



CBSG News

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*Newsletter of the
Conservation Breeding
Specialist Group,
Species Survival
Commission, The World
Conservation Union
(CBSG, SSC, IUCN)*

Volunteers and Country-Based CBSG Networks

We have received more than 200 responses to the volunteer information survey you received with your CBSG membership renewal forms. If you failed to receive these forms or have misplaced them please let us know at office@cbsg.org. Provide us with your complete mailing address and we will send replacements. A full analysis of the survey data is underway and will be presented at the CBSG meeting in Perth. A preliminary tabulation revealed a high proportion of responses supporting extending the networks of CBSG to more countries and regions. The forum of this newsletter offers a timely opportunity to begin a conversation on CBSG networks and how to begin developing one. There currently are CBSG networks in India, Nepal, Sri Lanka, Mesoamerica, Mexico, Indonesia, South Africa, United Arab Emirates, and Japan. Each network is adapted to the country and culture by the local organizer or convener.

We have a few simple principles which guide the organization and function of country -based CBSG networks. The first is the commitment by a person who has some form of institutional support to take responsibility for organization of the network and guiding its activities. It is this person's energy and enthusiasm which is essential for a successful and functioning network. The second is that CBSG networks are made up of people who volunteer to participate and assist in CBSG projects, programs, and workshops as a means of expanding their contribution to conservation in their country or specialty beyond that of their current organizational affiliations. Thus, all CBSG projects are open and intended to provide a neutral forum for people to share their interests and expertise to assist conservation in their country and region. The third is the suggestion that a newsletter be produced and distributed to all network members and other interested parties in the country or region as a means of providing shared communication. The fourth is to serve as an organizer of CBSG workshops, such as CAMPs, PHVAs, and Conservation Planning Workshops for organizations as a means to assist bringing people together to find common ground on conservation problems and needs and to develop practical conservation action and management programs which can be implemented through the commitments of people participating in the workshops. The fifth important guideline is that all CBSG workshop results and recommendations are the product of the workshop participants' work, are advisory to the responsible official authorities, and are made available at cost to

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anyone requesting a copy.

CBSG works with the official wildlife authorities at their invitation in all such programs. We are an advisory and support organization - not a confrontational advocacy organization. Our strength lies in our credibility and recognition as a science-based advisory group with knowledge-based catalytic skills in assisting diverse groups to find common ground for conservation problem solving.

If you are interested, please contact us at the CBSG office and we will work with you. We have a variety of training opportunities to assist in development of needed skills which we will help you attend. We will need to meet and work together in some CBSG workshops as well. Also please plan to attend and participate in the next annual meeting of CBSG and of the Steering Committee of CBSG in 2002 in Vienna, Austria. It will provide the opportunity to become acquainted with active CBSG members from the other regional networks and to share experiences with people from other regions. We look forward to working with you and your colleagues.



Ulysses S. Seal, CBSG Chairman

From the Editor:

Greetings CBSG Members and *CBSG News* Subscribers! I would like to introduce myself as the new editor of *CBSG News*. I have been working with CBSG for a year now and am happy to assist in the distribution of the wealth of information we have gathered over the past year from the workshops we have facilitated. CBSG has conducted and/or participated in over 65 workshops, and produced 37 publications since the last Annual Meeting (October 2000). This issue of *CBSG News* contains summaries and photos from some of these workshops. These projects are made possible by the 166 donor institutions, organizations, individuals, the CBSG strategic associates and program coordinators, and by over 960 individuals in 96 countries that comprise the membership of CBSG. We thank you for your support!

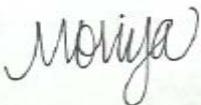


photo courtesy of Michelle Brown



photo courtesy of Peter and Barbara Barham

CBSG News

CBSG News is published by the Conservation Breeding Specialist Group, Species Survival Commission, World Conservation Union. *CBSG News* is intended to inform CBSG members and other individuals and organizations concerned with the conservation of plants and animals of the activities of CBSG in particular and the conservation community in general. We are interested in exchanging newsletters and receiving notices of your meetings. Contributions of US \$35 to help defray cost of publication would be most appreciated. Please send contributions or news items to:

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CBSG Mission Statement

The mission of the Conservation Breeding Specialist Group is the conservation or establishment of viable populations of threatened species.

The goals of CBSG are to:

1. Organize a global network of people and resources.
2. Collect, analyze and distribute information.
3. Develop global conservation breeding programs.
4. Integrate management programs for captive and wild populations.

Riverine Rabbit PHVA

*University of Stellenbosch, South Africa,
July 2000*

A Population and Habitat Viability Assessment (PHVA) Workshop for the Riverine Rabbit (*Bunolagus monticularis*) (Thomas 1903) was conducted under the supervision of IUCN/SSC CBSG chairman Ulie Seal at the University of Stellenbosch in July 2000. It was organized by the Zoological Society for the Conservation of Species and Populations (ZSCSP) in cooperation with the IUCN/SSC Lagomorph Specialist Group (LSG).

The Riverine Rabbit is one of South Africa's most threatened terrestrial mammals, (Smithers 1986) and one of twelve globally endangered rabbit species (IUCN 1996). The Riverine Rabbit is endemic in the semi-desert Karoo of South Africa and only occurs on private farmland. The main threats to this unique species are habitat destruction and fragmentation due to agricultural activities along the river courses in the past, anthropogenic manipulation of river courses and fragmentation of riverine vegetation through impoundments in river channels, destruction of suitable habitat through overgrazing by livestock (i.e. sheep), traditional hunting with farm labour dogs, and traps. At present, none of Riverine Rabbit habitat is protected within a provincial nature reserve or national park in the Karoo region.

By means of the PHVA Workshop almost all groups responsible for the conservation and management of *Bunolagus* and its habitat were identified and brought together. The workshop included a carefully selected and diverse group of participants such as private landowners from the Karoo, national and provincial conservation authorities, lagomorph experts, and national and international conservation scientists. In different working groups aims and objectives were clarified and long-term conservation strategies for the Riverine Rabbit and its habitat were established. First results of a population viability assessment by means of the computer simulation model VORTEX were given and discussed in regard to those management strategies which might be most effective to improve the prospects for the survival of the Riverine Rabbit.

The workshop was sponsored by the Philadelphia Zoo, the Sir Peter Scott IUCN/SSC Action Fund, the Zoological Garden of Berlin and the ZSCSP. 🐾



photo courtesy of Andrew Duthie

REFERENCES

- IUCN. (1996): 1996 IUCN Red List of Threatened Animals. IUCN, Gland, Switzerland.
- Smithers, R. H. N. (1986): The South African Red Data Book — Terrestrial Mammals. South Africa Nat. Sci. Prog. Rep., 126. Pretoria, Council for Scientific and Industrial Research: 54-56.
- Thomas, O. (1903): On a remarkable new hare from the Cape colony. Ann. Mag. Nat. Hist. 7:78- 89.

*Submitted by Dr. Victoria Ahlmann (DVM)
Zoological Society for the Conservation of Species
and Populations (ZSCSP)*



photo courtesy of Andrew Duthie

Wattled Crane PHVA

*Wakkerstroom, Mpumalanga, South Africa
August 2000*

The Wattled Crane PHVA was an initiative of the South African Crane Working Group (a working group of the Endangered Wildlife Trust).

Forty participants from 19 different organizations (including conservation NGO's, corporates and government departments) took part in the workshop to assess the extinction risk and develop effective management strategies for the South African Wattled Crane population. During the workshop, participants were divided into the following working groups: Distribution and Habitat, Land-use Patterns, Threats, Captive Populations and Life History, and Population Dynamics and Modelling.

The recommendations from the working groups of the workshop are summarized below.

- The primary recommendation is the need for an accurate understanding of the bio-physical requirements of this species (including diet and energy studies) as well as what constitutes viable habitat, including determining the minimum habitat areas required for breeding and foraging.
- Further recommendation relates to a better understanding of our wetland resources which includes:
 - 1) surveying all wetlands within potential Wattled Crane regions to determine how fast our wetlands are being lost
 - 2) assessing these wetlands as potential suitable Wattled Crane breeding habitat
 - 3) performing a risk assessment of currently active Wattled Crane breeding wetlands and developing management action plans to reduce the threats to "high risk" sites ensuring that these are not lost.
- We need to determine specific mortality threats to adult birds as this constitutes the greatest threat to



photo courtesy of Warwick Tarboton and Anne Burke

breeding extinction, including concentrating on addressing the threat of overhead powerlines and the misuse of agrochemicals in the agricultural sector.

- We need to heighten the awareness of the plight of the Wattled Crane through a publicity and awareness campaign, and in the process establish an effective network of individuals interested in developing an effective reporting procedure.
- On the captive side it was recommended that the current supplementation program, which has been active for the past five years, be suspended for the next 5 years during which time the program will focus on building the captive population of Wattled Cranes. This captive population will act as a genetic reservoir against catastrophic events and provide birds for a possible future supplementation program. After 5 years, the impact of a supplementation program on the wild population will be remodeled. If review indicates a supplementation program would contribute significantly to the wild population, then resources would be redirected into a limited supplementation program to refine the techniques to release captive bred cranes into the wild.

