The thick-billed parrot (Rhynchop-sitta pachyrhyncha pachyrhyncha) is an endangered species now existing naturally only in the montane pine forests of Mexico's Sierra Madre Occidental. The species once ranged into Arizona and New Mexico as far north as Flagstaff, Arizona, but no reliable sightings had been made in the U.S. since the mid-1930s. The parrot's overall population decline is attributed to deforestation of large areas of thick-bill habitat in Mexico. No effective wildlife reserves have been established in the parrot's nesting range, and implementation of forest management programs favorable to wildlife is unlikely, given Mexico's current economic and political situations. To add to the problem, heavy trapping to supply Mexico's pet trade (and, ultimately, U.S. buyer of smuggled birds) decreases the bird's numbers in the wild.

Reasons for the species' disappearance from the U.S. are not certain, but several theories exist. Deforestation in northern Chihuahua may have destroyed "islands" of habitat necessary for the parrot's survival in northward migrations from Mexico. And old-time residents of Arizona's Chiricahua Mountains report that the parrots who once resided there year-round were heavily hunted by hungry miners during the early 1900s.

Until recently, the U.S.' only living psittacine species seemed destined never to return to U.S. territory. But, on September 20, 1986, a research team headed by Dr. Noel Snyder released 13 thick-billed parrots into Cave Creek Canyon in the Chiricahua Mountains in Arizona. The species' return to the pine forests of southeastern Arizona was the culmination of many individuals' and organizations' efforts and dreams. It is the beginning of a vitally interesting experiment. Could thick-bills confiscated from smugglers serve as a nucleus to reestablish the parrot in its old Chiricahua haunts?
law enforcement agent with the U.S. Fish and Wildlife Service in Los Angeles, California, Sam knew federal agents in Texas and California had seized numerous smuggled thick-bills (see AFA Watchbird Vol. XIII, No. 3). Sam called Albuquerque ornithologist Dirk Lanning, who had done extensive field studies of thick-bills in Mexico in 1979. They contacted other experts regarding the feasibility of releasing the confiscated birds in the Chiricahua. The consensus was: now is the ideal time to act. No more waiting until the “eleventh hour” of a species’ demise (as occurred with the Puerto Rican Amazon and the California condor). Sam’s idea continued to gain support within governmental agencies. In August, 1986, contracts of agreement were drawn up between the Arizona Game and Fish Department, named lead agency, and cooperating agencies, the U.S. Forest Service and the U.S. Fish and Wildlife Service. Terry Johnson, Endangered Species Coordinator for Arizona Game and Fish, placed Noel Snyder in charge of the project. Noel’s practical experience with the Puerto Rican Amazon, the Everglade kite, and the California condor projects made him the logical choice to mold the concept into reality. USF&WS biologist Steve Hoffman located confiscated birds all over the United States, and arranged for their travel to Arizona. Eighteen birds were being kept in Hesperia, California, three came from San Diego; five birds were in El Paso, Texas; 13 birds were clearing quarantine in Mission, Texas. (In addition, five captive-raised males were offered by the Jersey Wildlife Preservation Trust in the Channel Islands. However, to date, these birds have not entered the U.S. for quarantine, though legal documents freeing them for use in the project have been signed.)

On arrival, most of the birds were in overt good health. One bird had oral lesions characteristic of Vitamin A deficiency from an all-seed diet, and was treated with injectable Vitamin A. Several birds had feather follicle cysts (ingrown flight feathers) which pre-
vented their inclusion in release plans. Many birds had been badly wing trimmed, usually on the right primary and secondary flight feathers.

Noel called in Condor Project colleagues Dr. Mike Wallace and Allison Leete, and they were joined by El Paso avian veterinarian Dr. Jim Koschmann. The team checked each bird for general health, then weighed and sedated them so they could be surgically sexed and feather imped where necessary. (Dr. Lorraine Sellers, of Hesperia, had previously sexed most of the California birds.)

