Letter from the Chairman;
DR MARK STANLEY PRICE

It is a great pleasure to see the first issue of "Re-introduction News" come off the production line. As journals go, it is a very small release, and its development so far has had many resemblances to an actual animal re-introduction. It has required careful preparation and much effort before being turned loose. Moreover, as we can do little to alter the habitat in which it must thrive, we can only guess whether it will behave adaptedly and survive to prosper in the great world of conservation publications. Furthermore, as the first print-run will only be some 250 copies, it starts with a population size well below conservative estimates for viability!

As the Re-introduction Specialist Group (RSG) has at the moment only some 80 members, there will be plenty of copies of the newsletter for other people. One of its purposes is to stimulate further interest in re-introduction as a management tool; another, to enlist more members. As explained on page 3, current membership is geographically skewed, and there are several taxonomic groups which are under- or un-represented in the membership. While RSG would like to include all those who have first-hand experience of any re-introduction, we would also like to enlist those who can help identify species with high priority and feasibility for return to the wild.
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Re-introductions are an increasingly popular form of wildlife management and conservation. This is due to two trends. The first is the need to return certain key species to their natural environment after a period of absence. The second is the fast-expanding role of zoos in conservation, which includes not only captive breeding but providing animals for return to the wild. In addition, many zoos are involving themselves in other aspects of conservation biology such as the genetic and demographic management of small populations, applied nutrition and barriers to reproduction.

Much of contemporary conservation biology is concerned with small populations of endangered species, and has a multi-disciplinary and interventionist approach. Re-introduction theory and practice are very relevant to this new thinking, and could become an increasingly common solution to conservation problems.

The Re-Introduction Specialist Group (RSG) of IUCN’s Species Survival Commission came into existence during the present triennium, 1988-91, to stimulate and coordinate interest in re-introductions from the range of scientific disciplines involved. Most Specialist Groups are concerned with single taxonomic groups, but the RSG has a very broad remit, spanning the whole range of vertebrates, invertebrates and plants. The RSG works closely with all Specialist Groups, but in particular with the Captive Breeding, Veterinary and Introduction Groups.

INCREASING THE MEMBERSHIP

Currently, the RSG has about 80 members worldwide. Membership at present is skewed in favour of those experienced in large mammal re-introductions; we need more members involved in re-introductions of other taxa. Geographically, members from areas such as Asia and Australia are under-represented. The Chairman actively solicits membership from persons involved, experienced or interested in re-introductions of plants and animals in all regions of the world.

Those wishing to be considered for membership of the RSG are encouraged to fill in the form enclosed with this newsletter and send it to the Chairman, with a cover letter outlining their past or present involvement or interest in the field of re-introductions.

The RSG now has Section Chairpersons for each of the following: plants, primates, marine mammals, ungulates, Australia/marsupials, carnivores, birds and short-term, sporting and commercial releases. Section chairs are being sought for reptiles and amphibians, and fish and invertebrates. Each Section Chairperson will develop a network of expertise in his/her field, allowing swift evaluation of re-introduction project proposals and the provision of technical advice.

THE ROLE OF THE RSG

Like other SSC Specialist Groups, the RSG aims to provide an advisory service. Its stated objectives are:

1. To document, collate and analyse past re-introduction efforts whether failures or successes.

2. To provide information on past re-introductions to those planning or involved in other projects.

3. To provide technical advice and evaluation for re-introduction planning, design, monitoring, the definition of objectives and chances of success.

4. To keep members and others informed on re-introduction activities through a newsletter.

5. To promote soundly-planned, properly-executed re-introductions as a modern, multidisciplinary management tool.

6. To identify which species, in which areas, are most suitable candidates for re-establishment.

7. To promote site visits by specialists where possible.

8. To assess the ecological, scientific and educational value to conservation of each re-introduction.

9. To promote communication and collaboration between the various disciplines involved.

10. To promote incorporation of simulations and predictions into field management of re-introductions where relevant.

In the longer term, the group will develop guidelines for re-introductions, with details of all the aspects which must be considered. These will include origins of animals or plants, minimum numbers, release techniques, monitoring, financial aspects, socio-economic and legal aspects.

