

year. This is because the properties are extensive and may not be completely explored. The applicant notes that it is difficult to locate nests, the vegetation is often dense and impenetrable, and most indigenous communities prefer to take only the birds they need to pay for short-term (subsistence) economic needs. No birds may be collected before or after the collection period. From a total authorized quota of 16,348 birds (nestlings + juveniles) for the period 1998–2002, only 8,940 were actually collected and exported.

Although complete information on the population biology of this species is not available, funds generated by the sustainable-use program are being used to address information gaps. All of the data collected each season by program staff members are entered into a database maintained by I. Berkunsky, a Ph.D. student and author of the management plan for the reserve in Chaco Province. These data are providing information on the number of nestlings per nest, nestling health and mortality, nest locations, whether or not nests are being re-used, harvest trends at each property or habitat, who is harvesting, and levels of compliance.

Now that reserves are in place, basic biological studies can be accomplished. Because there is no extraction of parrots in the reserves, these areas serve as a control for comparison with properties involved in the harvest. Berkunsky is also studying the reproductive biology of the birds, including clutch size, fledging rate, frequency of repeated nest use, predation of fledglings, natural recruitment, etc. Another study, which will involve radio-tracking of individuals, will examine population dynamics, flock movements, and habitat use. Such a study will determine whether birds in the harvest areas flock to the transitional forests or citrus groves. The project should also allow estimation of the percentage of the total population involved in foraging in citrus groves. Additional studies are proposed to focus on taxonomy, landscape ecology, the impact of foraging on citrus groves, and the impact of the project on local economies.

The information generated by these studies will also assist us to determine whether to renew the program after the initial approval period. If approved, we will require that the applicant provide an annual report at the end of each collection season during the period covered by the approval. The applicant will be asked to include in the report the number and size of the properties participating in the program, population censuses in the collection areas, and an

assessment of the short- and long-term impacts of collection on the population, including recruitment, natural nestling mortality within the nest, and the effects of artificially opening and resealing nest cavities.

Illegal Trade, Domestic Trade, Subsistence Use, Disease, Habitat Loss

The management plan for the species addresses illegal trade, domestic trade, subsistence use, disease, and habitat loss. The program is operated at a national level with collaboration at the provincial level. In a supplemental letter dated September 2000, the applicant stated that domestic demand for blue-fronted amazons has declined due to economic factors and stricter controls over the harvest and transport of the species. In addition, more field personnel have been assigned to monitor legal harvest and control illegal trade. Argentina's application states that domestic trade is under the same guidelines as the proposed program and involves fewer than 150 birds per year.

The project is the only legal means to export blue-fronted amazons or commercialize parrots domestically. Some of the project birds are sold as pets in large cities such as Buenos Aires at prices competitive with export prices. There is a "folkloric" market in small pueblos and aldeas within the range of the species, where birds captured by individuals not participating in the program are sold as pets to local people. Such trade of single birds is permitted within a province. Larger numbers of birds in transport that are not certified as originating from the program are confiscated. Because the birds are imprinted on humans and their exact origin is unknown, they are non-releasable. The project pays for their rehabilitation and distributes them to local people as pets along with information about their care and about conservation of the species. Although about 500 non-program parrots were confiscated in 2002, Banchs and Moschione believe that illegal exports have declined by 600 birds each year since the inception of the program based on the numbers of birds confiscated by provincial authorities (Pers. comm. with DSA and DMA biologists, Jan. 2003).

The program staff strictly controls the harvest and bands all specimens in the field immediately after capture. Staff members ensure that nesting trees are labeled with plastic tags, check that no tree has been cut down to retrieve nestlings, and inspect some, to all, of the nests from which the nestlings have been removed, to verify that at least one nestling remains in the nest. The nestlings left in the nest are marked by

project staff members under each wing with methylene blue to ensure they will not be harvested later and put into trade. Because the bands, capture locations, and other identifying information for each bird must be registered at a national level, and only birds harvested in accordance with the sustainable-use management plan are exported as part of this program, we believe that reasonable measures are being implemented to prevent illegal trafficking in blue-fronted amazon parrots from Argentina. More inspections are made on the properties of first-time participants and on those identified as needing closer oversight to ensure compliance with the program.

The possibility of disease is a concern within holding areas and in the countries into which the birds are imported. Decision 425/97 requires that a veterinarian be present at the assembly areas, separation within the assembly facility of birds captured from different locations, and appropriate quarantine prior to export. The birds are not assembled in the same housing area as other species, the housing areas must be well-ventilated, the floors of the cages must be cleaned daily, and sick birds must be isolated for diagnosis and treatment. Quarantine in Argentina must comply with rules established by SENASA (National Animal Health Service). Exotic birds imported into the United States are subject to quarantine in U.S. Department of Agriculture approved facilities before they can be released to U.S. importers. If the program were approved, blue-fronted amazons from Argentina would be subject to those quarantine requirements. Spain currently imports a large number of blue-fronted amazons from Argentina's sustainable-use program, and the Management Authority of that country reports that they have not linked any avian disease outbreaks to blue-fronted amazons from Argentina (E-mail to A. St. John, May 12, 2003). We are confident that approving this program would not increase the risk of introduction of avian diseases to the United States.

Loss of parrot habitat results mainly from logging of nesting habitat or habitat conversion for farming and agriculture. This program is intended to reduce habitat loss by providing incentives for protecting nesting areas on private property and requiring the establishment of national reserves.

Methods of Capture, Maintenance, and Transport

Nestlings are harvested in December and January. At least one nestling must be left in every nest harvested. The blue-