This PHVA is just the first step in the process of designing a conservation management programme based on sound science and expert knowledge. It is a framework, that will be added to and further refined as more information becomes available. The SACWG would like to thank CBSG, especially Dr Ulysses Seal, for facilitating the workshop and making it the success it was. 🐾

Submitted by Kevin McCann, National Research Coordinator for the South African Crane Working Group

Wyoming Toad PHVA

Laramie, Wyoming, February 2001

The Wyoming toad was discovered by Dr. George Baxter in 1946 and was originally known as *Bufo hemiophrys baxteri* until 1998 when it was given full species status as *Bufo baxteri*. The toad is thought to be a glacial relic found only in the Laramie Basin in southeastern Wyoming, in the western part of the United States. Baxter and others monitored breeding sites for more than 30 years, with few toads seen or heard from 1975 to 1979. An extensive survey of the Laramie Basin in 1980 found only one population.

The Wyoming toad was listed as an endangered species under the Endangered Species Act on January 17, 1984, with a Recovery Plan approved in 1991. Currently the total population of the Wyoming toad includes approximately 200 animals in the captive breeding program and as few as 62 toads surviving at reintroduction sites in the Laramie Basin based upon fall 2000 survey data (after releases of more than 10,000 toads and tadpoles since 1995). Major threats to the species include recent infection of the last wild population with the chytrid fungus, as well as extensive reduction and fragmentation of available habitat.

The United States Fish and Wildlife Service (US Department of the Interior) asked CBSG to conduct a PHVA workshop in Laramie, Wyoming 12-15 February 2001. Thirty-five people attended the workshop, including federal and state agency biologists, university researchers, private landowners, and zoo biologists working together closely throughout the duration of the meeting to discuss issues and assess the available biological and social information relevant to Wyoming toad conservation. Workshop sponsors included the United States Fish and Wildlife Service, Denver Zoo,



photo courtesy of A. Anderson



photo courtesy of S. Roberts

the John Ball Zoological Society, and the Zoological Society of Cincinnati.

At the beginning of this workshop, participants introduced themselves and stated their personal views on species threats, workshop goals, and relevant expertise they could bring to the process of Wyoming toad conservation. Much of the information presented in these responses centered around four primary topics, which then became the focus of topic-based working groups: Disease Identification and Management, Population Dynamics and Risk Assessment, Wild Population Management, and Captive Population Management. Following a set of brief presentations on the status of the Wyoming toad in the wild and in captivity, participants broke into smaller groups and the real work began.

Using the now-familiar CBSG workshop format of identification and prioritization of species conservation issues, goals and ultimately management actions, each group was extremely productive as they developed detailed, prioritized recommendations designed to stem the rising risk of extinction of this species. After consolidating a total of twenty recommendations down to sixteen, the entire group prioritized this set in order to gain a broader picture of the desired course of action. Improving chytrid disease identification and management in both wild and captive populations was a clear priority among the group, as was enhancing husbandry techniques in order to significantly increase rates of reproduction and survival in zoo populations of Wyoming toads. The Fish & Wildlife Service is now using these and other workshop recommendations to revise the current Recovery Plan. 🐸

Submitted by Phil Miller

Mexican Wolf PHVA

Show Low, Arizona, August 2001

Introduction

The Mexican gray wolf (*Canis lupus baileyi*) is the southernmost occurring, rarest, and most genetically distinct subspecies of gray wolf in North America. It once occurred in the mountainous regions of the Southwest from central Mexico throughout portions of southern Arizona, New Mexico, and Texas. Aggressive predator control programs nearly eliminated the Mexican wolf but a captive-breeding program begun in 1980 saved the Mexican wolf from extinction. The captive population currently numbers about 200 animals, which are managed by over 40 zoos and wildlife sanctuaries throughout the United States and Mexico.



photo courtesy of Michelle Brown

Recovery efforts for the Mexican wolf began when it was listed as endangered in 1976. The current Mexican Wolf Recovery Plan, approved in 1982, calls for maintenance of a captive population and re-establishment of a wild population of at least 100 wolves over 5,000 square miles of historic range. In March 1998, three family groups consisting of 11 Mexican wolves were released into the “primary recovery zone” on public lands in Arizona. Wolves have been released each year following this and, as of August 2001, there are approximately 35 wolves living in the Blue Range Wolf Recovery Area. These wolves have begun to pair on their own, are killing natural prey like elk and deer, and have begun to reproduce in the wild. There have been 14 substantiated reports of livestock damage due to wolves and the Defenders of Wildlife’s Wolf Compensation Trust Fund has reimbursed the ranchers involved.

The Workshop Process

The current final rule for the Mexican gray wolf reintroduction instructs the Service to review the Mexican Wolf Program after 3 years to determine whether the program should continue, continue with modification or be terminated. Because of our unique expertise and international reputation, the Service invited CBSG to design and facilitate a workshop where stakeholders, including scientists and agency representatives, were equal participants. The Service requested that CBSG select scientists to review, analyze and assess the Mexican Wolf Program data prior to conducting the Three-Year Review Workshop. These scientists were tasked with addressing the scientific objectives of the Program, and to draw their conclusion as to the finding of the three-year review.

At the workshop, conducted from 7-10 August in Arizona, Paul Paquet and Mike Phillips presented CBSG’s scientific team’s biological findings and their recommendation that the Program continue with significant modifications. The meeting participants were then split into six topic-based working groups. Each group was tasked to develop problem statements, develop goals under those problem statements, and finally identify action items by which the goals would be achieved and the problem they identified resolved. The following summary presents the priority

goals identified by each group.

Results

Wolf Management Working Group

1. Reassess and refine the boundaries for wolf recovery in Arizona and New Mexico.
2. Select better wolf release/management areas within the recovery zones.
3. Review and refine all current post-release management practices and procedures.

Data Gathering Working Group

1. Allow the possible release of wolves throughout recovery area and allow wolves to disperse outside recovery area and evaluate possible negative land restrictions and impacts to other wildlife population and local economies due to boundary changes.
2. Minimize management action (e.g. capture/

recapture, supplemental feeding, removal of wolves) and analyze the short and long term effects of these actions on wolf behavior, social structure, and evolution.

3. Establish baseline numbers and distribution data for selected wild organisms and ecological processes and implement on-going monitoring of change.

Communication and Trust Working Group

1. Determine appropriate measures and monitor rural community health within the unique community of the Blue Range Wolf Recovery Area.
2. Keep the project on the original plan or adhere to the NEPA process in a manner that is not perceived as pre-ordained.
3. Involve local experts in the Interagency Field Team's planning and decision making process.
4. Develop mechanisms to communicate and inform stakeholders.
5. Develop a new Recovery Plan.

Human Dimensions Working Group

The Human Dimension Workgroup identified, in priority order, the following 5 problem/needs statements:

1. The administrators of the Recovery Plan need to be accountable for their actions and those of the introduced wolves in order to obtain credibility with the public and other agencies.
2. Communication between program staff, agency partners and public needs to be improved.
3. Conflict between rural and urban values, perceptions and points of view stresses the Mexican gray wolf program and local residents in many ways.
4. The Mexican Wolf Program will inherently be a political issue.
5. Lack of access to the program administrators from the local public resulting in decisions that do not fully consider local views.

Economic Issues Working Group

1. Develop and implement interim emergency solutions for actual losses to minimize their impact on the individuals and communities, through cooperative efforts between agencies, organizations and individuals.
2. Obtain from the federal and local agencies and cooperators a complete yearly budget and costs report and allow public access to the reports.



