

Post-release Behavior and Movements of the Bali Mynah

(*Leucopsar rothschildi*)

by Mark S. Collins and Thomas B. Smith, Ph.D.
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and vegetables, apple being their favorite. They would see me feeding the other chicks in the nursery, and beg and scream for their share. The chicks just love their Trix breakfast cereal. I think this is because of the different shapes and colors they now come in, and this seems to amuse the chicks. By August 30, they were both weaned and eating on their own.

The two baby feathered Tui Parakeets look just like the adults, except for the juvenile eye coloring. At first their iris color was dark, but at 12 weeks of age their iris lightened up to a yellowish-gray color. It still will be a while until they obtain their bright golden colored eyes. Presently the adult pair is showing no interest in returning to nest. Many *Brotogeris* only produce a single clutch a year. I am very pleased and happy with the twosome from this season, and I have high hopes for producing more!

On February 11, 1993 I had the two young Tui Parakeet chicks surgically sexed. The two ended up to be a pair, a male and a female. This has worked out quite well as I had an extra male. The young hen and the older male have now been set up for breeding. I am sure she is too young to produce this year, but at least they get along very well. They seem to really like one another. Maybe next year this pair will produce chicks. I do know that Grey-cheeked Parakeets that are also from the *Brotogeris* family have produced eggs and chicks for me at nine months of age. So anything is still possible. ●

Editor's Note: The Bali Mynah release project was funded in part by AFA with a major portion donated by an AFA member club, West Valley Bird Society of Southern California.

Abstract

The Bali Mynah is critically endangered, with only 34 birds left in the wild. Without supplementing the wild population, the species is likely to go extinct on Bali in the near future. Using captive Bali Mynahs, we will release birds into native habitat and assist them in their transition to the wild. The information gained from this conservation project will advance the science of reintroducing zoo-bred animals to the wild and has direct applications to planned captive-releases of endangered forest birds in Hawaii, the Caribbean, South America and Africa.

Introduction

Captive propagation of endangered species and reintroduction into native habitats is a management technique that is integral to the Species Survival Plans (SSP) developed by zoological parks and various governmental agencies (Temple 1978, Scott 1987). Usually reserved as a preservation effort of last resort, captive propagation can "buy time" for an endangered species, allowing implementation of more long-term conservation techniques. If captive-bred birds are to be successfully released, life history and behavioral aspects must be addressed (Wiley *et al.* 1992). For example, group size for social species may be essential for successful foraging and mate selection. Additionally, a period of pre-release physical conditioning and behavioral training may be required (Wiley *et al.* 1992).

For small to medium sized birds, however, relatively few studies have focused on these aspects (Ferguson *et al.* 1991). The behavioral transitions that a captive bird must make from life in an aviary to the wild are little known, but likely profound. It is essential, therefore, that the behav-

ioral aspects of captive-released birds be documented and as much information as possible on the life history of the wild populations be obtained. Information gained from such a study may be of value not only for the endangered Bali Mynah as outlined below, but will have applications to future captive propagation programs elsewhere. For example, major efforts are now under way for the breeding of Hawaiian Honeycreepers and work is on-going to breed the critically endangered Hawaiian Crow *Corvus tropicus* (F. Duval pers. comm.).

Background and Justification

The Bali Mynah *Leucopsar rothschildi* is critically endangered and the only endemic bird found on the island of Bali. With white plumage and mask of naked blue skin, the Bali Mynah is regarded as the world's most stunning representative of the Sturnidae family (King 1978). Referred to by a variety of common names including Bali Mynah, Bali Starling, Rothschild's Mynah, or jalak putih as it is known by the Balinese, this handsome bird was declared the provincial symbol of the island in 1989 (ICBP 1992).

Historically, populations were believed to be confined to dry savanna forest habitat in the northwest section of the island (ICBP 1992). Currently, the wild population is in decline with approximately 34 individuals located in a small section of native dry savanna forest, within Bali Barat National Park on the west end of the island (van Balen 1993).


Individuals are easily maintained in captivity, a fact that ironically has led to the near extirpation in the wild. In the 1960s, the Bali Mynah was trapped intensively to supply the demands of Indonesian, American and European private aviculturists. In 1966, the International Union for the Conservation of Nature and Natural Resources (IUCN) listed the species as endangered. The Indonesian government responded with a 1971 law prohibiting hunting, capture and export. However, this law has proven to be difficult to enforce. Whereas the wild population declined

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in 1993, the Bali Mynah is at a critical juncture for its survival in the wild (van Balen *et al.* 1993). Considerable research and care is needed to ensure that the release program is productive and does not lead to increased poaching of wild birds. In particular, close monitoring of the birds after release is essential in order to determine the movements and behavior of the birds and their effect on the existing population. Systematic observations reveal factors important to the released birds' success in the wild. Furthermore, large gaps exist in our knowledge of the basic life history of the species in the wild.

Other factors in the decline of the Bali Mynah have been the conversion of savanna forests to non-native tree plantations, crop land and villages. In response to declining habitat, the government established Bali Barat National Park in 1982 within the birds' range, to protect the remaining areas of native savanna forests (Figure 1). The goal in creating the national park was to relocate villages out of the park, halt poaching, and re-create the savanna forest in the areas where native forests have been degraded (PHPA 1987).

