated site near Guayaquil, Ecuador. Radio-telemetry studies revealed that breeding pairs use large, non-overlapping home ranges. The historic nesting zone in Costa Rica has been reduced in size by 95%, principally by the country's uncontrolled logging and land clearing for cattle and bananas. As humans occupied the areas of the macaws' last habitats, these birds faced other threats, including capture as pets and hunting for sport and feathers.

In the year 2000 I visited Costa Rica and met Guisselle Monge Arias and Olivier Chassot who are in charge of the conservation project. They told me that they had unsuccessfully sought funding from a dozen or so organisations and would be unable to carry on much longer. I returned to the UK determined to raise the necessary funds by appealing to the avicultural



community. Aviculturists, bird clubs and the World Parrot Trust responded to the tune of more than \$0,000. This has enabled them to continue their valuable work.

Conservation education is a crucial part of it. As a result, landowners and local residents have become aware of the problem of poaching of nestlings. Through their increased surveillance, the taking of juvenile birds has been virtually eliminated. Awareness of the problems faced by the macaw have been heightened with a colouring book for children and a poster urging people not to buy wild-caught birds.

A small-scale macaw festival had been held annually. Last year the event was held on the border with Nicaragua. Funding was obtained to bring 125 people from both countries to this festival and to provide them with free transport, food and lodging. More than 500 people attended. Events included a craft exhibition, music groups and a play, all featuring the macaw. The centrepiece was the annual prize presentation. Eighteen local farmers received awards for protecting nests of the Great Green Macaw (Chassot and Arias, 2002).

Since January 2002, Guisselle and Olivier have been conducting a campaign in Nicaragua and Costa Rica entitled "The Great Green Macaw, Pride of the San Juan River Basin". Three workshops were held with communities, leaders, rangers, army, young people, local politicians and NGOs. A Nicaraguan biologist is being trained with the aim of initiating a similar research project in Nicaragua.

Many articles and national and international television presentations have highlighted the plight of the macaw and this in itself is helping to reinforce a growing conservation ethic among Costa Ricans. Through the Great Green Macaw, the Costa Rican population is being made aware of the fact that their extremely rich natural heritage cannot be taken for granted.



One of the most critically endangered parrots in South America is the Yellow-eared (*Ognorhynchus icterotis*). Once abundant throughout the Andes, in the late 1990s it was thought to be on the verge of extinction with fewer than 100 birds surviving. In the year 2000, after three years of unsuccessful searching, it was declared extinct in Ecuador. In April 2000 a population of 81 birds was located in a remote valley in the Central Andes of Colombia and the total of known birds went up to 387. A campaign funded by Fundacion Loro Parque has helped to protect and increase its numbers.

The Yellow-eared Parrot is dependent on wax palms (*Ceroxylon*) for feeding, roosting and nesting. Mature specimens are the tallest palms in the world. They are very slow-growing. In Colombia this palm is a critically endangered species. At the 2001 Palm Sunday celebration in Antioquia an estimated 100 wax palms were cut down for palm fronds to wave at the procession. Although the police had been advised of the legally protected status of the tree, they too were carrying its fronds.

This demonstrates the kinds of problems that parrots are now facing, especially those with specialised requirements. In many places laws protect their trees or habitats but without conservation education the law is ignored. However, last year's Palm Sunday was very different and was indeed cause for celebration. Not a single wax palm was cut down or carried. Over 5,000 people in the procession were given balloons, as well as 2000 branches from trees and 500 palm fronds from abundant lowland species. More significantly, 600 young wax palms were carried to the church in plastic soil bags and given to people to plant at their homes. The people who normally cut down wax palms for the procession were paid to plant these palms across the foraging range of the Yellow-eared Parrot (Salaman, 2002). Now at last it seems there is hope for this parrot.

So far in this paper the emphasis has been on conservation education in the neotropics. One



well established programme in the Philippines deserves special mention. The lovely little Red-vented or Philippine Cockatoo (*Cacatua haematuropygia*) has the dubious distinction of being classified as Critically Endangered, one of only 14 parrots in the highest threat category. The principal reason for its decline is deforestation; 80% of the forests have been destroyed. Illegal trapping is another serious threat. The total population is hard to assess but it might number only 1,000 birds with the majority on the island of Palawan.

In 1992 Marc Boussekey from France took up the cause of this cockatoo. He persuaded a zoo in France to sponsor a poster showing the cockatoo and describing its plight in three languages. Three thousand posters were distributed throughout the Philippine Islands. The zoo also sponsored a public awareness initiative, which included a one-hour radio programme every Sunday morning. At least 130 listeners responded. This resulted in the location of more than 300 cockatoos and 30 nest sites that were previously unknown to researchers. Even former trappers co-operated. The radio programme has continued, resulting in a network of informers and protectors.

On Palawan the human population explosion has been highly detrimental to the cockatoo's survival. Nearly all nest sites are known to trappers and young are removed as soon as they are old enough. However, some former trappers are used to guard the nests. In exchange for this service they receive cash incentives, radios, rice and T-shirts. In 1997, for example, ten young fledged as a result.