photo courtesy of Michelle Brown

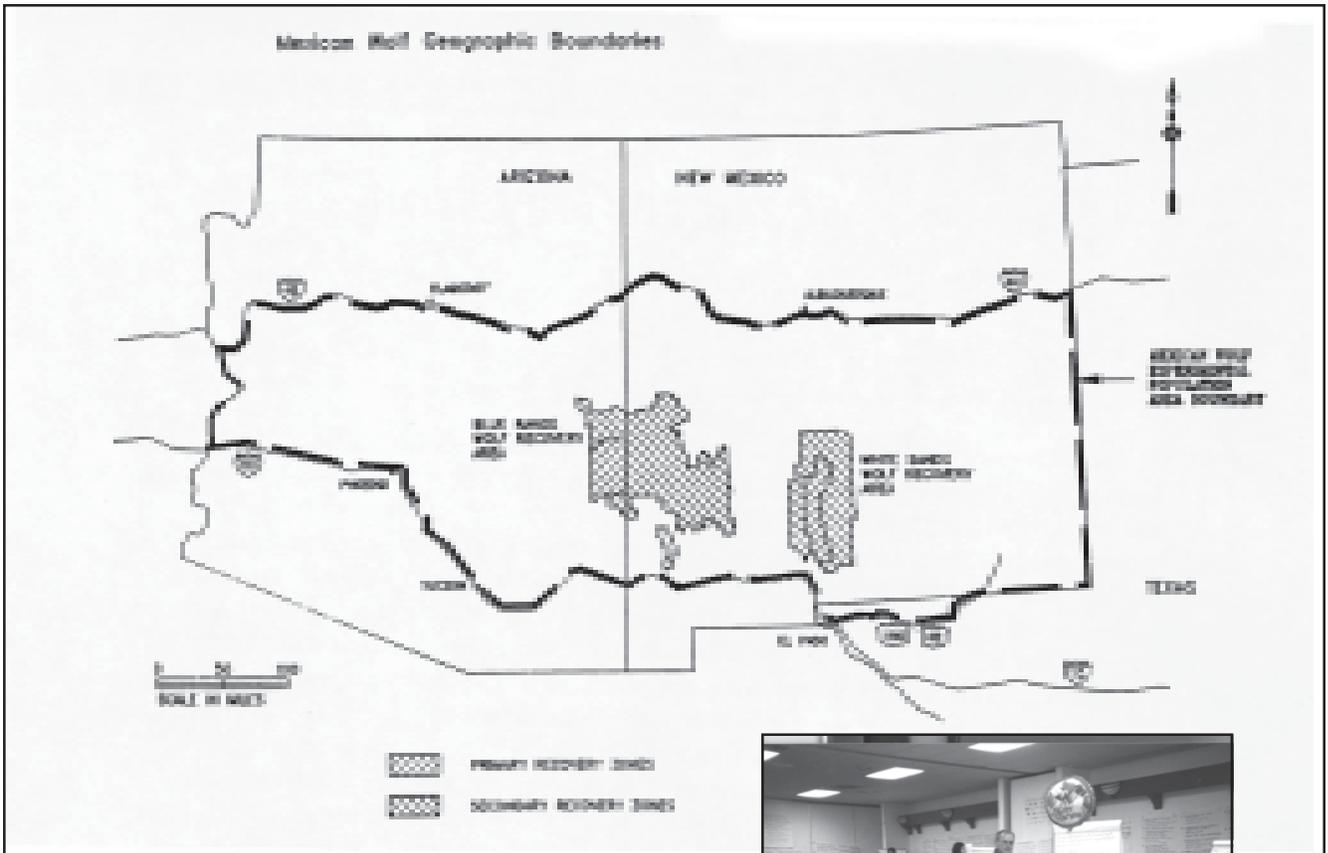


figure courtesy of Brian Kelly



3. Define and accept the current and future legal liabilities of the federal and state entities.
4. Conduct an independent comprehensive economic analysis that evaluates and quantifies the potential and actual benefits and losses of the Wolf Reintroduction in the activities of the local communities.

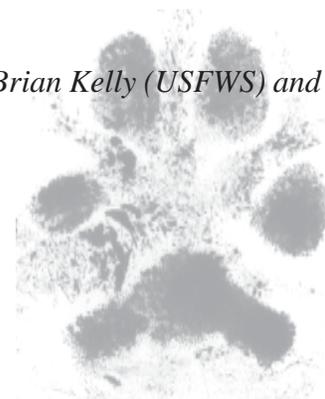
Livestock/Animal Conflict Working Group

1. Cooperators and stakeholders develop and define measurable techniques for reducing livestock and animal conflict.
2. Predation losses to be determined by cooperators and stakeholders on game species and develop definitive statements on anticipated allocations of wild ungulates to wolves and hunters.
3. Producers and agencies develop and implement effective husbandry practices to reduce livestock-wolf conflicts.
4. Cooperators develop rules and regulations that address livestock and animal conflicts.

Conclusion

The post-workshop challenge for the Mexican Wolf Program, and the associated stakeholders, will be to implement those action items the Service is able to implement; and minimally, ensure that the dialog and beginnings of trust established during this workshop is sustained. 🐾

Submitted by Brian Kelly (USFWS) and Onnie Byers



CAMPS in India and Sri Lanka: A Summary



Fourteen Conservation Assessment and Management Plan workshops (CAMP) have been organized in India and Sri Lanka. CBSG India collaborated with various agencies in organizing these workshops from 1995 on-

wards. Totally, 7 plant workshops (4 medicinal plants, 2 non-timber forest produce and 1 orchids of Western Ghats), 6 animal workshops (1 each on mammals, freshwater fishes, selected invertebrates, 2 on amphibians & reptiles) and 1 plant and animal workshop (Mangrove ecosystem). A total of 1055 endemic taxa have been assessed and 1164 non-endemic taxa. For the non-endemic taxa, status assessments were made only for the region in question at the workshop (e.g. southern Indian states, northeastern Indian states and Trans Himalaya for medicinal plants; Madhya Pradesh State and Nilgiri Biosphere Reserve for non-timber forest produce; Indian distribution for other non-endemic taxa; Sri Lankan



distribution for other non endemic taxa). In these instances, endemics and non-endemics were assessed using the ICUN Red List Guidelines, but for non-endemics the assessments were not on a regional scale.

Instead, global assessments were done and a regional or national tag was inserted.

The status of endemic taxa of India and Sri Lanka were submitted to the IUCN Red List Authority after the workshops. The status of larger endemic Indian mammals was incorporated in the 2000 Red List of Threatened Species.

Tables with the Red List categories for endemics and non-endemics are below:

Status of endemics assessed in the CBSG CAMP workshops in India and Sri Lanka

	Amphibians		Reptiles		Mammals	Freshwater Fishes	Selected Soil Invertebrates	Mangrove Invertebrates	Selected Medicinal Plants	Mangroves	Selected Marine Algae	Western Ghats
	India	Sri Lanka	India	Sri Lanka								
EX	0	0	0	0	1	1	0	0	0	0	0	0
EW	0	0	0	0	0	1	0	0	0	0	0	0
CR	10	0	16	16	9	47	14	0	19	1	1	24
EN	24	11	32	21	10	98	15	0	17	1	0	45
YU	42	10	62	38	17	82	18	1	22	0	0	18
LRlc	21	4	37	17	3	67	2	0	2	0	0	8
LRlc	2	5	9	2	5	13	2	1	1	0	0	1
LRlc	0	0	0	0	0	0	0	0	0	0	0	0
DD	28	4	41	3	10	18	2	0	2	0	0	10
Total	127	34	187	97	54	327	45	2	63	2	1	106
NE	15	0	0	0	0	10				1		19

Status of non-endemics assessed in the CBSG CAMP workshops in India and Sri Lanka

	Amphibians		Reptiles		Mammals	Marine Invertebrates	Selected Soil Invertebrates	Selected Medicinal Plants	Selected NTFPs	Mangroves	Selected Marine Algae	Marine Fishes
	India	Sri Lanka	India	Sri Lanka	India	India	India	India	India	India	India	India
EX	0	0	0	0	2	0	0	1	0	0	0	0
EW	0	0	0	0	0	0	0	1	0	0	0	0
CR	0	0	16	0	16	1	2	31	11	11	1	0
EN	18	0	26	6	22	4	6	38	11	39	12	2
VU	4	1	32	6	45	3	13	43	19	5	0	9
LRcd	36	7	68	7	89	17	19	28	12	1	8	41
LRlc	6	11	38	0	57	15	7	14	34	1	1	0
LRnt	0	0	0	0	0	0	0	0	0	0	0	0
DD	11	1	59	2	87	0	2	18	2	0	0	0
Total	75	20	253	21	318	38	49	150	79	57	22	92
NE	1	0	60	38	35							

Lower Risk conservation dependent category has not been applied due to the uncertainty in understanding and applying it. There are several taxa that are LRcd, most of which are also threatened (e.g. Asiatic Lion).

Looking at the status of only Indian or Sri Lankan endemics assessed in the various CAMP workshops, it is clear that more than 50% of all endemics are threatened in the wild. The most common and obvious threats are loss of habitat, habitat fragmentation, human interference, trade in some taxa, harvest and intentional fires. Threats such as pollution, pesticides, diseases, radiation and other such factors are not determined since the level of wildlife research in the Indian subcontinent is restricted to occasional surveys, some taxonomic work and new descriptions. Ecological studies are very few and restricted to larger mammals. The number of scientists and money spent on wildlife studies are skewed towards larger taxa with occasional surveys conducted on smaller forms of both plants and animals. 🐾

Submitted by Sally Walker



1996 IUCN Red List Category Descriptions:

EX	Extinct
EW	Extinct in the Wild
CR	Critically Endangered
EN	Endangered
VU	Vulnerable
LRcd	Lower Risk Conservation Dependent
LRnt	Lower Risk Near Threatened
LRlc	Lower Risk Least Concern
DD	Data Deficient
NE	Not Evaluated

CAMP for Southern African Frogs

University of Cape Town, South Africa

July 2000

Conservation efforts to protect the planet's vertebrate biodiversity have tended to ignore the so-called 'lower vertebrates', i.e., fish, amphibians and reptiles. This group generally has a lower public appeal, yet is of fundamental importance at an ecosystem level. Amphibians outnumber mammals with more than 4,700 living species currently recognized and with an expected total exceeding 5,000 (Glaw & Kohler 1998). Ironically, at a time when taxonomists are unraveling and describing this richness at an unprecedented rate, alarming reports of amphibian population declines and species extinctions are being recorded around the world.



South Africa is an arid country with seasonal wetlands. Specific wetlands become biologically active at different times, depending on the seasonality and unpredictable occurrence of rain. The majority of frogs utilize wetlands for breeding, and many are found in or near bodies of water outside the breeding season. As such, frogs can provide important information pertinent to the ecology of these areas. Most species, except those living in permanent wetlands, spend a large portion of the year inactive, as dictated by the risk of desiccation and/or a shortage of prey. During the dry periods, some species may burrow into the mud or damp subsoil of places where water accumulates in the wet season. Other types of shelter used by frogs include reeds, grass tufts, under rocks, rock crevices, or the burrows of other animals such as rodents (Channing & Van Dijk 1995).

As both predators and prey, anurans are an important link in many food chains, especially those of wetland ecosystems. Tadpoles and adult frogs are preyed upon by their own kind and by other animals such as dragonfly nymphs, fishes, water birds, snakes and mammals such as otters. Most South African frogs are terrestrial, with an aquatic larval stage, and are associated with the interface between terrestrial and freshwater aquatic systems.