A library of re-introduction literature is being developed, including much unpublished material. This will be catalogued and referenced for computer access by members and those involved in re-introductions.
- **1ST RSG MEETING:** August 1989.
The first meeting, attended by 39 persons, was held in Rome during the 5th International Theriological Congress. Discussion was general and focused on such issues as defining the functions of the RSG, targets for membership, possible sources of funding and the development of bibliographical and geographical databases. Problems encountered in some on-going projects were considered in relation to developing an RSG position statement. It was generally agreed that the IUCN position statement concerning re-introduction had some shortcomings.

- **2ND RSG MEETING:** November 1989.
This was held at the Zoological Society of London following a Symposium entitled "Beyond Captive Breeding: Re-introducing Endangered Species to the Wild". 36 people attended. Ben Beck was coopted as RSG Vice-Chairman, and Section Chairpersons for various taxonomic groups were chosen. Further discussions were held on bibliographical databases and the feasibility of a newsletter. Progress on funding the Group was reported. Specific discussions were held on chromosomal abnormalities in Arabian oryx, proposals to re-introduce wild dog (*Lycaon pictus*) in Tanzania and Somali wild ass (*Equus africanus somalensis*) in Israel.

- **NEXT MEETING:** November 1990.
The 3rd RSG meeting will be held in Perth, Western Australia, on 27th November 1990. A circular has been sent to all Group members. Full details of the time and place will be available at the SSC meeting on the preceeding two days. It would help if anyone interested in attending the RSG meeting could let Mark Stanley Price know beforehand.

- **RSG OFFICE IN NAIROBI.**
The Chairman enlisted Alison Wilson as part-time assistant to RSG in January 1990. She is a biologist with 20 years' experience in East Africa and North America. The Nairobi office has been occupied in recruiting new members and dealing with an increasing correspondence from individuals and other SG's around the world. We are compiling a bibliography of reintroduction literature, using REFSYS, and putting together a library of reference papers.

Much of the correspondence has contained pleas for comprehensive guidelines for re-introduction projects, and formulation of these will be a priority for the RSG in the near future.

*We have been very fortunate in receiving a generous grant from a private foundation based in Jersey. It will fund much of the on-going work of the group including databases and this newsletter. The African Wildlife Foundation is providing office space, desk-top publishing facilities, and covering mailing costs.*

- **IWAOAP.**
At a meeting in Yalooni, Oman, in early 1989 to discuss various Arabian oryx re-introductions, the need for a body to share information on all aspects of re-introductions of this species became apparent. Thus, the International Wild Arabian Oryx Advisory Panel was born. The primary aim of the panel, which comes under the administrative umbrella of the RSG, is to promote and assist the establishment of viable populations of Arabian wild oryx within their historical range. IWAOAP is composed of persons involved in re-introductions in the countries concerned, with a handful of other experts in the fields of genetics, demographics, captive breeding and wildlife diseases. It will help ensure that the management of oryx re-introductions throughout Arabia is carried out on a unified and collaborative basis as possible. A long-term goal of the panel is the development of integrated management of wild oryx throughout Arabia.

- **IWAOAP WORKSHOP:** May 1990.
RSG’s International Wild Arabian Oryx Advisory Panel met in London to consider a specific issue which had arisen in various herds which had been released into the wild, or were providing animals for ultimate release. Observations from the Taif Wildlife Research Centre in Saudi Arabia had shown that some oryx had 57 (and very occasionally 56) chromosomes, instead of the normal 58. This situation had been discussed at RSG’s second meeting in November 1989, where it was agreed that further investigations be made urgently. Accordingly, Oliver Ryder arranged to sample a few, carefully targeted, oryx in Oman. Out of 6 sampled, two wild males also carried the translocation.

Thirteen people met in London to discuss the implications for re-introducing the Arabian oryx, and what should be done. They represented the oryx management authorities of Oman and Saudi Arabia, RSG, Veterinary SG and Zoological Societies of London and San Diego.