In 1994 students from Palawan State University had formed a movement whose name means "Save the Cockatoo". They helped to set up a protection network in five areas where the cockatoo still had viable populations. Young cockatoos hatched in protected nests are ringed with stainless steel bands bearing identification codes. The small island of Rasa, off the coast of Palawan, is now the main focus for research. In the year 2000 fifteen nests were located and



intensively monitored by wardens. Not a single instance of nest poaching was recorded. A fund-raising project was launched. Interested people “adopt” a cockatoo (make a donation) and receive information relating to a specific bird, identified by its ring (Low, 2001b). Conservation education on Rasa has been very successful; in the four years up to 2002 the cockatoo population doubled from 40 to nearly 80 birds. There are now 20 nest sites, many of which have fledged three or four young, instead of the two that are normal for this species. The eight full time wardens ensure that poaching of chicks and illegal logging do not occur.

The poster campaign in the Philippines was the first step in educating the public about the cockatoo. Many other Philippine forest birds are threatened by deforestation, especially those from the island of Cebu where nearly all the forest has gone. Seven of the 14 bird species and sub-species from Cebu are already extinct. The continued existence of the Cebu sub-species of the Philippine Hanging Parrot (*Loriculus philippensis chrysonotus*) is uncertain. This, the most beautiful race of this lovely little parrot, was last seen in 1994. It is believed to survive in a tiny patch of virgin forest in the Central Cebu National Park. The sub-species from the island of Siquijor is probably already extinct (del Hoyo, Elliott & Sargatal, 1997). A colourful poster alerts people to the plight of these tiny parrots.

Moving on to Indonesia, which consists of more than 13,000 islands, this area might be described as the most disastrous in the world for parrot survival. Trapping and deforestation are so serious that a number of endemic parrots are likely to become extinct within the next three or four decades. Political and other problems make this a difficult area for conservation workers.

One of the few education projects relates to the Red and Blue Lory (*Eos histrio*). In a remote northern part of Indonesia, not far from the Philippines, are the Sangihe and Talaud Islands. The endemic lory was unknown to the outside world until 1992 when trapping and export commenced on a massive scale. This extremely handsome bird would become extinct unless



something more positive than placing it on Appendix I of CITES was carried out. This happened in 1994 and had absolutely no effect in stopping the export trade.

In 1995 the University of York in the UK, headed by Jon Riley, organised an ornithological expedition to these islands, with the lory as the focal species. By then it was extinct on all the islands except Karakelang. Expedition members therefore identified six villages known to harbour an abundance of trappers and visited the head man in each one, then held an open meeting to inform all the residents of the lory's plight. The team then visited villages and spoke to more than 4,000 children. They used stickers, posters, booklets and leaflets. Their message was that the lory was now found only on their island and if they did not cease to trap it, it would soon be extinct there too. This made sense to the villagers who no longer saw the flocks that were common even four or five years previously. Many people resented the bird trappers who had become rich at the expense of the lory. Jon Riley and his team will continue their work there until a law banning trapping is implemented and enforced (Low, 2002b). The Indonesian Government has set a zero capture quota for the species. It remains to be seen whether this will be effective.

We associate education programs with the less developed countries, yet even in Australia they are necessary. One of the most endangered parrots there is Carnaby's Cockatoo (*Calyptorhynchus latirostris*), one of the white-tailed black forms. Between 1970 and 1990 it disappeared from more than one third of its range due to conversion of its habitat for agriculture. In addition, damage to nesting holes occurred when chicks have been removed for illegal export. The education department at Perth Zoo is working to reverse what they describe as the "indifferent attitude" towards the cockatoos of the people in the region. The zoo built a Cockatoo Information Centre containing displays to highlight the significance of Carnaby's Cockatoo, and it produced a brochure. Education officers devised a new lesson for school children entitled "Cockies in Crisis", which was incorporated into the biology curriculum. In a



programme linking country and city schools, children were taken to the country to collect seeds that form part of the cockatoo's diet. These seeds are germinated at the city schools until they reach the seedling stage. The following year the children return to the country and plant the seedlings in areas that the country children have identified as suitable by observing the cockatoos on their properties. When these seedlings mature, they will provide food for nesting cockatoos and hopefully will prevent further local extinctions of this magnificent cockatoo (Jupp, 2000).

Some early parrot conservation programs failed because the local people were not involved in any way. Gaining their support is crucial for success. Initially it can be difficult to change the attitudes or traditional thinking of adults. Children come to the subject with an open mind. When it is presented in an appealing way, through plays and song, they develop an affection for the parrot which is equivalent to that of the cartoon characters beloved by children in the western world. This is so strongly embedded through good teaching that it will not change in adult life. In this way the attitude towards parrots, conservation and nature can change dramatically in the course of a single generation.

Those of us outside the countries where these programmes are being implemented should take every opportunity to assist them with financial support. I am convinced that the many parrot education projects already in existence and those that will surely follow in the next few years, will have a significant positive impact on the survival of many of the parrots whose future currently looks bleak.

In conclusion, educational programs are important not only to protect the species but to encourage people to protect the environment and to inform them of the benefits that result from this. Their community will be the richer, both spiritually and financially, in the long-term and, equally important, precious parrot populations will be saved for eternity.



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