Aviculturists had been contacted to save molted primary and secondary flight feathers from thick-bills, larger Amazon parrots, and large conures. These feathers were used by the team to meticulously rebuild each bird’s wings to make them flight-worthy. (This process, called “imping,” has long been used by falconers to replace damaged flight feathers. A bamboo peg is carved and fitted into the cut end of the replacement feather. The damaged feather is trimmed near the quill base in the bird’s wing, and the bamboo peg and replacement feather are glued in position using epoxy glue. Eventually the imped feathers are replaced through the normal molting process.) The birds were then fitted with “dummy” radios to allow them to adjust, while still in captivity, to the real transmitters they would eventually wear at the time of release.

The thick-bills were kept in large open-air aviaries nestled within Cave Creek Canyon’s forest, where their eventual release would occur. Pine branches were used as perches. The birds were fed their natural foods: cones from pinon, Chihuahua, and Apache pines, as well as acorns and juniper berries. A commercial hookbill seed mix supplemented the natural foods. The birds were kept as isolated from human intrusions as possible, and their open-air cages allowed them to acclimate, and to react to native free-flying predatory birds. Once the parrots’ damaged wings had been repaired, their feeding stations in the aviary were positioned to force the birds to fly, improving their conditioning. (Wiley, 1983, found that preconditioning Hispaniolan Amazon parrots in the Dominican Republic led to better “flock cohesion, normal feeding behavior, and no immediate dispersal;” and that acclimating the birds led to higher survival rates.) Several days prior to the thick-bills’ release, all dummy transmitter collars were removed, and seven males were
fitted with tiny radios weighing 8 grams each. Of the 39 birds now at Cave Creek, these seven males and 6 females were judged best fit for the first release.

"Why the Chiricahua? If the birds couldn't survive there fifty years ago, how can they do it now?"

The Chiricahua Mountains appear ideal for the release from several standpoint.

1. Once a part of the species’ natural migratory range, they provide plentiful food and water, as well as the large tree nesting sites which Lanning and Shiflett (1981) feel mandatory for thick-bill survival. (U.S. Forest Service policies in New Mexico and Arizona preserve at least five good quality snag trees per hectare, and other large live trees of low commercial value are left for cavity-nesting species of wildlife. Low, 1984)

2. The mountains are not logged for commercial purposes, leaving them relatively pristine.

3. They provide thousands of acres of contiguous habitat remote from pressures of any large population centers.

4. They reportedly had supported year-round thick-bill populations until the 1930s, when various hunting pressures prevailed. Those pressures no longer exist.

The Chiricahuas, covering an area 20 by 40 miles, vary in elevation from approximately 4,500 to 9,800 feet, and range from desert (Lower Sonoran life zone) at the base elevations up to the spruce forests of the Hudsonian life zone near the mountain crests. Annual rainfall ranges from 15 inches at Portal to 35 inches at elevations above 9,500 feet. Cave Creek Canyon, specific site of the thick-bill release, supports a diverse plant community. The creek basin includes cottonwoods, sycamores, ash, walnuts, willows, and maples, while the surrounding mountain sides support junipers, oaks, pinon, Chihuahua, and Apache pines. A channel of cold air nightly pours down from the high country, helping to support a rich stand of pines along the stream at 5,000 feet. The canyon is abundant with wildlife, and is famous as a breeding ground for the copper-tailed (Elegant) trogon.

"What if they all just take off and fly south to Mexico?"