In 1987, four conservation organizations launched a recovery program for the species. Participating organizations included: 1) the Indonesian Directorate General of Forest Protection and Nature Conservation (PHPA), 2) the American Zoo and Aquarium

Association (AZA, formerly AAZPA), 3) Birdlife International (formerly ICBP), and 4) the Jersey Wildlife Preservation Trust (JWPT). The main goals of the recovery effort were to: stop poaching, protect and improve the habitat, and supplement the wild population with captive-bred birds. As of January 1991, there were 383 birds in American zoos participating in a Species Survival Plan (SSP) administered by the AZA.

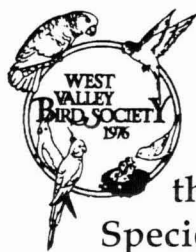
In April of 1990, 12 aviary bred birds from U.S. stock were released into the remaining group of 21 to 25 birds in the wild. Released birds integrated immediately with the wild birds, and a former captive bird successfully mated with a wild bird that later fledged three chicks (Seibels 1990). Observations by park personnel indicate that captive-raised birds released in 1990 lured wild juveniles to the areas of human habitation near the Pre-release Training Center (PTC) where they were subsequently captured by poachers (W. Ubus, pers. comm.).

By October 1990, suspected poaching reduced the population to only 17 birds (Seibels 1990). Improvements in

guarding and a good breeding season resulted in a population increase to 40 birds in 1991 (van Balen *et al.* 1991). The most recent pre-breeding census conducted in October 1993 estimated the population at 30 to 37 individuals (van Balen *et al.* 1993). Unfortunately, there is recent evidence that poaching has resumed despite efforts to increase patrols by the park wardens (M. Wedana pers. comm.).

On 30 November 1993, Collins and his Indonesian research counterpart, Made Wedana, released six captive Bali Mynahs into the wild on the island Pulau Menjangan. The 175 hectare island is located 750 meters off shore from the Prapat Agung peninsula and is within the boundary of the National Park (Figure 2). Currently, two of the six released birds are flying free on the island and are no longer dependent on supplementary food or water (see preliminary results).

The number of released birds was limited to six after it was discovered that the original group of birds scheduled for release was infected with a protozoan parasite, *Atoxoplasma* sp. Atoxoplasmosis is an avian disease

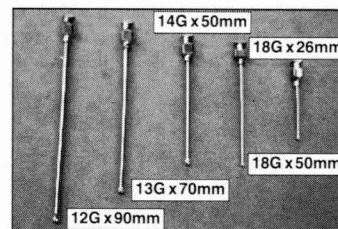


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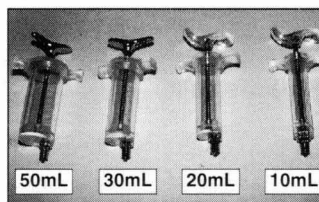
Congratulations to the West Valley Bird Society of North Hollywood, California. Its members donated \$2,150 to the AFA to be applied to the Bali Mynah SSP (Species Survival Plan) Project. This project is just one part of the conservation effort promoted through and by the AFA. Many thanks to the West Valley Bird Society for its very generous support. The AFA invites all clubs to participate in the ongoing conservation efforts. ●

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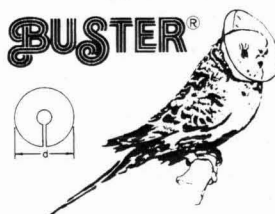


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On 30 November 1993, Mark Collins and his Indonesian research counterpart, Made Wedana, released six captive Bali Mynahs into the wild on the island of Pulau Menjangan (above).

that is asymptomatic in adult Bali Mynahs but causes high fledgling mortality (Partlington *et al.* 1989). Efforts to eliminate the disease from the birds were unsuccessful in eight of nine birds treated with drugs in the new quarantine facility in the park.

Currently, a new drug is being tested on Bali Mynahs infected with *atoplasmosis* held in North American zoos. Preliminary results indicate that this drug may be capable of eliminating *Atoplasma* in the birds and plans are being developed for treating the captive population (R. Seibels pers. comm.). Captive-bred birds held in Indonesia that are successfully treated for *atoplasmosis* would be reserved for second release on Pulau Menjangan. In addition, fecal samples are being collected from captive birds registered in the amnesty program. Those birds that test negative for *atoplasmosis* and are free of other diseases will be used in the next release.

There are several advantages to a second release of disease-free, captive-bred and/or confiscated birds on the island of Pulau Menjangan:

1) Pulau Menjangan provides a release area that should pose no threat to the existing population and allows

for the release program to continue. The 175 hectare island is located 750 meters off shore from Teluk Brumbun Guard Station and is within the boundary of the National Park (Figure 2). Although no records exist of Bali Mynahs occurring on the island (Helvoort 1985), the vegetational characteristics are similar to those found on Prapat Agung.

2) Pulau Menjangan provides an ideal area for "soft release" whereby the birds can be monitored and cared for. Water, food stations and nest boxes will be provided for the birds and the limited size of the island provides optimal conditions to monitor behavior and well-being of released birds. Birds that appear to be doing poorly could be recaptured and returned to the release cage for medical treatment. Because of the behavior characteristics and historical range of the Bali Mynah, it is doubtful that released birds would fly over open water and leave the island. Experience with the six birds released supports this assertion.