A review indicated that the USA captive population of scimitar-horned oryx also possessed a translocation, and a hitherto undetected, but different translocation was found in UK scimitar-horned oryx on archived karyotypes. These two and the Arabian oryx translocation were each distinct, although they might all involve chromosome 17.

Andrew Spalton from the Oman project summarised observations on the reproductive performance of the two wild males with the translocation. The complexity of factors associated with breeding opportunity or success, the small sample size, and problems of finding non-translocation control oryx led to the conclusion that at
the moment there was no firm evidence that possession
of the translocation depressed breeding success with
non-translocation females. More data will be collected.
(Possession of similar translocations in cattle are known
to reduce fertility by 5-10%, but this finding results
from thousands of artificial inseminations, a rather dif-
ferent situation from that in the oryx.)

From the ancestries of carriers in both Saudi Arabia
and Oman, it seems likely that the translocation was
introduced from the Shaumari herd in Jordan, probably
originating in the Qatar herd which supplied some
founders to Jordan in the late 1970's. It has never been
recorded in any Arabian oryx from US sources.

The meeting made several recommendations:

1. To analyse the Shaumari records to pinpoint the
origin of the translocation. A female of Qatari
ancestry who was moved to Jordan, and then to
Baghdad should be screened.

2. To continue karyotyping all oryx in Saudi Arabia, as
well as 9 key animals in Oman and others at
Shaumari. Samples from Qatar and Abu Dhabi would
be screened if possible.

3. To screen mitochondrial DNA, which is passed
through the female line only, in an attempt to
reconstruct lineages and to test if those originating
from north or south of the Empty Quarter differed
much genetically.

4. To develop and circulate protocols for collection of
postmortem or biopsy material.

5. To undertake rigorous controlled breeding exper-
iments between carriers and non-carriers at Taif.

6. To monitor closely those oryx with 57 chromosomes
which have been released, but, for the time being, not
to release others known to have 56 or 57
chromosomes.

7. To compile available literature on the consequences
of carrying such translocations.

A great many issues were thus discussed on one day.
It was striking that what had once seemed a simple
matter, namely to release captive-bred Arabian oryx
into the wild, had brought up genetic questions of
possibly fundamental significance. As field conservation
increasingly interacts with captive breeding exercises,
such genetic questions may become more common.
Those at this IWAOAP meeting hope that their
deliberations and conclusions may be of general interest
and relevance to other re-introductions. A full transcript
of the meeting is available from the RSG Chairman.

RE-INTRODUCTION UPDATES...

Black-footed ferret
(Mustela nigripes)

Since 1987, three North American vertebrates have
become extinct in the wild: the dusky seaside sparrow,
the California condor and the black-footed ferret. For
the latter two species, hope for their ultimate survival
remains through captive breeding programmes, but the
status of both remains precarious.

. Once distributed in the North American West from
Canada to Mexico, black-footed ferrets probably
decayed because they are habitat specialists depending
on prairie dogs for survival. About 90% of their diet is
prairie dogs and they live in prairie dog burrows.
Indeed, many other species depend on prairie dog com-
nunities which are oases of species diversity in the arid
western grasslands.

Since the turn of the century the US Government, in
cooperation with the western States, has waged a war
against the prairie dog, and poison is the weapon of
choice. Prairie dogs have been eradicated over about
98% of their original geographic range, and the poison-
ning continues. The poisoning campaigns left only small,
isolated prairie dog "towns", insufficient to support
viable populations of black-footed ferrets. Inbreeding
and diseases like distemper took their toll. As of this
decade, only a single black-footed ferret population was
known to exist, and by the summer of 1985 this colony
was decimated by canine distemper. Captive breeding,
headed by the Wyoming Game and Fish Dept (WGFD)
in cooperation with the US Fish & Wildlife Service
(USFWS) and the IUCN/SSC Captive Breeding
Specialist Group of the IUCN, was the main hope for
the survival of the species, and it has been successful.
Ferret kits were produced and raised for the first time in
1987. With the success of the 1988 breeding season, the
captive population was split into three locations in
which there are currently 184 animals, including 66 born
in 1990. Barring catastrophe, the first experimental re-
introduction will occur in Wyoming in 1991. The release
target number of animals is 50.