As a group, the frogs of the region are relatively diverse. There are 108 described species, and at least one additional known species awaits description (L.R. Minter in prep.). If the recent trends are sustained, it is anticipated that several more species will be discovered and described in years to come (Channing 1999).

The purpose of the Southern African Frog Conservation Assessment and Management Plan (CAMP) workshop was to assist in the development of a database for 30 selected southern African frog species, and to assist in the further development of a conservation strategy for these species. This process was designed to be complementary to the Southern African Frog Atlas Project (SAFAP). Twenty-two people participated in the 4-day event, which was hosted by

SAFAP and the Avian Demography Unit (ADU), University of Cape Town. The ADU, SAFAP and Sea World Inc., generously sponsored the workshop.

The workshop focused on compiling all available information concerning the status of 30 species of frogs. These species were evaluated using the 2000 IUCN Red List Criteria. Of the 30 species evaluated, four were assigned to Critically Endangered (CR), five were Endangered (EN), two Vulnerable (VU), 12 Near Threatened (NT), five Data Deficient (DD) and two were assigned to Least Concern (LC).

An analysis of the perceived threats to the 30 species shows that loss of habitat is by far the most significant (26/30). Habitat loss may be a consequence of wetland drainage and infilling, habitat fragmentation (23/30), afforestation, crop farming, and invasive alien vegetation (19/30). Activities associated with afforestation often result in the siltation of streams, reduction of surface water, and altered fire regimes. Alien plant growth also increases the frequency and intensity of fires, which were cited as a threat to 11/30 species. Other threats included pesticides (9/30), pollution (9/30), damming (7/30), road kills (6/30), introduced predators (4/30), grazing (3/30) and disease (2/30). Altered drainage patterns were cited as additional threats for several species.

A distinct problem is that most, if not all, of the habitat of some species falls outside protected areas and cannot be managed effectively. For these species, it is important that statutory conservation areas be established to encompass as much of their respective areas of habitat as possible. Failing this, attempts should be made to create conservancies, Natural Heritage Sites and similar partnerships of understanding with the relevant landowners and managers and thus ensure appropriate habitat management.

After CAMP assessments were completed, participants worked together to identify the broad issues and problems affecting the conservation of southern African frogs. Three working groups were set up: Conservation Planning and Implementation, Monitoring, and Research.

The Working Group on Conservation Planning and Implementation identified five issues: (1) legislation, (2) conservation planning, (3) funding for conservation action, (4) frogs as a resource and (5) education and awareness. There is currently a process underway to consolidate national policy on the conservation and utilization of reptiles and amphibians.

A number of data needs were identified, including the need for a new Red Data Book for South African Frogs. It was recommended that a taxonomic review be undertaken for the group, in conjunction with continuation of the SAFAP.

The conservation of frogs can be promoted by highlighting their value as a resource as, for example, indicator species for wetland health and as a food resource for human consumption, medical use, etc. However, sustainable levels of utilization need to be ascertained.

Frog conservation also can be promoted by education and greater awareness. Focal topics identified included: the ecological value of frogs as predators and prey; the diversity of the South African amphibian fauna; the biological interest of the fauna (e.g., habitats, life cycles, etc.); frogs and tadpoles as examples of biological and environmental concepts; myths about frogs; potential for urban conservation of amphibians; ecotourism value (e.g., Giant Bullfrog).

The Working Group on Monitoring identified two basic issues: (1) surveying distribution and (2) monitoring

the populations and habitats of threatened and sensitive species. Past surveys have been erratic and scarce, with SAFAP being the first comprehensive effort to assess the distributions of southern African frogs on the basis of recently collected data. Priority actions for monitoring included developing long-term ecological monitoring stations in at least four preliminary sites, with a national coordinator and full-time staff at the different stations.

The Working Group on Research identified and prioritized the following issues: (1) life history and ecology, (2) taxonomy, (3) applied research, (4) funding, (5) national research capacity and output. The group believed that the SAFAP and the CAMP report and recommendations identifying specific research needs for species dealt with in the workshop could inform the planning of new, or revision of existing research projects.

Because there are so many outstanding taxonomic questions, the group recommended that the opportunity should be taken to highlight the importance of taxonomic research, in order to inform and influence research facilitators at research institutions, and funding bodies. A key concern is the scarcity of local herpetologists, with few young scientists being attracted to the field. One important recommendation was establishing an African Amphibian Research Center to stimulate interest in the study of amphibians, facilitate research in South Africa and in other African countries, focus effort on high priority research projects and provide employment for local herpetologists and facilities for visiting herpetologists. The Center could also co-ordinate monitoring projects at various sites throughout the country, maintain an atlas database, a reference collection of preserved specimens and tissues, a tape library of calls, and a collection of published works. 🐸

References

- Channing A. 1999. Historical overview of amphibian systematics in southern Africa. *Trans. Roy. Soc. S. Afr.* 54(1): 121-135.
- Channing A. & Van Dijk D.E. 1995. Amphibia. In: Cowan G.I. (ed.) *Wetlands of South Africa*. Department of Environmental Affairs and Tourism, Pretoria.
- Glaw F. & Kohler J. 1998. Amphibian species diversity exceeds that of mammals. *Herp Review* 29: 11-14.

Submitted by James Harrison and Susie Ellis

***Abronia* Lizard CAMP**

Tuxtla Gutiérrez, México,

The genus *Abronia* contains approximately 30 species of live-bearing, arboreal lizards. Distributed from the northwest of México (Tamaulipas) to the north of El Salvador and southern Honduras, many species also are found in the mountains of southern México (Oaxaca and Chiapas) and Guatemala. Most are restricted to one mountain or mountain range. Almost all the *Abronia* species are found in cloud forests or in pine-oak forests, but at least one Group is found in humid, lowland tropical forests. In recent years, their habitat has been reduced to a few square kilometers, which has added to their risk of extinction. Restricted distribution and habitat perturbation or destruction through human activities has made the genus *Abronia* one of the most endangered in the world. Additionally, those species inhabiting cloud forests tend to be restricted to one single site. Some species of *Abronia* possibly have not been described; some of these may have gone extinct together with forests destroyed by volcanic eruptions in the south of Guatemala and El Salvador.

Habitat destruction is the main cause in the decline of *Abronia* populations; many areas in which they are found are not protected. Another pressure is exploitation by the pet trade, often with local residents recruited to traffic large numbers of specimens. Combined with an ability to adapt well to captivity and a long lifespan, its brilliant colors and striking characteristics (such as large, triangular head and prehensile tails) make *Abronia* particularly attractive as pets.

To address these and other problems facing *Abronia*, a CAMP workshop was organized by ZOOMAT, in Tuxtla Gutiérrez, México, with support from the Instituto Nacional de Ecología del Secretaria de Ecología, Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP), and by the Fort Worth, Phoenix, Nashville, Oklahoma City, Detroit, San Diego and Sedgwick County zoos, as well as CBSG, México. Twentytwo researchers and managers participated.

Twenty-nine species of *Abronia* lizard species were evaluated according to IUCN Red List Criteria. General recommendations in terms of management, research, field initiatives, threat, and the need for



photo courtesy of Rolando Mendoza

captive propagation programs were discussed in plenary and agreed upon by all participants.

In plenary session on the third day of the workshop, participants intensively discussed the issues and problems affecting the conservation of *Abronia*. These themes were then used to organize three working groups: (1) Habitat management and field research, (2) Captive management, and (3) Trade and education. Each group was charged with discussing the issues under their topic more extensively and developing promising solutions to address the identified problems, including time lines and assigning responsibility.

The Habitat Management and Field Research Group defined problems of: (1) habitat protection, (2) field studies and (3) taxonomic research to determine the status of populations. Priority actions identified included:

- Conducting field work and mapping to diagnose the *Abronia* habitat situation, including raising funds to carry out this work.
- Proposing establishment of protected areas where needed for the conservation of the species.
- Promoting field work on basic biology for identified species.
- Conducting a training workshop for monitoring and population study.
- Collecting tissue samples from as many populations of *Abronia* as possible.
- Forming an international team to revise the taxonomy of *Abronia*.

The Captive Management Group identified the following problems: (1) the development of captive propagation techniques, (2) international cooperation and the exchange of technology and (3) prioritization of species for captive management programs and the organization of emergency rescue operations. Priority actions identified were:

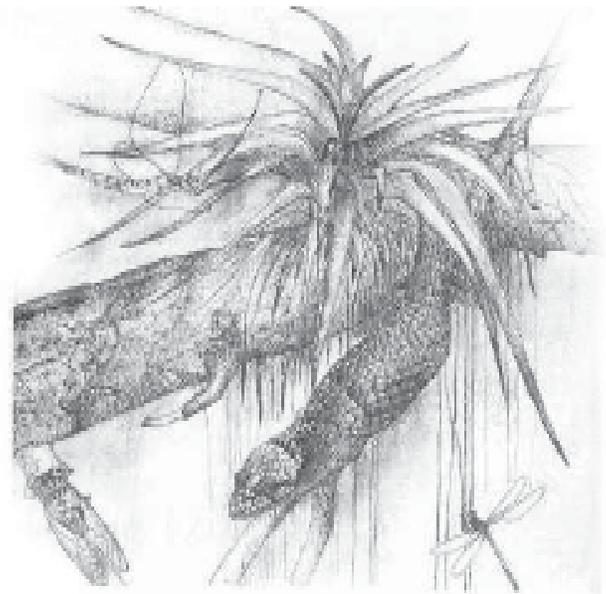
- Establishing management guidelines for species already in captivity in the form of 'Taxon Management Accounts.'
- Conducting workshops in México on captive management of *Abronia*, as well as other husbandry-related themes.
- Obtaining additional specimens and identifying additional institutions that can collaborate in the US and in México.
- Identifying funds that can be used to improve existing facilities, to train staff at participating Mexican facilities and to develop new facilities dedicated to *Abronia* propagation.
- Strengthening relationships between zoos and universities in México and in the US to facilitate the licensing process.
- Presenting all documents/information both in Spanish and English and establish a 'listserve' for *Abronia* to share information.
- Identifying species that need immediate rescue.
- Selecting institutions with facilities and experience that offer the highest probability of success.
- Seeking funding and selecting personnel to implement rescue initiatives, where appropriate.