3) Once poaching is controlled, released birds that appear well adjusted to the wild could be recaptured and released directly into the existing population on the peninsula

of Prapat Agung. In this way, the island would serve as an intermediary step in the reintroduction process, thereby eliminating the problem of released birds enticing wild birds to fly back to areas of human habitation.

4) Pulau Menjangan represents a release site that can be protected from the activities of bird poachers. The island has one permanently manned guard station on the west end, a periodically manned station on the east side and a guard tower located near the center of the island. The length of the island can be traversed in less than 30 minutes. Furthermore, since any poacher would have to access the island by boat, the probability of intercepting a poacher is high (in the one incident of theft of a released bird, the suspects were confronted and searched, but no bird was found).

5) A breeding population of birds on Pulau Menjangan would also facilitate protection of the species in case of catastrophe in the wild population on Bali. The existing population of 34 birds on Prapat Agung peninsula is small and subject to extirpation by fire, disease or poaching. Holding a second wild population in reserve would be a prudent management technique.

U.S. Fish & Wildlife Explanation of Wild Bird Conservation Act Misconceptions

Editor's Note: Roddy Gabel (Office of Scientific Authority) and Dr. Susan Lieberman (Office of Management Authority) have asked the editors of *Watchbird* magazine to publish the following information on the Wild Bird Conservation Act to give a better understanding of what the WBCA actually does and to clarify several misconceptions that have become evident from letters and communications received by the U.S. Fish and Wildlife Service. We (Dale R. Thompson and Sheldon L. Dingle) urge all of our readers to read the following letter.

May 2, 1994

Dear Editor:

We request the publication in your magazine of the following discussion of the Wild Bird Conservation Act, in which we address some common misconceptions of bird breeders and bird owners around the United States.

The Wild Bird Conservation Act (WBCA) was unanimously passed by Congress and was signed into law October 23, 1992; it is a major step in the conservation of wild birds subject to international trade. The WBCA limits imports of exotic bird species to ensure that their populations are not harmed by trade. It also encourages wild bird conservation programs in countries of origin by ensuring that all trade in such species involving the United States is both biologically sustainable and to the benefit of the species. The U.S. Fish and Wildlife Service (Service) of the Department of the Interior is the agency of the Federal Government charged with implementation and enforcement of the WBCA.

New laws and regulations derived from them are frequently a source of confusion and misunderstanding for the people affected by them. This has certainly been the case for the WBCA, and we appreciate this opportunity to clarify some misconceptions and misunderstandings about this important new law. Nearly a year and a half after its enactment, the WBCA is still not fully understood by some bird owners, aviculturists, importers, and other constituencies interested in it. On behalf of the Service, we would like to encourage an open dialogue with all of these individuals and organizations representing them, in the interest of wild bird conservation.

What the WBCA Does

First, we would like to define what the WBCA actually does. The WBCA only restricts *imports* of certain exotic bird species into the United States. The WBCA has *no effect* on sale, interstate or intrastate commerce, or breeding within the United States, or export of exotic birds from the United States. The nature of the import restrictions of the WBCA depends on whether or not a species is listed in one of the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In passing the WBCA, Congress specifically excluded 10 families of gamebirds and ratites from its provisions. These include the Phasianidae (pheasants, quail, peafowl, junglefowl, etc.), Numididae (guineafowl), Cracidae (curassows, guans, and chachalacas), Meleagrididae (turkeys), Megapodiidae (megapodes), Anatidae (ducks, geese, and swans), Struthionidae (ostriches), Rheidae (rheas), Dromaii-

nae (emus), and Gruidae (cranes). Several individuals have written to the Service to ask that other families or orders of birds be exempted completely from the provisions of the WBCA; the Service cannot do so, since the exclusion of these families was a decision of Congress.

Except for the 10 families named above, if an exotic bird species is listed in one of the CITES Appendices (I, II, or III), it is prohibited from import, unless an individual shipment has a WBCA import permit, or the species is listed in an approved list. For a permit to be issued, the import must meet the criteria established in the WBCA and implementing regulations for: (1) scientific research, (2) personally owned pet birds of persons who have resided outside the United States for at least a year, (3) zoological breeding or display programs, and (4) certain cooperative breeding programs. If an import is found to qualify for one of these exemptions, a WBCA import permit can be issued to allow the import.

Imports for cooperative breeding programs require a two-tiered process whereby first the breeding program itself is approved as qualifying under the WBCA and then individual import permits may be issued to individuals for purposes related to their participation in the program. That is in order to expedite processing of import permits, after a program is approved.

The WBCA also allows for the establishment of a list of approved species, which may be imported *without* a WBCA import permit. Of course, the import of the species may still be regulated by other treaties or laws, such as the Endangered Species Act, CITES,

the Migratory Bird Treaty Act, or the Lacey Act. We would like to stress that if a species is listed in the approved list, no WBCA import permit is needed; if a species is not in the approved list, it is still eligible for a WBCA import permit. Both captive-bred and non-captive-bred species may be placed on the approved list in one of the following ways:

1. *Captive-bred species.* A captive-bred species may be listed as approved, and therefore imported without a WBCA permit, if a determination is made that (a) the species is regularly bred in captivity *and* no wild-caught birds of that species are in trade (legal or illegal trade), or (b) the species is bred in a qualifying foreign facility. If the species is listed as exclusively captive-bred, it does not have to come from a qualifying facility.