Everyone connected with the project is anxiously
awaiting that day. The black-footed ferret Interstate
Coordinating Committee (ICC) was formed by the
USFWS to help identify and prepare re-introduction
sites in the US, Canada and Mexico. The ICC has
developed a ranking system to compare prairie dog com-
exes, and will determine the order of re-introductions.
The states and countries involved are collecting data on
the prairie dog complexes. Negotiations with land-
owners, management plans, and legal aspects of
re-introduction will involve a great deal of federal and
state agency personnel. Scientists with the USFWS, the
Conservation and Research Centre of the National Zoo, the University of Wyoming (with WFGD) and North Carolina State University are cooperating to develop techniques to ease the transition from caged to life on the plains. These include behavioural studies with surrogate Siberian ferrets (their closest relatives) to determine innate and learned aspects of skills necessary for survival in the wild; experimental releases of neutered Siberian ferrets to evaluate pre-release preparation of captive-raised animals, release techniques, and post-release monitoring techniques; and behavioural studies of innate and learned skill of black-footed ferrets.

But the problem of habitat fragmentation remains, as does the persistent and deliberate campaign, largely subsidized by the US government, to poison prairie dogs, whose adverse effects on livestock are greatly exaggerated. The ferret tragedy is a symptom of the state of the species-rich prairie-dog ecosystem. Poisoning is not a careless act by individual ranchers. To halt the decline of species diversity in the western grasslands, we need an effective program of conservation education and incentives that will not jeopardize the business interests of the ranchers. We hope the re-introduction of black-footed ferrets can be another step towards changing peoples’ perceptions about short-term self interest and long-term conservation of natural resources.

Contributed by Brian Miller.

Red wolf

*(Canis rufus)*

Prior to European settlement, red wolves roamed throughout the southeastern United States. Subsequent hunting and habitat alteration reduced wolf populations rapidly, however, and by 1980 the species was considered extirpated throughout most of the area. The few remaining red wolves were confined to marginal habitat in Louisiana and Texas where they bred with coyotes *(C. latrans)*, and suffered heavy parasite infestation.

The species was listed as endangered in 1967 and began receiving priority treatment after passage of the Endangered Species Act of 1973, when a captive breeding program was established by USFWS and the Point Defiance Zoo in Tacoma, Washington. In 1987, the USFWS initiated a re-introduction project at the Alligator River National Wildlife Refuge in northeastern North Carolina. This project is the first attempt in history to restore a carnivore species that was determined extinct in its former range. Between September 1987 and June 1990, 21 wolves were released on 11 occasions. In addition, a minimum of four pups born in the wild during 1988 and 1990 were monitored by USFWS personnel. As of mid-August 1990, a minimum of 10 wolves were free-ranging on the refuge. The USFWS will release 11 more during September 1990.

The red wolf re-introduction project is progressing well. Private landowners have provided access to 20,000 ha adjacent to the refuge. The re-introduction project now covers 106,000 ha of federal and private land, which should be sufficient to support 40-50 wolves within 5-10 years.

*Contributed by Michael K. Phillips, USFWS.*

(end note by Ben Beck: I recently visited the red wolf re-introduction project in Alligator River. I was very impressed with the knowledge and professionalism of the USFWS staff and the high quality of management. We happened to see two re-introduced wolves on a deer that they had just killed, and we saw two litters of pups born to captives awaiting re-introduction. One of the re-introduced groups also has pups. Mike Phillips and I were mutually amazed by the similarities of re-introducing a temperate terrestrial carnivore and a tropical arboreal primate!)

Bali mynah

*(Leucopsar rothschildi)*

Discovered in 1911, the strikingly plumaged Bali mynah became a favorite of aviculturists. Hundreds were captured for the pet trade, and this, together with widespread habitat destruction, led to a drastic decline in numbers. The wild population dropped from an estimated 500-1000 in 1975 to roughly 70 in the late 1980’s. However, the species breeds prolifically in captivity; in the early 1980’s, about 500 Bali mynahs existed in N.American zoos.