The Trade and Education Group identified four problems: (1) the existence of illegal trade in *Abronia*, (2) there is legislation as well as institutions that regulated approval of licensing for this genus; all species are listed below the category 'Rare' in México, (3) environmental education is deficient at all levels, and particularly for reptiles, in México and (4) there is a lack of staff and programs to implement enforcement of protection. Priority actions identified were:

- Promoting the distribution of the procedure manual for enforcement and enhance national and international protection.
- Adding species to the NOM-059-ECOL-1994 where appropriate.
- Promoting creation of protected natural areas through legislation.

- Increasing the number of trained inspectors and protection committees.
- Identifying species of potential use and determining their use capacity (scientific, reproduction, etc.).
- Investigating national and international markets as well as trafficking networks.
- Designing environmental education programs to sensitize the general public, and also audiences at all educational levels.
- Creating trained management units for conservation, protection and sustainable use.
- Designing ecotourism programs with the aim of providing funds to local communities as an incentive to conserve *Abronia* species.
- Promote *Abronia* conservation through many types of media (radio, television, press, posters, souvenirs, etc.).
- Promoting exhibition of *Abronia* in integrated interpretive centers that emphasize habitat conservation needs. 🐾

Submitted by Rick Hudson and Susie Ellis



art courtesy of Rolando Mendoza

Indonesian Primate CAMP

January 2001, Balikpapan, Indonesia

In January 2001, CBSG, at the invitation of the Wildlife agent and in collaboration with the Primate Specialist Group, and sponsored by Conservation International Indonesia, the Margot Marsh Foundation and Taman Safari, conducted a Conservation Assessment and Management Plan (CAMP) for the Primates of Indonesia. This workshop was well attended by 72 participants, including scientists, field primatologists, conservationists, park managers, wildlife traders and entrepreneurs, who worked intensively for 5 days to evaluate the status of, and make research and management recommendations for, 56 species and subspecies of primates.

Indonesia contains among the most diverse array of primates on earth. The country's primates represent 5 families, 9 genera, and more than 40 species, 24 of which are endemic to Indonesia. The species are distributed across the country, from north of Kalimantan to southern Java, and from the Mentawai islands on the western coast of Sumatra to Bacan Island on the eastern coast of Sulawesi. As has been the pattern everywhere, human population growth and economic development have also caused substantial loss of Indonesia's biological diversity. With deforestation rates of 2%, Indonesia has lost over 60% of its forest cover.

The CAMP workshop was organized as a step toward integrated conservation of the primate diversity of Indonesia by pulling together the country's expertise and formulating strategies in a participatory manner. Learning and sharing of information is at the heart of the CAMP workshop process which takes a broad based look at the life history, population history and status of each species being evaluated and assesses the threats that may put the species at risk.

Workshop participants evaluated the level of threat of the primates of Indonesia using the IUCN Red List criteria to assign categories and determined priorities for conservation needs and actions - both *in situ* and *ex situ* - and for information gathering.

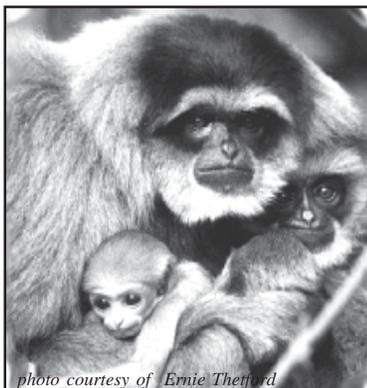
Seventy-seven percent of the species and subspecies evaluated were assigned threat categories according to the IUCN Red List criteria. Four (7%) were classified as Critically Endangered, 24 (43%) as Endangered and 15 (27%) as Vulnerable.

The primary threats to the primates of Indonesia are loss of habitat, habitat fragmentation, harvesting/hunting and trade.

In the final two days of the workshop, participants worked together to identify the key issues affecting the conservation of primates in 4 particular regions of Indonesia: Sulawesi; Kalimantan, Sumatra, and Java; Bali; and Lesser Sunda. During the CAMP process, participants worked in small groups to discuss conservation goals and to recommend specific actions

designed to achieve those goals. Each group presented the results of their work in daily plenary sessions to make sure that everyone had an opportunity to contribute to the work of the other groups and to assure that issues were carefully reviewed and discussed by all workshop participants.

The conservation goals identified by the workshop participants for each region are given below:



Sulawesi

1. Stop primate hunting for bush meat, crop-raiding extirpation, and for sport.
2. Reduce habitat loss in and around protected areas.
3. Increase public awareness and concern regarding the value of endemic primates, conservation areas, and simple, cost-efficient methods to conserve primate populations.

Kalimantan

1. Reduce deforestation rates of existing habitat from 2.47% to 2% per year within five years.
2. Reduce population decline up to 30% from the current rate and stop threatened primates' trade, particularly for *Pongo pygmaeus* (Orangutan).
3. Strengthen institutional capacities and coordinate law enforcement tactics on trade and habitat destruction.

Sumatra

1. Reduce habitat loss and prevent further population decline of primate populations in Sumatra.
2. Stop illegal trade of endangered primates.
3. Engage with local government during policy changes during devolution processes.

Java, Bali and Lesser Sunda

1. Prevent further loss and recover habitat of *Hylobates moloch*, *Presbytis comata*, *Presbytis fredericae*, *Nycticebus javanicus*, *Trachypithecus auratus*, *Macaca fascicularis*, and *Macaca fascicularis karimunjawae*.
2. Connect fragmented habitat by the use of corridors and strengthening management of existing National Parks.

3. Establish viable populations of each threatened species, i.e. rehabilitation of *Hylobates moloch*, *Presbytis comata*, *Trachypithecus auratus*, etc.

The experts assembled for the Indonesian Primate CAMP workshop emphasized the rapid decline of Indonesia's natural forests and the impact of this decline on the country's increasingly endangered primates. The IUCN Red List assignments made at the CAMP workshop are being reviewed by the Red List Authority and has been submitted to the Red List office for inclusion in the next update of the official Red List of threatened species. Participants made considerable progress in the development of draft conservation plans for each region, which are currently under review. 🐾

Submitted by Onnie Byers

THE SOUTHERN AFRICAN FROG ATLAS PROJECT (SAFAP)

With broad support from the herpetological community, the Southern African Frog Atlas Project (SAFAP) was launched in November 1995. Since then, SAFAP has garnered funding from the South African Department of Environmental Affairs and Tourism, WWF-SA, the Mazda Wildlife Fund, Total South Africa, the IUCN Declining Amphibian Populations Task Force and the South African National Research Foundation. The project is coordinated from the Avian Demography Unit (ADU) at the University of Cape Town, assisted by regional organisers in the various provinces of South Africa, and in Lesotho and Swaziland.

Data are collected by volunteer members of the public and by professional herpetologists and are submitted mainly in the form of audio recordings of calling frogs. Being species-specific and stereotyped, calls are a reliable form of evidence on which to base taxonomic identification. (Frogs are generally cryptic and hard to find, but even when in the hand, they tend to be difficult to identify because of variability in skin colour, markings and size.) All identifications are handled by experts, usually the regional organisers, ensuring a high degree of reliability of the data. Supplementary sources of data are photographs and specimens of eggs, tadpoles and frogs.

SAFAP aims to comprehensively cover all 109 species of frogs in South Africa, Lesotho and Swaziland, on a quarter-degree (15'X15') grid; there

are c. 2000 grid cells in the region. Because exact locations are often recorded using GPS technology, much of the data has good spatial accuracy. Where reliable pre-atlas data are available, e.g. from the literature and museum records, these are included in the SAFAP database; for some areas this may provide a useful historical dimension.

To-date (July 2000), c. 23,650 records, including c. 9000 pre-atlas records, have been entered for 75% of the grid cells, although many of these cells will require further visits to record additional species. The quantity of records accumulated thus far already far exceeds anything compiled previously for frogs in southern Africa. From 2000 to 2002, gaps will be filled to achieve near-complete coverage of all grid cells, thereby creating one of the most detailed, comprehensive and large-scale distributional databases for amphibians in the world. The aim is to survey all grid cells, thereby creating information in which negative data, i.e., the absence of records of species, is nearly as reliable as positive data, i.e., the recorded presence of species. Such completeness is an essential element of modern methodology because it allows interpretation of data and conclusions which are of direct relevance to the conservation and macro-ecology of species.

See Article on Page 10

Madagascar CAMP/PHVA

Mantaoa, Madagascar, May 2001

CBSG held its first workshop in Madagascar this May. For six days, 115 participants from 9 countries and 36 national and international institutions worked intensively to evaluate 293 species endemic to Madagascar. There were four taxonomic-based working groups: lemurs, non-lemur mammals, freshwater fish, and reptiles and amphibians. At the same time a Population and Habitat Viability Assessment was conducted for the giant jumping rat (*Hypogeomys antimena*). All this work was conducted at a hotel about a 2-hour drive from the capital city of Antananarivo with lemurs jumping in the open windows and skylights providing the only light!