2. *Non-captive-bred species.* A non-captive-bred bird species (i.e., from the wild) may be imported without a WBCA import permit if a determination is made that (a) each country of origin of the species is effectively implementing CITES; (b) a scientifically based management plan for the species has been developed; (c) the management plan is implemented and enforced; and (d) the methods of capture, transport, and maintenance of the species minimizes the risk of injury or damage to health, including inhumane treatment.

If an exotic bird species is not listed in the Appendices to CITES, it may be freely imported, but the WBCA does allow for the imposition of a moratorium on imports from any country of origin if it is determined that: there is no management plan for the species; a management plan exists but is not implemented or enforced; or the methods of capture, transport, and maintenance of the species do not minimize the risk of injury or damage to health, or are inhumane. It must also be determined that a moratorium is necessary for the conservation of the species or is otherwise consistent with the purposes of the WBCA. Similarly, the import of *all* species of exotic birds from a particular country may be subject to a moratorium if these same determinations are made for species in trade from that country. The moratorium or quota may be terminated if it is later determined that the reasons for imposing it no longer exist.

Implementing Regulations

The requirements listed above come directly from the text of the WBCA, which is available from the Service on request (see our address at the end of this article). While Congress (the Legislative Branch of our government) passes laws, it is the job of the Executive Branch of our government to implement and enforce those laws. Therefore, the Department of the Interior, as a Cabinet Department of the Executive Branch, is required to promulgate and enforce implementing regulations for the WBCA; the Service is the agency of the Department of the Interior that has been charged with these responsibilities. Federal law requires the Service to publish proposed regulations, receive public comments, analyze those comments, and publish a final rule. Those proposed and final regulations are published in the *Federal Register*, a document published every day by the Federal Government. A final rule, while developed with consideration of the public's comments, must accurately reflect the law from which it is derived. Prohibitions and restrictions imposed by the law cannot be eliminated or modified through regulation.

On August 12, 1993, a Proposed Rule was published, which contained application requirements and issuance criteria for WBCA import permits and approval of cooperative breeding programs. The Service involved the public extensively in the development of these regulations. A public meeting was held April 15-16, 1993, to receive input from the public in the development of regulations to implement some of the provisions of the WBCA. Useful input was received from a broad cross-section of interested members of the public who participated in the meeting, including many aviculturists, and consensus was reached on many points. The final regulations were published November 16, 1993, and incorporated many of the comments that were received.

On March 17, 1994, a second Proposed Rule was published in the *Federal Register*, in which the Service proposed regulations establishing approval criteria for inclusion of both captive-bred and non-captive-bred species in the approved list of species listed in the Appendices to CITES. This Proposed Rule included criteria for

approval of exclusively captive-bred species, requirements for scientifically based sustainable-use management plans, and application requirements and approval criteria for foreign breeding facilities. Of course, breeders and breeding facilities in the United States are not affected by the WBCA or by these regulations; it only affects foreign facilities that wish to export otherwise prohibited species to the United States. The comment period for this Proposed Rule is open until May 16, except for the sustainable-use section, which is open until June 15.

Misconceptions About the WBCA and Associated Regulations

With the background presented above, we now wish to address some common misconceptions about the WBCA and the implementing regulations, based on letters and calls we have received. These misconceptions have given rise to unnecessary fears and concerns from some individuals, who either believe that the WBCA establishes authorities beyond those described above, or they have been otherwise misinformed.

Misconception #1:

No more birds can be imported into the United States.

Birds can still be imported into the United States, but their import may be restricted depending upon their status under the WBCA. Ten entire families of gamebirds and ratites are completely exempted from the prohibitions established by the WBCA, and therefore, those families are not affected by the WBCA *in any way*. In addition, the various permits allowed for under the WBCA also can be used to import exotic birds. Permits must be obtained before a bird is imported, and numerous such permits have already been issued. Any birds on the approved list, as well as any species not listed in any Appendix to CITES, may be imported without a permit. Hundreds of non-CITES birds have indeed been imported since the regulations were finalized.

Misconception #2:

The WBCA restricts the keeping and breeding of exotic birds that are already in captivity in the United States.

The WBCA does not establish any controls or restrictions on keeping, breeding, or selling of any species of exotic birds within the United States, nor does it affect exports of exotic birds from the United States to other countries. The WBCA only establishes prohibitions against imports of certain exotic birds into the United States.

Misconception #3:

The WBCA only applies to wild-caught birds, and captive-bred birds are or should be exempt from its provisions.

One of the purposes of the WBCA is to assist wild bird conservation and management in the countries of origin. However, except for the 10 bird families specifically excluded by the WBCA, the WBCA applies to *all* species of exotic birds being exported from *any* country, whether individual birds are of captive or wild origin. In passing the WBCA, Congress recognized that there are serious concerns that wild-caught birds are often intentionally misrepresented as captive-bred. For this reason, the law specifies criteria for the import of captive-bred species; it does not simply exempt them.

However, captive-bred birds can be imported in a number of ways:

1. Captive-bred exotic bird species on the approved list may be imported without a permit. To be on the approved list, (a) a species must be regularly bred in captivity and *no* wild-caught birds of the species may be in trade, *or* (b) a species must be bred in a qualifying foreign breeding facility. In the first case, if both captive-bred and wild-caught birds of that species are in trade, the species cannot be placed on the approved list. Even if only low numbers of illegal wild-caught birds are known to be in trade and no legal trade in wild-caught specimens is allowed, the species still cannot be placed on the approved list. In the case of qualifying foreign breeding facilities, they must be found to meet the criteria specified in the WBCA, and only birds actually bred at that facility may be considered approved for import without a WBCA import permit. Those regulations will be finalized as soon as possible after the close of the comment period, after all comments received are analyzed.