The wild population continues to decline; the latest census indicated that no more than 24-31 wild birds remain. Poaching appears to be a continuing problem. But efforts by the Indonesian Government, in association with the International Council for Bird Preservation, the American Association of Zoological Parks and Aquaria, and the Jersey Wildlife Preservation Trust, to release captive bred mynahs into the wild have begun.

Initially, 37 birds from 10 US zoos were transferred to Java’s Surubaya Zoo which serves as the coordination and breeding centre. A very high post-hatching mortality of chicks at the Zoo is hampering the recovery programme. In addition, strenuous efforts are being made to recover as many wild-caught birds held in captivity as possible, to increase genetic variability in the population. A few captive-bred birds, and some wild-caught birds have already been released into the Bali Barat National Park. The released birds seem to be making the transition successfully.
A Population Viability Analysis workshop held in March in Bogor, W Java, made wide-ranging recommendations concerning the management of the Bali Barat National Park, and basic monitoring and ecological studies of the wild population of the Bali mynah. In addition, improvements to the follow-up studies of released birds need to be implemented. The workshop identified further sites for captive-breeding in Indonesia and outlined a programme of public awareness and education.

Written by Alison Wilson from material supplied by U.S. Seal.

Golden lion tamarin
(Leontopithecus rosalia)

As part of the Golden Lion Tamarin Conservation Project, (GLTCP), 75 captive-born and 6 wild-born (confiscated) tamarins have been re-introduced since 1984. Of these, 33 survive, some totally without provisioning. The re-introduced animals have had 34 offspring, of which 22 survive. The re-introduction of two more family groups is planned for November 1990.

There are currently 15 groups of re-introduced tamarins; 2 in the Poco das Antas Biological Reserve and 12 on private ranches surrounding the Reserve. The ranches are selected if they have at least 40 ha of suitable forest, and if their owners agree not to hunt in, graze cattle in or cut the forest. The owners, in turn, become active conservationists and share the prestige of the project. Additional forest habitat is protected, and the owners' influence and support are leveraged for public education. The primary cost is travel by the monitoring team, now about 60 km and 12 people-hours per day. Security on ranches is less than that in the Reserve; 7 re-introduced tamarins have been stolen from the ranches. The thefts seem to have been halted by a vigorous investigation by the Brasillian federal police.

The fire in the Poco das Antas Reserve was finally extinguished in May after long-awaited heavy rains. Damage was largely confined to oldfield, swamp and very young forest. No tamarins are known to have been affected, but the situation could have been worse. Shortly after the fire erupted in February, the Friends of the National Zoo and the Wildlife Preservation Trust contributed two "Bambi Buckets" that allowed the Brasillian federal police helicopters to drop large amounts of water on the fire. PanAm flew the buckets on short notice to Brazil without cost. The Brasillian Fire Department, GLTCP personnel, and the Reserve staff worked tirelessly for a week to control the fire. The mayor of the neighboring municipality contributed a bulldozer and gasoline to cut a firebreak that kept the fire out of a part of the forest occupied by two of our original and most productive re-introduced groups. Personnel who suffered injuries have recovered and returned to work, and post-fire recovery research has begun. Detailed fire contingency plans are being prepared. The biggest loss seems to have been young forest that would have been good tamarin habitat in 20 years. The fire probably blew into the Reserve from a neighbouring ranch, where fire is used routinely for pasture management. A long, unseasonable drought and high winds contributed. Early media reports of maliciousness in the fire's origin were not substantiated.

Contributed by Ben Beck.

Przewalski's horse
(Equus przewalskii)

At the 5th International Symposium on the Preservation of Przewalski's Horse, held in Leipzig in May 1990, a steering committee was elected to formulate a Przewalski's Horse Global Management Plan Working Group (GMPWG), the nucleus consisting of those involved in the preparation of the Przewalski's Horse Draft Global Conservation Plan under the CBSG's auspices.