Madagascar is a country rich in biodiversity and one in which human activities, particularly those resulting in deforestation, greatly threaten species survival. The continuing loss of habitat and other natural resources increases the risk to the unique species and ecosystems of this island country. A CAMP workshop was proposed to begin development of an action plan to slow the degradation of habitat and loss of biodiversity in Madagascar. CBSG was invited to conduct this international workshop by the Minister of the Environment of Madagascar with financial support provided by the Margo Marsh Foundation, the Madagascar Fauna Group and PAGE.

We entered this workshop with explicit goals to assess the level of threat of each of these species according to the new IUCN Red List criteria (for more information check out their web site at www.redlist.org) and to comply with the new Red List requirements, including a significantly increased level of detailed documentation and a distribution map for every assessment. In our presentation at the start of the workshop, we described the process by which the CBSG information can feed into the Red Listing process. The assessments, which were made by the Malagasy scientists and their international colleagues assembled for the workshop have been submitted for review by the appropriate Red List Authority for the species. If all the requirements are met and the criteria were properly applied, these assessments will be entered into the global Red List and be made available to the world.



The recognition that their knowledge and experience could have an impact at a global level provided a great source of motivation for all involved.

As participants worked together in working groups to determine specified population, habitat and threat information for a particular species, they simultaneously entered that information into the French version of the CAMP program. The program facilitates rapid report production and these species reports were printed, reviewed by the participants and the CBSG team to be sure the required information was provided and the assignments of threat category had been done correctly and then the information was edited in the program.

Every working group prepared a distribution map for each species evaluated and a forest cover overlay was prepared giving an idea of the availability of suitable habitat within the range of the species.

This gathering of local and international experts was successful on a variety of levels. Much was learned about the status and the threats faced by the species evaluated. It was determined that 60% of all species assessed are considered threatened. The results of the application of the IUCN Red List categories of threat to selected species endemic to Madagascar are presented in the table on the next page:

	Number Considered	Critically Endangered	Endangered	Vulnerable	Near Threatened	Least concern	Data deficient	Extinct	Not Evaluated
Lemurs	64	10	20	13	4	11	6	0	0
Other Mammals	71	3	5	13	2	38	8	0	0
Amphibians	22	15	2	2	0	0	3	0	0
Reptiles	38	5	8	8	7	5	5	0	0
Fish	98	26	34	12	5	11	6	4	0
TOTAL	293	59	69	48	18	65	28	4	0

In addition to assigning threat categories, participants made a series of research and management recommendations for each species evaluated. These can be found in the reports produced at the workshop which are available through the CBSG offices. This workshop was particularly valuable for CBSG because we were able to implement a procedure to stream line the feeding of information from the CAMP process to the IUCN Red Listing effort and substantial improvements were made in the capability of our CAMP program.

Perhaps most importantly, this workshop provided an excellent opportunity for networking among Malagasy scientists. The sharing of information and experience among participants has a long-term impact on those involved and has enormous potential to result in future collaboration, therefore furthering conservation in Madagascar and the world. 🐾

Submitted by Onnie Byers



photo courtesy of Paul Loiselle

***Spheniscus* Penguin Conservation Workshop**

Larrondo, Coquimbo, Chile, September 2000

In 1996, just after the Third International Penguin Conference, a Conservation Assessment and Management Plan (CAMP) workshop for Penguins was conducted by the Conservation Breeding Specialist Group of the IUCN Species Survival Commission. This workshop facilitated a substantive review and updating of an earlier Penguin CAMP document, produced in 1992.

The results of the workshop were alarming — of all the penguin species, only those in the Antarctic do not seem to be facing grave, documented declines or other problems that put them at serious risk.

Whereas the 1996 IUCN Red List considered only five penguin species to be threatened, penguin biologists at the 1996 workshop considered 11 taxa (9 species) to fall under one of the IUCN Categories of Threat and two as Near Threatened.

As part of the follow-up on the CAMP, a PHVA was conducted for the Humboldt penguin in Chile in October 1998, and a PHVA for the African penguin in early 1999. Participants at the two workshops suggested a fourth workshop, to address the commonalties among all four *Spheniscus* species (Humboldt, African, Galapagos and Magellanic) and to develop a collaborative conservation strategy for the group. Forty-three people attended this workshop following the Fourth International Penguin Conference. Pairing these two meetings allowed participation from a wide range of penguin biologists from all over the world, with particularly good representation from those biologists working with the three *Spheniscus* species found in South America. The workshop was generously sponsored by Sea World, Inc. and the Universidad Católica del Norte.

Participants worked in three initial groups: Humboldt Penguins; African Penguins; and Humboldt/Magellanic Penguins. The two first groups, focusing on species for which PHVAs had been conducted, reviewed the existing PHVA documents to examine the status of implementation of the recommendations, whether the recommendations from the PHVAs are still priorities, and if not, to set new priorities. The Humboldt/Magel-

lanic group identified the primary problems, themes or issues affecting the conservation of the two species, and identified several actions that could help to improve the problems.

Based on the issues discussed the first day both in the working groups and in plenary, the second day's work focused on working in cross-species groups to address issues that affect all four *Spheniscus* species. The working groups were: Monitoring; Fisheries; Protection; and Research.

The African Penguin Working Group agreed on several over-arching issues for African penguins: The need for a memorandum of agreement between South Africa and Namibia; the need for a review of seabird legislation and improvement of enforcement, and for lobbying from both local and international sources to put pressure on policy makers, especially regarding development that may have an effect on penguin population. Recommendations were made for improved predator management, oiling management (including fortifying already-existing facilities and methodologies) and fisheries management.

For Humboldt penguins, with respect to predation, it was recommended that existing populations of rats on Isla Pajaros 1 (Chile) be eliminated, and that the effects of high frequency sounds that only affect predators and not penguins be investigated. It also was recommended that the availability of covered nests be increased, with the aim of reducing the effects of aerial predators in Chile. For Peru, it was recommended that evaluations be undertaken, with PROABONOS, as to the possibility of not extracting guano in penguin nesting areas in other guano reserves where the birds utilize zones with guano deposits, such as Punta Coles.

The Humboldt/Magellanic Working Group identified the top three threats to Galapagos penguins as: fisheries, climate change, and a small population size with isolated distribution. The key problems for Magellanic penguins were: fisheries interactions, oil pollution and climate change.

Among the top recommendations for Galapagos penguins were: (1) the Galapagos Islands should become a "true" protected marine reserve where all fisheries are prohibited, (2) conduct a PHVA for Galapagos penguins, (3) prohibit development of any new fisheries and freeze

current levels of fishing pressure.

For Magellanic penguins, top recommendations were: (1) for gill net artisanal fisheries, to change gear to purse seines, and provide incentives to do this, (2) quantify by catch by commercial trawlers in terms of both quantity and species taken, with long-term monitoring and research, (3) recommend to provincial governments (Argentina) that there be no salmon introductions into the range of Magellanic penguins.

The Fisheries and Food Cross-Species Working Group identified several critical issues with respect to fisheries and penguin prey species: fishing, climate change, inter-species competition, incidental capture and illegal fisheries. For fisheries, actions recommended included: ensuring adequate escapement of forage fish; reducing by catch of food fish for Magellanic penguins; maintaining reproductive stock of mullets (Galapagos), i.e., avoid recruitment over fishing; and measuring adult and immature survival (of penguins) in good and bad food years.

The Monitoring Penguins Cross-Species Working Group identified as a primary goal the improvement of understanding so that we can better manage penguin populations and improve their conservation status. Priority recommendations included: (1) developing handbook(s) of protocols for monitoring of penguins; (2) designing a standardized set of protocols in a handbook (e.g., as in CCAMLR handbook); (3) disseminating results from monitoring exercises; and (4) further defining and prioritizing parameters to be monitored.

The Research/ Climate/Increasing Reproductive Success Cross-Species Working Group agreed that long-term research is essential to providing the information we need in order to identify and address the conservation of these species. Long-term research goals include: basic breeding biology (e.g., effect of age structure on population, factors that affect breeding success); habitat value, i.e., components of terrestrial and marine habitats that are important to the population and population processes; and foraging biology, especially data on catch-per-unit-effort. The group identified specific research needs for each of the four Spheniscus species as well as researchers to conduct the work.

The Protection Cross-Species Group identified international, regional and local recommendations.

International recommendations included:

(1) creating a quick response network to respond to pollution and other environmental disasters anywhere in the world, (2) bringing existing VORTEX models up to date including the new information on breeding success, census, etc. and using this information to produce a report to be sanctioned by the Spheniscid group and submitted to IUCN as the basis for our request to upgrade the Humboldt Penguin category from Vulnerable to Endangered, (3) increased international exchange about protection/information between penguin experts and those with previous experience in this through workshops, web pages, magazines, etc.

Regional recommendations included: (1) developing bi-national agreements to manage industrial fisheries on a regional basis (e.g., Peru-Chile, Namibia-South Africa, Argentina-Chile), (2) increasing communication between interdisciplinary groups working in a species that ranges in multiple countries, and (3) studying penguin movements at sea to identify migration routes across borders and using this information as the basis for the establishment of a system of Marine Protected Areas that covers the range of the species.