2. Captive-bred birds may be imported with one of the four types of WBCA import permits. They do not

have to originate in an approved facility.

Misconception #4:

Only birds on the approved list of captive-bred species may be imported from approved foreign facilities. Birds imported for cooperative breeding programs must be from approved facilities or they must appear in the list of approved species.

A foreign facility can be approved for any species. Cooperative breeding programs can apply for any species. The approved list of species and facilities allows for imports without a permit for any purpose.

Misconception #5:

Only birds on the approved list may be bred in the United States.

Again, the WBCA does not affect activities involving exotic birds already in the United States. The approved list includes species of birds that may be imported without a WBCA permit, as stated above. Several people have written to the Service, concerned that in publishing a list of "approved" species, the Service has not recognized that many more species are actually bred in captivity. The Service recognizes that many, many more species are bred successfully, and that aviculture plays an important role in filling the domestic demand for pet birds. However, international trade in those species also includes wild-caught birds, and therefore they cannot qualify for approval as captive-bred species.

Misconception #6:

Only aviculturists belonging to a cooperative breeding program can breed birds.

You do not have to belong to a cooperative breeding program to breed birds, or to sell them. However, you must participate in a cooperative breeding program if you wish to import an exotic bird species that is not on the approved list and the purpose of the import is captive breeding. In addition, the cooperative breeding program must be (a) designed to promote the conservation of the species and to maintain the species in the wild by enhancing the propagation and survival of the species, and (b) developed and administered by, or in conjunction with an avicultural, conservation, or zoological organization.

Misconception #7:

The regulations can be written to exempt additional families of birds, like the gamebirds and ratites, from the WBCA.

The regulatory process cannot be used to completely exempt birds from the provisions of the WBCA. Regulations establish operational procedures for implementing and enforcing the WBCA; they cannot be used to change the law itself. In passing the WBCA, Congress established a definition of the term "exotic bird" which excluded the 10 families of gamebirds and ratites. Changes in the status of a species under the WBCA can only be done within the framework of the law, which means through the various exemptions or approvals. A change in a species' listing status under CITES can also affect how it is handled under the WBCA.

We believe that implementation of the WBCA regulations will foster wild bird conservation. The WBCA allows for importation for cooperative breeding programs designed to enhance the conservation of species in the wild. We support importation of wild birds for cooperative breeding programs and from scientifically based sustainable use management plans, consistent with the requirements of the law.

We regret that there have been misunderstandings of the implications of this important new law. With the cooperation of bird owners and breeders around this country, we are hopeful we can continue to work for the conservation of exotic birds in the wild, so that their populations survive into the future. The preservation and conservation of global biodiversity requires the cooperation of everyone, and we look forward to a continued dialogue with bird owners and breeders around the country on these important issues. Please feel free to write to the Service at the address below, to receive a copy of the WBCA or implementing regulations, or to ask any questions you may have.

Roddy Gabel
Office of Scientific Authority

Dr. Susan Lieberman
Office of Management Authority
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The Biggest Little Bird Expo in Reno

September 3, 1994

9 a.m. - 4 p.m.

Reno Livestock Events Center Exhibit Hall

For further info write R.A.A.V.E.,

P.O. Box 10393, Reno, NV 89510-0393

Call (702) 323-5278 · (702) 826-9714

or (702) 358-8702

Central Alabama Avicultural Society

presents its

Annual Show & Fair

September 3 - 4, 1994

Howard Johnson Governors House Hotel

2705 E. South Blvd., Montgomery, AL

Hotel reservations: 1-800-334-8459

For information call:

(205) 857,3817, (205) 892-2204, or (205) 279-6829

Keystone Cockatiel Club and Chester County Bird Breeders Combined NCS/ACS All Bird Show

September 10, 1994

10 a.m. to 4 p.m.

Valley Forge - Sheraton Convention Plaza

Mezzanine Level

King of Prussia, PA

For details contact:

Doris Rickards (610) 647-4632

Dick & Kathy Freas (610) 644-9337

Lorraine LaBoyne (610) 269-6003

For directions call:

Sheraton Hotel (215) 337-2000

Greater Chicago Cage Bird Club

Spring Bird Fair

September 17, 1994

10:30 a.m. to 5:00 p.m.

Hattendorf Center

225 E. Elk Grove Blvd., Elk Grove Village, IL

(1/2 mile east of Arlington Heights Road)

Semi-annual event, open to the public.

Features a wide variety of birds, cages, toys, seed, treats, and equipment for sale.

For everyone from single pet owners to serious breeder/hobbyists.

General information: (708) 705-6260

Erie Cage Bird Club's Annual Auction

September 17, 1994

2306 Norcross Rd., Erie, PA

Public welcome, no admission charge

Starting at 1:00 p.m.

For info.: Diane Holtz (814) 898-2675

The Aviculture Society of Puget Sound (ASOPS)

presents its

Fourth Annual Exotic Bird Fair

September 24, 1994

10 a.m. to 6 p.m.

Seattle Center Flag Pavilion

For more information contact:

Carla Ritchie (206) 862-3358 or

Ann Jones (206) 868-7871

Town & Country Feathered Friends

7th Annual Bird Fair

September 25, 1994

11 a.m. to 5 p.m.