By mid-morning, the release and volunteer observation teams, having been briefed and assigned strategic observation points, were at their mountainside posts overlooking the release cages and Cave Creek Canyon. Each team was equipped with spotting scopes, binoculars, and two-way radios. After delay in Douglas with a flat tire, the Arizona Game and Fish Department plane, equipped to track the birds electronically from the air, finally arrived at the release site in the early afternoon. Helen Snyder, (a biologist and the telemetry expert assigned to the plane) radioed that they were "ready to track birds." The plane made several dummy passes over the canyon to check radio communications. Around 1:45 p.m., Noel wired the cage door open and moved into his blind. The cautious birds took their time, advancing forward, then retreating from the open door to vocalize. At about 2:15, a male climbed out the door, up to the aviary roof, then launched himself into a neighboring Chihuahua pine. Over the next two hours, the cage slowly emptied of birds, one at a time, until the whole flock was reunited in the wild, making sporadic, buoyant flights through the treetops. Ultimately, the whole group soared and circled in tight formation, their emerald and crimson plumage iridescent in the western sun. Unscientific human cheers erupted from the nearby Ridge observation point. For the first time in almost 50 years, native thick-bill parrots were vocalizing. At about 2:15, a male climbed out the door, up to the aviary roof, then launched himself into a neighboring Chihuahua pine. Over the next two hours, the cage slowly emptied of birds, one at a time, until the whole flock was reunited in the wild, making sporadic, buoyant flights through the treetops.

The flock had increased its range of activity to about five miles, occasionally spending several days in South Fork Canyon, or in the high country above Cave Creek Canyon.

"Do you suppose this second release will be as successful?"


Seven males (five fitted with radios) and nine females were selected for this release. The sixteen birds exited the cage more rapidly and confidently than the first release group had, partially because of the attraction of Chihuahua pine branches placed just outside the cage door. They immediately fed on the cones until, without warning, they
One of 12 male parrots fitted with miniature eight gram radio transmitters to facilitate flock surveillance.

A young thick-billed parrot roosts in a pine tree.

From one of eight observation posts above Cave Creek Canyon, Allison Leete and USFWS agent Sam Jojolla utilize spotting scopes to observe thick-bill behavior in the wild.

Thirteen thick-bills rest in an El Paso aviary enroute from quarantine in Mission, Texas, to freedom in Arizona’s Chiricahua Mountains.

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The much-anticipated meeting of first- and second-release flocks occurred late in the afternoon, and was a raucous, rowdy affair as peck orders were established among 27 thick-bills. It was also a fine day’s finale for the news teams, dignitaries, and researchers taking leave from their watches near Helen and Noel’s rustic Creek cabin.

These historic experimental releases are only the first phase of an important, long-term project. On-going monitoring of the Chiricahua thick-bills will reach another crucial focal point in the spring of 1987, when researchers will be watching for thick-bill breeding activity. Until a large breeding population is established, the project has great need for additional parrots to add to gene pool diversity and to increase flock stability. Any donations of captive-raised birds would be particularly helpful, because they would have no prior experience in Mexico, hence, less tendency to return to each other. Captive-raised birds will probably be released in a different area so that they cannot be influenced by any released, wild-caught birds.

The project’s continued success also depends on obtaining outside financial support. Based on available Arizona Game and Fish funds and outside financial pledges, a budget of $17,000 was projected to fund the project from July, 1986, to April, 1987. However, that budget is currently $6,000 underfunded because some early contribution promises are still unfulfilled. Thus far, the ‘outside’ financial contributors are the Greater Los Angeles Zoo Association, the U.S. Fish and Wildlife Service, and El Paso aviculturists Dr. Jody Lawrence and F. Ray McCormick.

You can assist the thick-bill reintroduction project with your money and/or thick-billed parrot donations by calling Terry Johnson, (602) 942-3000, Ext. 245, or writing: Nongame Donations Fund/Thick-billed Parrot Project, Arizona Game and Fish Department, Attn: Terry Johnson, 2222 West Greenway Road, Phoenix, Arizona 85023-4399.

REFERENCES

FIELD PROJECT SUPERVISOR, DR. NOEL SNYDER (SEATED), WITH ALLISON LEE AND DR. MIKE WALLACE, OF THE CALIFORNIA CONDOR PROJECT.

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