

band. Bands are inscribed with the identity of each RSP participant, the year of hatch and the individual bird's number. Complete records of all consortium birds, including unusual characteristics, are reported on an annual basis to Dr. Orland Baker, the RSP Studbook Keeper.

In the past, much hybridizing of the Red Siskin has occurred through pairing with other siskin species and with canaries. The AFA RSP holds the goal for the future of performing isoenzyme analyses on the siskins in the project.

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With DNA "fingerprinting," we would hope to determine whether or not there are any hybrids in the consortium birds and remove them from the program. At present the RSP uses the S.P.A.R.K.S. (Small Population Analysis and Record-keeping Systems), which is a proven computerized program used to determine inbreeding coefficients, and which helps us to properly manage the siskin program to maintain the best possible genetic diversity within the captive population.

Chuck Seigel, AFA RSP Director and also Curator of Birds at the Dallas Zoo, in Texas, encourages keeping Red Siskins separate from other birds in order to avoid possible disease transmission. The AFA RSP project participants feel that two years of quarantine helps to prevent isolated problems from reaching our other birds or the siskins. Although a few birds have been donated by breeders from around the U.S., most siskins in the project were raised by participants at project facilities.

AFA RSP participants are highly motivated. It is rewarding to work with this species and to try to give something back to nature. All of the participants in the Project take pride in their efforts to make a positive difference for the future of the Red Siskin in the wild and in captivity. We are working to keep a genetically viable population of Red Siskins alive and reproducing. ➤

The Role of Private Aviculture in Bird Reintroduction Programs

*by Alan Lieberman,
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It is the rare opportunity that we as individuals, as members of private bird clubs or as representatives of conservation organizations can personally take part in an effort that can make the difference between the extinction or survival of a species. It is my intent in these few paragraphs to review the re-introduction of endangered species as a conservation strategy, and to explore the role of the avicultural community in furthering the goals of conservation.

Today, the conservation of wild animal populations includes such strategies as translocation, the movement of a wild animal population from one area to another; introduction, release of wild or captive animals into an area that was never inhabited by that species before; and re-introduction, the release of captive animals into a habitat that had or may still have that species.

Each of these strategies has had criticism. Of the thousands of vertebrate species kept in zoos and private collections today, only a small proportion will ever be used for reintroduction, and this represents an even smaller proportion of the number of animals that will go extinct over the next 200 years. However, for many species of birds, captive propagation with the intent of eventual release may be the only hedge against extinction.

The costs are high, and the effort can be monumental. Among the many considerations are the risk of introducing pathogens to an already perturbed habitat, the genetic heterogeneity of the released birds, the appropriate behavior of the released birds that will ensure survival, the genealogy of the released animals in relation to the wild population, the removal of the cause of the initial decline of the wild population, and the stability of the habitat into which animals are being released.

Critics of release programs claim that the cost of such programs would be better spent on protecting habitat to prevent future extinctions. Fair enough. But often times the resources generated for such habitat protection are raised from a public whose sensitivities were touched by a release program that featured a real animal, and not an abstraction of "vegetation community" or "ecological habitat" that often can be difficult for a non-scientist to comprehend. This is especially true in developing countries where the local community is often more receptive to the concept of species conservation.

Overlooked are the benefits of mega-vertebrate releases into the native endangered habitats. Since the

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large animal species are usually the first to suffer from habitat loss, the release of these species and the subsequent protection of their habitat is actually preserving not only just the species released, but all the organisms found in that habitat as well.

Some conservationists are supporting the concept of "mega-populations" of animals—captive and wild populations that are managed as one, with regular exchanges of individuals helping to support the genetic integrity of the world population. This strategy

will require a well managed capture and release program, an ongoing genetic evaluation, veterinary input, and a permanent team of field biologists.

The IUCN-Species Survival Commission Re-Introduction Specialist Group has developed a five-point checklist for evaluating the efficacy of releasing captive animals into the wild:

- (1) Feasibility
- (2) Planning and Preparation
- (3) Decision whether to proceed with re-introduction
- (4) Release and Monitoring
- (5) Assessment

Feasibility takes into account the existence and condition of the captive breeding population, the current and historical threats to the wild population, and the existence of suitable habitat. It is also wise at this point to seek and confirm the collaboration of the national, provincial and local conservation authorities. This is true in the U.S. as well as foreign countries. Without the approval and cooperation of the bureaucratic infrastructure with

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whom one must work, the program is doomed.

If a reintroduction program is deemed feasible, then one must plan and prepare by selecting an appropriate release site, training local personnel, and selecting the most qualified captive individuals based on health, genetics and behavior.

After planning, the final decision to proceed is made. This step will include such logistical machinations as permits for export and import, transportation, cartage, brokerage and interim animal facilities needed along the way. The success of pre- and post-release monitoring will largely depend upon the first three steps. The condition of the birds, the selection of the release site, and the training of the personnel are key to this point.

Finally, assessment will provide the field crew, the captive breeding personnel, the geneticists, the veterinarians and the biopoliticians with the information needed to fine tune the program for continued success (or avoidance of future failure). Failure to properly assess the various steps of the reintroduction program not only makes it impossible to judge the success of a release strategy, but is also a criminal waste of information which could be useful for future projects.

The science of reintroduction is in its infancy, and if it is to develop more successful and cheaper techniques, published information about both successes and failures is essential.

What is private aviculture's future role in conservation through reintroduction? We are constantly being told by the American Federation of Aviculture and other industry spokespersons that "Aviculture is Conservation." Does this only mean that someday the pet trade will depend entirely on birds produced through private enterprise? Theoretically, this captive production will satisfy the growing needs of the pet industry, conserving the wild population. The recently formed Cooperative Working Group on Bird Trade (CWGBT) hopes to make this a reality in five years.

In addition, it should be re-stated that many of the husbandry techniques used in zoos and in the private sector for the captive propagation of endan-

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gered bird species, whether destined for release or not, were developed over the last century—often by the backyard breeder. No other group of private animal enterprise has contributed so much to the state of the art of animal keeping as the aviculturist. These same techniques are currently being used by zoos and private propagators to produce candidates for release programs around the world as well as in our own country.

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The role of aviculture in developing captive husbandry protocols can not be overlooked. Now that the zoos and conservation organizations are taking the required steps to establish cooperative conservation programs with other countries, it will become even more crucial to find new and willing partners in the private sector.

At the moment there are but a handful of private aviculturists who are taking part in any of the conservation/release programs now in place. There is, however, no satisfaction greater than the knowledge that one's avian offspring, or technology, or personal or institutional resources have contributed to the reestablishment of a population of endangered species somewhere in the world. ➤