Washtenaw County Fairgrounds

on Ann Arbor-Saline Road

Saline, Michigan

For info contact:

Nancy Egerer

11533 Newman Rd., Brighton, MI 48116

or call (313) 227-6503

Town & Country Feathered Friends meets in Michican Center the

4th Wednesday of every month. Contact Secretary Barb

McNamara, 8735 Greenwillow, #8, Brighton, MI 48116.

Coastal Bend Cage Bird Club's

5th Annual Bird Fair

September 25, 1994

9:00 a.m. to 3:30 p.m.

Moose Lodge, 8001 S. Padre Island Dr.

Corpus Christi, Texas

For more info:

Linda Young (512) 991-2704

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- Tropicana comes in 3 lifecycle formulas: Baby Food (for hand feeding), High Performance (for Breeders), and Life-Time (for maintenance)
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- The Life-Time formula contains three natural colours: Green, Orange and Natural
- No preservatives or artificial sweeteners
- The best quality control: Each batch is formulated, test fed, analyzed (by two independent labs) and approved by the HAGEN AVICULTURAL RESEARCH INSTITUTE
- CO₂ packed air barrier bags guarantees no bugs and seals in freshness
- Extruded granules eliminate powdery waste and wet voluminous droppings caused by pellets
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BALI BARAT NATIONAL PARK

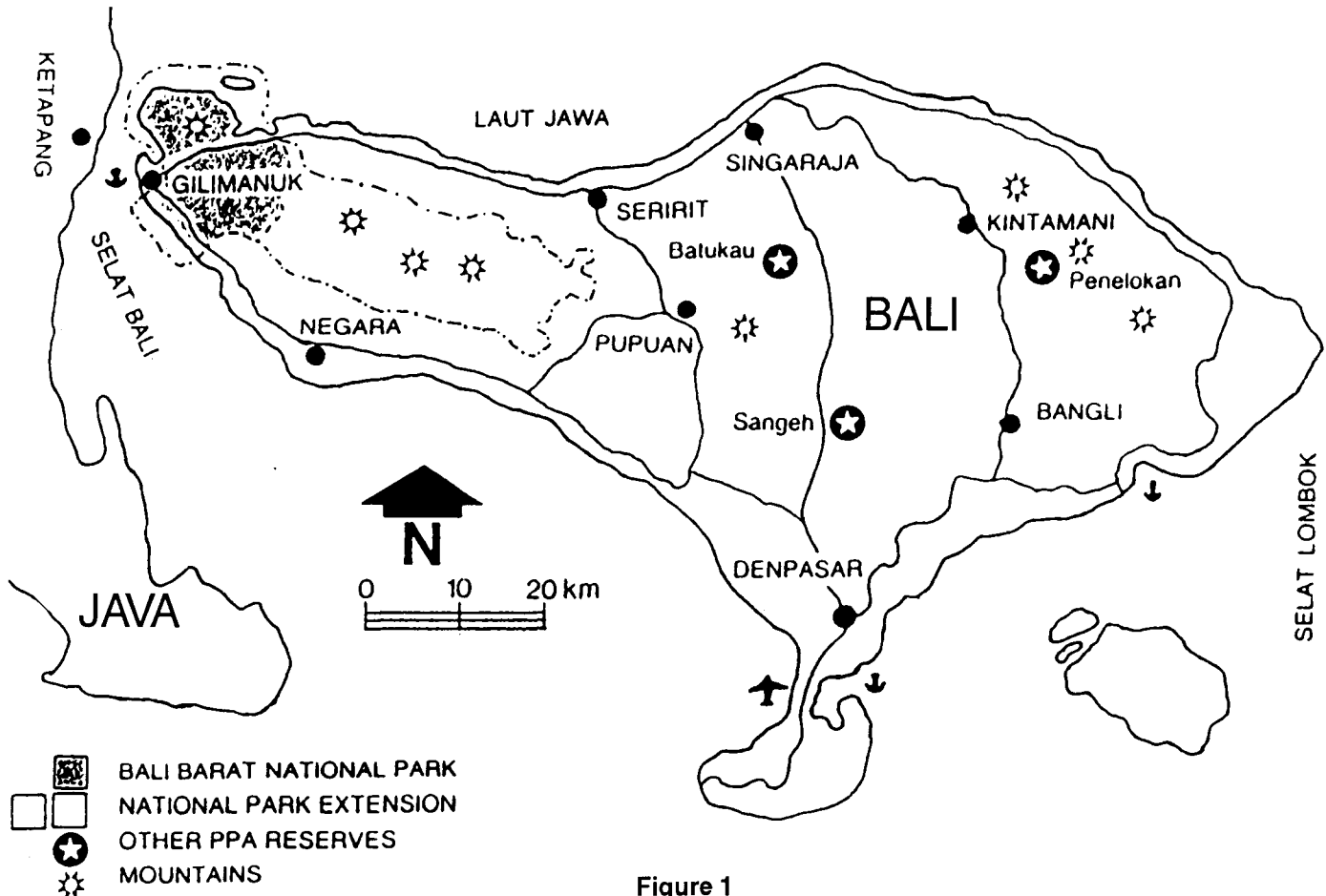


Figure 1

6) An island population could also potentially serve as a location for visiting bird watchers to view birds in a native setting. Promoting conservation efforts through education must be a central goal of the program. The waters surrounding Palau Mejangan are regularly visited by divers and boats may be easily chartered from Labuan Lalang. Furthermore, the island is sacred to the Balinese Hindus and the project could promote efforts to foster nature conservation through endorsement from local religions. For example, during the first field season, a Hindu ceremony was held on the island with 50 villagers in attendance to bless the project.

