Mexican Lagomorphs

Conservation Workshop

11-14 January 1996

México City, México

Executive Summary

A Conservation Workshop for Mexican Lagomorphs was held from 11-14 January 1996 at the Universidad Autonoma Metropolitana - Unidad Iztapalapa in México City. The workshop was comprised of two parts: a Conservation Assessment and Management Plan (CAMP) for endemic Mexican lagomorphs; and a Population and Habitat Viability Assessment for the volcano rabbit, *Romerolagus diazi*.

The CAMP workshop focused primarily on the distribution, status and threats of wild populations of lagomorphs in Mexico.

The results of the CAMP underline the need for further collaborative efforts to conserve the lagomorphs of Mexico. The deteriorating conservation status of many species, even during the last decade, emphasized the need for immediate action. The participants reached consensus that efforts to conserve these species primarily should focus on field programs, and that additional information on distribution, population status, ecology and biology are of vital importance.

Summary of CAMP Assessments and Recommendations

Eight Mexican lagomorph taxa were considered by the Conservation Assessment and Management Plan for Mexican lagomorphs. Of the eight taxa, four were assessed as threatened according to the New IUCN Red List criteria:

Sylvilagus insonus	Critical
Sylvilagus graysoni	Endangered
Romerolagus diazi	Endangered
Lepus flavicularis	Endangered

Four taxa were listed as Low Risk (Near Threatened) according to the New IUCN Red List criteria: *Sylvilagus cunicularis, Sylvilagus mansuetus, Lepus callotis, Lepus* insularis.

Of all the threats facing the lagomorphs of Mexico, the most striking are hunting for food, human interference, and habitat loss because of agriculture and farming.

Romerolagus diazi was recommended as a candidate for a Population and Habitat Viability Assessment (PHVA) workshop. Tentative or "pending" PHVA workshops were recommended for *Sylvilagus insonus*, *Sylvilagus graysoni*, and *Lepus flavigularis*.

Recommendations for Research Management were made in the following categories:

Survey	8 taxa
Monitoring	8 taxa
Life history studies	8 taxa
Limiting factors research	6 taxa
Habitat management	6 taxa
Limiting factors management	5 taxa
Taxonomic research	3 taxa
Captive management/husbandry	2 taxa
Other research	4 taxa

For one taxa, *Romerolagus diazi*, a Level 2 captive program was recommended (based in part on IUCN Red List criteria).

The Population and Habitat Viability Assessment for *Romerolagus diazi* focused primarily on the distribution, status and threats to that species. At the workshop, six working groups were established: Habitat, Distribution, VORTEX modeling, Threats, Education, and Captive Breeding. The workshop provided a unique opportunity to bring together Mexican lagomorph biologists who have worked with Romerolagus in Mexico, international representatives from the IUCN/SSC Lagomorph and Conservation Breeding Specialist Groups, and North American Zoos.

Estimates of habitat and population numbers were derived in both the **Distribution Working Group** and **Habitat Working Group** through consensus of field biologists. The zacatuche is not currently protected by active management nor through the presence of a viable system of protected areas in its geographic range. Presently there are 163 protected areas distributed throughout Mexico, with eight protected areas in the area of the Pelado/Tlaloc Volcano complex. These areas are small and isolated, and currently have no protection or assigned managers, existing to date only as "paper parks." The estimated population of the volcano rabbit is approximately 7,085; comprised of 1,811 in Pelado, 1,816 in Tláloc, 3,458 in Ixta-Popo, and approximately 3,056 in peripheral areas. The **Modeling Working Group** relied primarily on data derived from the CAMP workshop held just before the PHVA. A baseline model for the population at Volcano Pelado was constructed by the workshop participants as a group. VORTEX modeling indicated that severe forest fires contribute markedly to population extinction. Consequently, detailed research programs should be developed to explore the dynamics of fire management in zacatuche habitat. Preliminary models suggest that populations are more sensitive to changes in juvenile mortality than adult mortality, but that both play a critical role in determining population dynamics. Comprehensive longitudinal studies should be undertaken using well-established mark/recovery

techniques to provide insight into dispersal dynamics and reproductive characteristics of the populations. Overall modeling indicated that with equivalent levels of mortality and fecundity, smaller populations are at greater risk of extinction than are larger populations because of the destabilizing action of stochastic demographic and environmental variation. Management plans directed at expansion of suitable habitat can be successful in improving volcano rabbit population viability, but only if factors such as fire and human disturbance are kept to a minimum.

The working group on **Threats** identified three primary causes of losses of individuals: hunting; predation by exotic species (feral cats and dogs); human-set fires used to generate new grass growth for domestic livestock. Six primary causes for habitat loss also were identified: human-set fires; illegal extraction of wood, volcanic rock, and soil; unrestricted development of new agriculture areas; harvesting of zacaton grass to make brooms; establishment of new human settlements, road construction, and recreation centers; and accumulation of refuse and garbage in the habitat. Several general recommendations were made to ameliorate these threats, focusing on: the development of vigilance programs conducted by people living in the countryside for hunting and fire control; improved information transfer in the form of hunting guides and education programs; establishment of eradication and population control programs for feral animals and local pet populations; finding alternate food sources for domestic livestock; plan and share information about alternative forest use and conservation; and establishing a garbage control and recycling program.

The **Education Working Group** analyzed the problems related to education pertaining to the zacatuche, established working diagnostics and definitions of the same, and then made programmatic recommendations. The general goals identified were to approach the community in a number of different ways, carrying out an assessment (encompassing economic, socio-cultural, and historic factors) of the community pertaining to natural resources, and establishing relationships between the community, environmental educators, and other groups to develop concrete actions designed to be beneficial to the local community as well as the conservation of the zacatuche. Specific steps to reach these goals are outlined in the working group report.

One of the recommendations from the CAMP workshop was the development of a collaboratively managed captive breeding program for the volcano rabbit. The **Captive Breeding Working Group** developed guidelines for the management of existing as well as any new captive breeding programs that might be developed. This group recommended the formation of a consortium comprised of the various zacatuche stakeholder organizations (e.g., AMCELA, the Lagomorph Specialist Group, NATURALIA, CNF, UNAM, and UAM Iztapalapa and Xochimilco). This consortium would collaboratively develop and implement programs of research, education, conservation, and genetic and demographic management, leading to the optimization of limited resources for the conservation of the species.