For the first time, breeders involved in regional breeding programmes have agreed to cooperate, bringing to reality the management of a world captive population encompassing the entire gene pool. This is encouraging, as such cooperation is likely to attract support from international organisations - a necessary step towards the proposed re-introduction programme. IUCN/SSC Specialist Group Chairs who have promised help and consultation include Stanley Price (RSG), Duncan (ESG), Seal (CBSG), and Woodford (VSG).

After 90 years of captive breeding, with all the negative influences a wild species can be subjected to, it is extremely urgent to find optimal natural habitat which will not challenge re-introduced animals to too much stress. The GWMP wants to assist nations within the historic range of the species to re-introduce the Przewalski's Horse. The Soviet Union, China and the Mongolian People's Republic are looking for suitable areas, and this autumn members of the steering committee are travelling to the USSR and MPR with the hope that one or more Reserves will be offered. If this happens, the GMPWG will be in need of every financial and advisory support from IUCN/SSC's and FAO/UNEP to achieve its goal of returning Przewalski's horse to the wild.

Contributed by Waltraut Zimmermann
Arabian oryx

(Oryx leucoryx)

The last year has seen significant progress on two projects. In September 1989, I visited Saudi Arabia's Taif Wildlife Research Centre, home of some 90 Arabian oryx where the task of eradicating TB has almost certainly been achieved by painstaking medication through drinking water for animals kept in small groups. From Taif I had the pleasure of a day at the Mahazet as Sayed reserve, a 2700 sq.km fenced area destined to become a release site. Ecologically the area was notable for the swift improvement in vegetation cover and biomass over the year since the fencing had excluded all livestock. In a 200 ha enclosure at the time were 17 oryx, including 6 which had been born there.

From Taif I went to Riyadh and participated in a symposium on re-introductions and their role in Saudi Arabia, organized by the National Commission for Wildlife Conservation and Development.

In March 1990, the herd of 17 oryx was released into the Mahazet as Sayed reserve. Their movements, behaviour and performance were monitored closely by Jean-Francois Asmode. Many of his observations were strongly reminiscent of experiences following the first release in Oman some years before, where one attempted to rationalise every move made by the animals. Since release, there have been no deaths, and one calf has been born, with the oryx taking good advantage of the relatively lush grazing due to good rains in April 1989.

In March 1990 I returned to Oman's re-introduction project, and found everything in excellent shape. Tim Tear left the project at the end of 1989 to go to the University of Idaho, where he is working on a Ph.D using his oryx data. Roddy Jones is now Field Manager, while Andrew Spalton continues as Biologist.

The re-introduction area, the Jiddat-al-Harasis, had good rain 4 weeks before we arrived. Hence, the grazing was good, as it has been for several years following rain somewhere on the Jidda' each winter since 1987. The oryx were scattered over many thousands of sq.kms, with the typical herd being an adult male, 2-5 females and dependents. Immature males and adult males without females occupy areas in between such herds.

In April there were 96 oryx living in the wild, which had increased to 104 by September 1990. Detailed monitoring shows that more than half of the population is aged under 3 years. Consequently, the predicted rate of increase through 1991 is very high. Over the past few years, the desert's good conditions have resulted in a first year calf survival of 90% or higher. This will undoubtedly change when a run of dry years hits the desert, but the present conditions are helping the population to move beyond critically low numbers, thereby reducing the probability of another extinction in the wild.

As oryx numbers in Oman increase, it is becoming impossible to monitor all animals to the same extent as in the first years, and, of course, there is less need to do so. Inevitably, there is likely to be a loss of accuracy in individual recognition. While in Oman I worked with Andrew Spalton to design a monitoring scheme on a practicable scale with the aim of being able to answer specific questions in due course. These will include measures of lifetime reproductive success for the older imported and desert-born females, differential male breeding success, comparisons of the productivity of matriline of varying origins, and so on. It is hoped that in a few years there will be a large body of information which will be unusual for any large mammal in the wild, and of general interest for re-introductions.

Contributed by Mark Stanley Price