7) A second release will provide a data set robust enough to be statistically meaningful. The first release, although well monitored, had a small sample size that diminished the significance of the effort.

8) The renewed presence of Collins in Taman Nasional Bali Barat will assist the AZA in their transition to a leadership role in the Bali Starling Project planned for 1995. During the first

field season, Collins served as representative for the AZA in Indonesia, and was instrumental in implementing new efforts to protect the wild population and in establishing improved communication between the AZA and the national park.

Preliminary results of the first field season:

On 30 November 1993, six Bali Mynahs were released into the wild on the island Pulau Menjangan. Systematic observations on these radio-tagged birds were conducted and their movements were recorded on grid maps.

One of the six birds released was born in Surabaya Zoo from parents originating from North American zoo stock. This bird was successfully treated for atoxoplasmosis. The other five birds, all negative for atoxoplasmosis, were taken from private owners who had previously registered their birds with the Indonesian government during an amnesty program.

The initial response of the birds upon release into the wild was very encouraging. All six individuals made

rapid progress in developing flight strength and skills. All birds made use of supplemental food and water that was provided on tables hung in trees. Within five days of release, all birds were effectively foraging for wild insects. Unfortunately, one of these birds was stolen by poachers on 17 December. As wild fruits began to ripen into the sixth week, the released birds started eating fruits and lessened their dependence on the supplemental fruits and insects.

After the return of Collins to the U.S., it was reported by the Indonesian research counterpart, Made Wedana, that in the span of the week 11 to 18 January 1994, three birds had been predated. The remains of two of the birds with talon wounds were recovered indicating attack by a bird of prey. Reported during the same period were repeated sightings of a Peregrine Falcon *Falco peregrinus* in the vicinity. As of 17 March, it was reported that two of the released birds (one captive-bred, one confiscated amnesty bird) were still flying free, no longer taking supplemental food or