Local recommendations included: (1) working with local governments to implement Marine Protected Area (MPA) systems covering the main penguin rookeries, penguin prey species and their foraging ranges, (2) further studies of the distribution, abundance and movements of penguin populations are needed to prioritize areas to establish Marine Protected areas, (3) working with local legislators to develop in-country laws to regulate or ban the use of gillnets around penguin rookeries or transit routes, (4) developing and obtaining support for local agencies enforcing anti-poaching laws, (5) identifying high-risk pollution sources affecting penguins and creating and enacting legislation to decrease or eliminate the risks of pollution, and (6) establishing guidelines to control ecotourism access and timing of visits to penguin rookeries.

On the last afternoon, it was recommended that the workshop endorse the development of Memoranda of Understanding between Perú and Chile (for Humboldt penguins) and South Africa and Namibia (for African penguins) under the terms of the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention). 🐾

Submitted by Susie Ellis.

Disease Risk Assessment Workshop Series Summary

History

Disease is increasingly recognized as a significant risk factor in conservation programs involving animal movements such as reintroduction or translocation. Disease risk poses threats not only to the species on which programs are focused but also to other species that share the habitat. The concern over disease processes and their impact extends across diverse areas of interest including the fields of conservation biology, wild and zoo conservation management and veterinary medicine as well as to agricultural medicine and human medical and sociology fields. However, disease risk has proven to be complex and difficult to assess and quantify in the context of a conservation program. As populations of species become increasingly fragmented and reduced in numbers they both require increased use of management tools that involve animal movement between populations and the populations become increasingly vulnerable to potentially severe impacts of disease introduction. The growing recognition that disease issues can profoundly effect the viability of populations and consequently the success or failure of conservation programs has led to diverse efforts by individuals and groups to develop some rational means to: 1) assess the risks that disease poses to these programs, 2) develop well reasoned understandings of the factors and issues involved, and 3) make reasonable decisions based on these assessments.

The pedigree of this process extends back to a May 1991 working group meeting at the National Zoo, which resulted in a more extensive published analysis of the problems in 1992 at a workshop in Oakland, and 1999 working group meetings in Cincinnati and South Africa. Although some recommendations from the 1991 and 1992 workshops have been implemented, a key recommendation of the 1992 workshop to develop a set of quantitative tools to assist the decision making

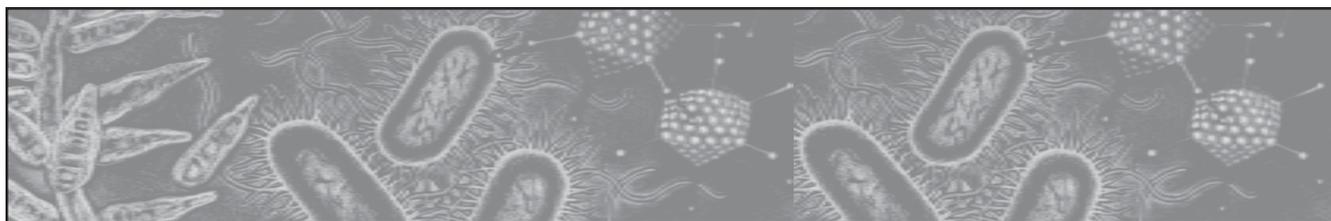
process was not initiated until the Omaha Workshop in April 2000. The development and testing process was continued in a second workshop in New Orleans in September 2000. Both workshops included international groups of about 30-45 people including zoo and wildlife clinical veterinarians, veterinary pathologists, epidemiologists, decision modelers, and population biologists.

Technical working groups, with smaller groups of experts, focused on the development or testing of individual tools have held working sessions (VORTEX development in Chicago, November 2000; CBSG Advanced Tools in Minnesota, November 2000; Human Dimension in Florida, December 2000; GIS/PVA integration in Syracuse, February 2001) and more are planned. Members of these groups continue to communicate. A one-day workshop is planned for the 2001 Orlando AAZV meeting that will allow acquaintance of a wider group of veterinarians with the tools that are considered ready for wide application. Arrangements are underway for a series of application workshops in the USA, Latin America, Europe, Asia, and Africa. Some of the materials will be translated into Spanish and other languages as practicable. We plan to make many of the tools available for use on the WEB and to evaluate the potential for a database of results.

The 3 full day workshop generously hosted by White Oak Plantation, 28-30 June 2001, included 30-35 professionals involved in various aspects of conservation programs including our core group of modeling experts, veterinarians, epidemiologists, field biologists, policy makers, wildlife managers and selected international veterinary participants. Also included were 2 GIS experts with experience in conservation problem analysis and planning.

Assessment Tools

Through the series of development workshops, a group of tools have been identified which will be useful in assisting biologists, veterinarians and program decision



makers to effectively assess and manage disease risk in a wide variety of contexts and programs involving the movement of animals between populations. The tools as they are currently structured are designed to be functional as pencil and paper processes so as not to require the use of a computer for the initial assessment steps. Although designed as a stand alone set of tools that in most cases will provide managers with the information they need to make decisions regarding disease risk and animal moves, the tool kit is also intended to accumulate information needed for more sophisticated software based analyses. These include epidemiological population impact modeling, disease process modeling, software based sensitivity analyses and geographic information system (GIS) mapping processes. These tools and processes are being developed in parallel with the basic set of tools in case the particular issue requires more extensive assessment and evaluation.

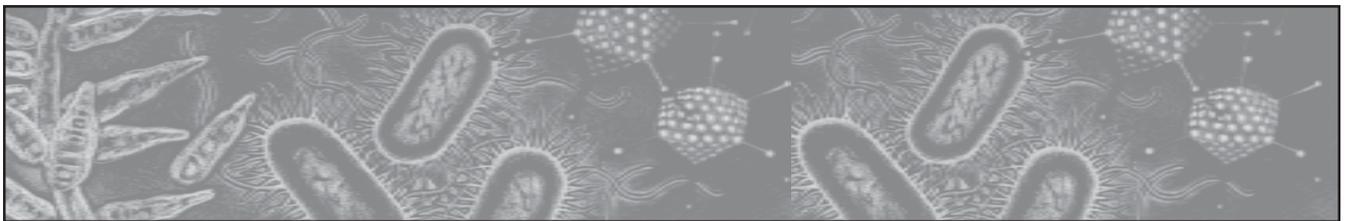
The basic tools to be applied in the workshop include:

- 1) Health Assessment Worksheet- Provides the initial steps of assessment and a structured format to establish baseline information for the subsequent steps in the assessment.
- 2) Qualitative Risk Assessment- Provides a procedure for carrying out a fundamental, non-quantitative assessment of the risk posed by diseases identified on the worksheet to provide a broad perspective of the risk.
- 3) Quantitative Risk Assessment- Provides a procedure for carrying out a basic quantitative assessment of the risk posed to populations by the introduction of the diseases identified on the worksheet in order to specifically enumerate the risk.
- 4) Cost benefit analysis- Provides a structure for analyzing risks as well as costs involved in managing the disease risks as compared to potential impacts of the disease on the population.
- 5) Basic georeferencing or mapping process- Provides guidelines for initial steps in mapping disease distribution patterns and other significant elements of the program to more clearly delineate the spatial issues and patterns.

Planned Training Workshop Structure

The workshop will be three days long. It will be most effective with 30- 50 participants consisting of approximately 50% field biologists or managers actively working with conservation programs involving animal transfers or releases and 50% veterinarians or others who have interest or expertise in disease management issues. Participants will each be provided with a workbook containing forms, instructions and guidelines of the basic tools to be used in the workshop. Participants will bring data from actual programs involving animal moves, which will be used in the workshop in application of the tools. The first ½ day will consist of presentations of the basic tools and their application. Additional presentations will briefly describe the more complex and sophisticated tools and the things that can be done with them. Subsequently participants will be divided into working groups of 2 or 3 per group and will work through the process of using the tools as described with their own data. Facilitators familiar with the tools will work with the groups to clarify issues that arise and to help with the learning process. Periodically plenary sessions of all the participants will reconvene in order to present assessments in progress and discuss issues involved in the use of the tools themselves. The outcome of the workshop will be that attendees that actively participate in the process will be familiar with the use of the basic tools and will have a set of forms, instructions and guidelines to be used in future animal movement programs to assess disease risk. In addition the participants will have an increased familiarity with and access to the more sophisticated tools available to address assessments that are more complex or more critical. Finally a workshop report will be produced and distributed to participants containing the assessments the participants produced in the workshop to use as examples in future assessments. 🐾

Submitted by Doug Armstrong



IUCN Asian Turtle Conservation Workshop:

Fort Worth, Texas, January 2001

In response to the ongoing Asian turtle crisis, a conservation planning workshop for Asian turtles was held under the auspices of the World Conservation Union (IUCN). The Workshop was organized and hosted by the Fort Worth Zoo, and conducted by the Conservation Breeding Specialist Group (CBSG) in conjunction with the Tortoise and Freshwater Turtle Specialist Group (TFWTSG). Major funding support was received from the following organizations: Cleveland Metroparks Zoo, Conservation International, Zoo Atlanta, Chelonian Research Foundation, Fort Worth Zoo, Wildlife Conservation Society, The Tortoise Reserve, and the Chelonian Advisory Group of the American Zoo & Aquarium Association (AZA). This workshop brought together nearly 80 participants from eleven countries representing a wide range of disciplines including wildlife and range country biologists, conservationists, zoo managers, serious private hobbyists, academics, commercial interests, veterinarians and governmental authorities. The primary goal of this workshop was to develop a global comprehensive captive management strategy for the most endangered Asian chelonians.