BALI BARAT NATIONAL PARK

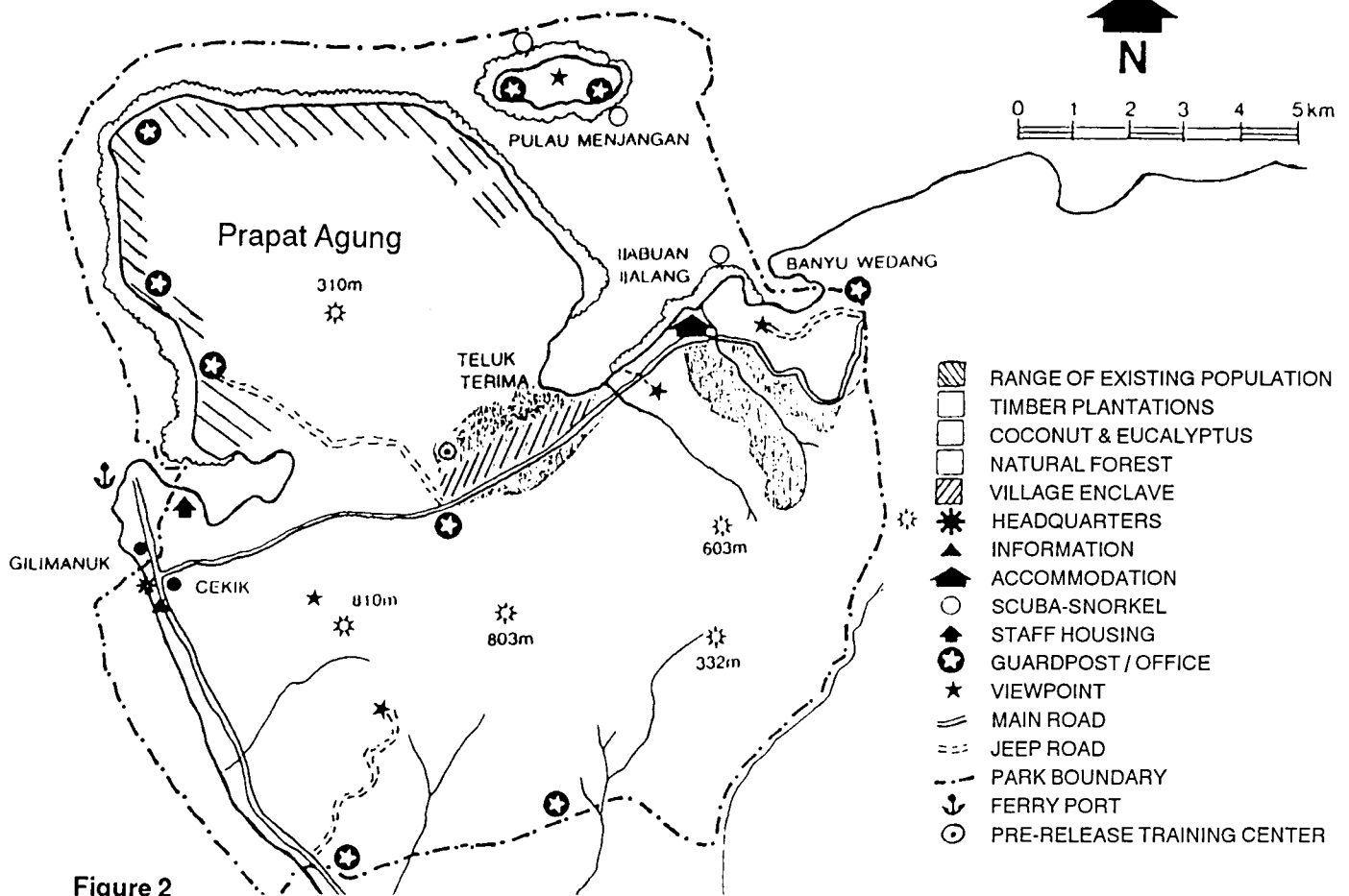


Figure 2

water, and were periodically being monitored.

Objectives

The overall objectives of the study are to maximize field efforts so as to obtain as much data as possible on aspects important to the release of captive-bred birds as established during the Bali Starling Workshop (U. Seal 1990).

Specific objectives include:

- 1) Document behavior and movements following the release of captive-bred birds.
- 2) Examine food habits following release.
- 3) Assess potential factors that may affect the success of the newly released birds in the wild.
- 4) Assess avicultural and hacking techniques which may improve survival of newly released birds.
- 5) Examine, in as much detail as possible, life history characteristics of the existing wild populations (feeding rates, breeding behavior, habitat utilization, etc.).
- 6) Compare activity levels of wild

birds with activity levels of released birds.

7) Further demonstrate the practicality of using radio transmitters on released Bali Mynahs.

8) Demonstrate the practicality of recapturing "soft release" birds that have been habituated back to the wild on Pulau Menjangan Island, and releasing them into the existing population on Prapat Agung peninsula, once poaching is controlled.

9) Establish protocol for long term monitoring of released individuals and the training of Indonesian biologists.

Research Plan

Research will be conducted from June through October 1994.

Study Site

A 45 hectare study site has already been established near the Guard Post II on the west side of the island. The wild population will be studied on Prapat Agung peninsula. Kayaks and a project motor boat will be used to move between the island and the

peninsula.

Procedures

1) A group of eight disease-free birds will be assembled and color banded for release on Pulau Menjangan. Radio transmitters will be placed on individuals three days before release to assess the fit following procedures successfully demonstrated on captive Bali Mynahs by Elbin *et al.* (1991) and Collins during the first field season.

2) Birds will be housed in a specially constructed release cage. The cage features removable inner partitions that allows for holding the birds separately or all together to allow for socialization. Two additional water and supplemental food stations will be established on the island prior to release and utilized as needed. Birds will be released two at a time in the late afternoon over the course of four days. Their cage doors will remain open to allow them to return in the evening. Experience shows us that birds take a few days to build up their wing strength and it is better to allow



The Bali Mynah is critically endangered and the only endemic bird found on the island of Bali. There are only 34 birds left in the wild.

them to return to their cage for rest, food and water. Having a few birds held in the release cage stimulates the newly released birds to return to the cage in the evening.

3) Surveys of banded individuals will be conducted along flagged transects within the study site on a daily basis. When observed, location in the quarter section of the 50 m quadrant will be noted. If an individual is observed outside of the study area, the bird's approximate distance from the release site will be determined by walking a fixed compass course away from the bird towards one of two measured transects that course the entire length of the island. These data will provide information on territory size and boundaries, and habitat use.

4) Time budget observations will be conducted daily using Focal Animal Sampling (Altman 1974) on newly released birds and on the wild population. The observer will wait for three seconds before recording observations. Using a countdown timer, the observer then records the number of probes, pecks, hops, flights and other coded behaviors that occurred during a 20 second interval. The observer will then immediately record this information on a field observation sheet. The observer will also record the distances of the movements, tree species, tree height, bird height, perching substrate (e.g. ground, small branch, etc.), feed-

ing substrate (e.g. fruit, insect, nectar, etc.) and other information. These data will determine the amount of time spent by individuals in different behaviors and foraging substrates for comparison with wild birds on Prapat Agung.

5) A concerted effort will be placed on nest searches on both Prapat Agung and Pulau Menjangan throughout the field season. Locations of all Bali Mynah nests will be mapped, nest site and habitat qualified and, if the nest is directly visible, nest size, shape and materials described. Behavior of the birds at the nest site will be studied on a scheduled timetable.

6) Data will be analyzed using standard univariate and multivariate statistical techniques.

Tentative Schedule

Year 2 (1994)

June: Research permit and visa requirements completed in Jakarta and Denpasar. Coordination of release with PHPA officials. Grid system reflagged on island. Birds color banded. Birds moved to release cage on Pulau Menjangan.

July: Observations initiated on the behavior and movements of wild birds on Prapat Agung. Eight birds released on Pulau Menjangan. Observation on the released population initiated.

August through October: Continued observations and evaluations

made on the birds on Pulau Menjangan and Prapat Agung. Coordination and release of additional birds to Pulau Menjangan from the PTC, if conditions warrant a second release and if birds are available. Recapture of well adjusted birds on the island and release into the wild population on Prapat Agung will be evaluated.

November through January 1995: Final data analyses and writing of results will be conducted at San Francisco State University.

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