photo courtesy of Rick Reed and Tim Barzyk

Day one opened with a series of presentations by a diverse group of speakers representing the IUCN Tortoise and Freshwater Specialist Group, Chelonian Research Institute, Conservation International, AZA, private turtle hobbyist and breeders, Chelonian Research Foundation, TRAFFIC, U.S. Fish & Wildlife, and several universities involved with research on chelonian systematics (UC Davis, Earlham College, Hainan Normal University). Participants then divided themselves among nine initial Working Groups that dealt with the following topics: Captive Holdings, Population Management Plans, Systematics, Veterinary and Husbandry Issues, Facilities, Regulatory Constraints, Information, Linkages with Range Country Programs, and Founder Acquisition. The group dynamics were challenging as would be expected with an assemblage of such diverse and often conflicting motives. By the end of the second day, frustrations had become apparent and there were those that felt marginalized by the process and that their concerns were not being heard. Recognizing this underlying tension, the CBSG staff identified those issues at the beginning of Day 3 and got them “on the table” for discussion. Emerging from this process was a spirit of cooperation that pervaded the workshop and led to an Organizational Working Group composed of representatives from each of the major sectors represented. These sectors included NGOs, commercial breeding operations, American Zoo Association/AZA, European Zoo Association/EAZA, Australasian Zoo Association/ARAZPA, IUCN/SSC, legal interests, regulatory agencies in U.S. and China, range country programs, U.S. private sector, European private sector, veterinary community, university researchers and public/corporate sector. From this Working Group an alliance was forged, and the Chelonian Captive Survival Alliance (CCSA) was born. This group (since renamed the Turtle Survival Alliance or TSA) will function as a joint interdisciplinary working group of the IUCN/SSC Tortoise and Freshwater Turtle and Conservation Breeding Specialist Groups. The mission of the TSA is to *develop and maintain an inclusive, broad-based global network of collections of living tortoises and freshwater turtles with the primary goal of maintaining Chelonian species over the long term to provide maximum future options for the recovery of wild populations.* 🐢

Submitted by Rick Hudson (Fort Worth Zoo)

Orangutan Reintroduction and Protection Workshop

Borneo, Indonesia, June 2001

Introduction

Despite efforts to protect orangutans in the wild, prospects for their survival are the worst they have ever been. By the early 1990s, orangutan habitat was estimated to have dropped by at least 80% and numbers by 30-50% over 20 years. In 1997-98, Borneo was devastated by the worst drought and fires in almost a century, costing its orangutan population another 20-30% of its numbers with only about 15,000 remaining. A recent wave of forest conversion, illegal and legal logging, and wildlife poaching has reduced orangutan numbers even further. In the Leuser ecosystem, the orangutan's stronghold in Sumatra, numbers have dropped over 45% to leave as few as 6,500. During 1998-99, losses occurred at the rate of about 1,000 orangutans a year. In the wake of this onslaught, some 600 ex-captive orangutans are now under care in rehabilitation centers and an equal number are estimated to remain in captivity.

In view of the dramatic decline in numbers of wild orangutans bringing the population close to extinction, as well as the rapid decline of their habitat, there was a recognized, urgent need to bring together the world's experts to address the threats facing the critically endangered orangutan and to identify potential solutions. In January, 2001, Dr. Willie Smits of the Wanariset Orangutan Reintroduction Project, invited the Conservation Breeding Specialist Group (CBSG) to conduct an orangutan conservation workshop. The aim of this workshop, sponsored by the Wanariset Orangutan Reintroduction Project, the Balikpapan Orangutan Survival Foundation, the Gibbon Foundation, and the Balikpapan Orangutan Society-USA, was a call to action.

A total of 104 participants from 12 countries gathered in Balikpapan, Kalimantan from 15-18 June to develop an implementable plan to counter the primary threats to orangutan survival and minimize their risk of extinction. These participants included scientists, field researchers, veterinarians, captive managers, funding organizations, NGOs, and government and wildlife agency representatives.

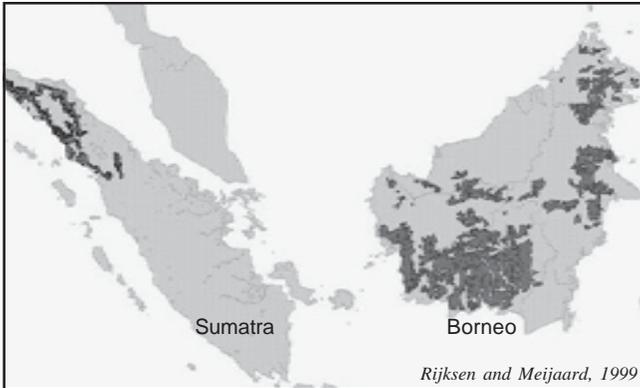


photo courtesy of Anne Russon

At the beginning of the Orangutan Reintroduction and Protection Workshop, the participants worked together in plenary to identify the major impacts affecting the conservation of orangutans. These issues were themed into six main topics, which then became the focus of the working groups: Reintroduction and Rehabilitation, Veterinary Issues, Habitat and Species Protection, Identification of New Field Research and Release Sites, Socio-economic and Governance Issues, and Public Awareness and Education. In addition, all groups were asked to consider the overarching issues of: research, funding and implementation.

Each working group was asked to:

- Examine the list of issues affecting the survival of orangutans as they fell out under each working group topic, and expand upon that list, if needed.
- Define the current situation.
- Produce a summary statement describing and amplify the most important issues.
- Identify root causes of the problem
- Develop scenarios/strategies to address the root causes.
- Specify the action steps necessary to implement each of the scenarios.



Distribution of Orangutans on the Islands of Sumatra and Borneo, Indonesia in 1997

Each group presented the results of their work in daily plenary sessions to make sure that everyone had an opportunity to contribute to the work of the other groups and to assure that issues were reviewed and discussed by all workshop participants. Each working group produced a report describing their topics, key issues, causes, and proposed strategies. For each strategy, action steps were developed to implement these strategies and group members took responsibility for carrying out these actions.

Summary of Workshop Results

In the final plenary session, each working group presented their top priority strategies and then the workshop as a whole prioritised these.

The major issues which emerged as top priorities are:

1. Stop illegal logging.
2. Increase sustainable economic alternatives for communities surrounding critical orangutan habitat.
3. Assure sustained funding for the long-term in-situ orangutan research vital for effective orangutan conservation.
4. Create a national campaign to instill national pride in the orangutan and its environment.
5. Recommend that ex-captive orangutans are only released into suitable habitat that does not contain and is geographically isolated from wild orangutan populations.

Either directly or indirectly, all these strategies focus on what is universally accepted as the root cause of all major problems for orangutans, habitat loss. A major catalyst to habitat loss is the local economic crisis. Among the fallouts are mushrooming numbers of ex-captives, fragmentation of wild populations and consequent genetic fragility, scarcity of appropriate release sites for rehabilitants and reduced carrying capacity in remaining wild orangutan habitat.

Conclusion

The consensus of this workshop is that habitat loss through illegal logging and land conversion is the greatest threat to the orangutan. There is no time left. Ultimately, the survival of the wild orangutan is the responsibility of the Indonesian and Malaysian governments. Unless there is the political will to commit to saving the orangutan, the orangutan will not survive. The international community shares responsibility and its support is critical in ensuring the survival of the species. 🐾

Submitted by Onnie Byers



photo supplied by Anne Russon

ANNOUNCEMENTS

The Renovation of *www.cbsg.org*

We are excited to announce that CBSG is currently in the process of completely reconstructing our website (*www.cbsg.org*). When it is finished, browsers will be able to read current news updates on CBSG activities, see bios and pictures of CBSG staff, read about our donors and get links to their websites, download Executive Summaries from all CBSG Workshop Reports, download manuals for all CBSG Workshop Processes, view an updated Global Zoo Directory, and much more. We hope to have the final product by November and then will update it on a regular basis. Please watch in the upcoming months for the new and improved *www.cbsg.org*!

CBSG Has a New Employee

We are pleased to announce that Amy Brey has joined the CBSG support staff. She brings experience in administration, promotion, and communication. In the past she's worked for the College of St. Catherine (St. Paul, MN, USA) and Campbell Mithun (a graphic design firm). At CBSG, Amy will be responsible for publication orders, donor records, editing reports, and assisting in the general office duties. Welcome Amy!

2001 CBSG Annual Meeting

Hosted by Perth Zoo, the 2001 Annual Meeting of the IUCN/SSC Conservation Breeding Specialist Group will be held on 19-21 October on beautiful Rottnest Island, Australia, followed by the IUDZG/WAZA meeting on 21-25 October. Look for a summary of the meeting presentations and working group reports in the next issue of *CBSG News*.

We hope to see you there!



CBSG News

*Newsletter of the Conservation Breeding Specialist Group
Species Survival Commission
IUCN – World Conservation Union*



May We Discuss Another Issue?

CBSG News is currently distributed to a network of more than 960 CBSG members and conservation professionals in 96 countries. In order to keep up with increasing expenses for the printing and distribution of *CBSG News*, we are asking for contributions from readers in hard currency countries who feel they can afford to help us defray these costs. If you would like to assist CBSG with these expenses, please take a moment to fill out the coupon below. Suggested contribution is US \$35. Thank you for your support.



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