REPORT

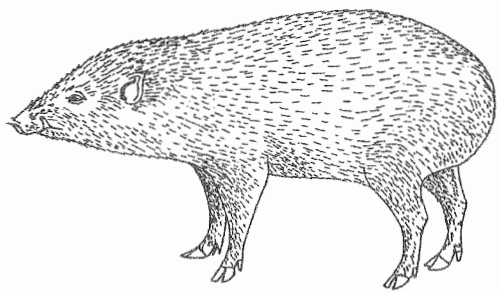
PIGMY HOG CONSERVATION PROGRAMME-A CASE STUDY

CONSERVATION BREEDING FOR REINTRODUCTION - PRINCIPLES AND PROTOCOL

Presentation for Training in Endangered Species and Zoo Management Course

Goutam Narayan

This Note was taken from a presentation by Goutam Narayan with bits from a background note and covering letter by Narayan and William Oliver accompanying the Report of the 1997-98 activities of the Pigmy Hog Conservation Programme. The Pigmy Hog Conservation Programme is clearly one of the most promising conservation projects in India which involves captive propagation and will, if it suceeds, be one of the very impressive programmes in the world. **For a copy of the Report you may write to Pigmy Hog Conservation Programme, Indira Nagar, Basistha, Guwahati, Assam 781 029.**



Conservation Breeding

A captive propagation programme to save any species from extinction is called conservation breeding. The World Conservation Union (IUCN) considers the conservation breeding programmes as integral part of biodiversity conservation. In its 1987 Policy Statement on Captive Breeding it has recognized that

- habitat protection is not enough to maintain biological diversity,
- supportive intervention such as captive breeding is required
- such programmes should be established before it is too late
- the aim of such programmes is re-establishment of viable populations in the wild.

Pigmy Hog Conservation Programme

The Pigmy Hog (*Sus salvanius*) is the smallest and the rarest wild suid in the world. Today, it is at the brink of extinction, as only a few isolated and small populations survive in the wild. In the past, they were found in the tall, wet grasslands in the Himalayan foothills from Uttar Pradesh to Assam, through Nepal terai and Bengal duars.

Currently, however, they are restricted to a few pockets along Assam's border with Bhutan and Arunachal Pradesh. In fact, the only viable population of the species exists in the Manas Tiger Reserve and nowhere else in the world. The World Conservation Union (IUCN) has accorded the highest priority rating (Status Category - Critically Endangered) to the Indian Wildlife (Protection) Act, 1972.

Pigmy hog measures about 65 cm (25 inches) in length and 25 cm (10 inches) in height and weighs 8 to 9 kg. Females are a little smaller and the newborn babies weigh only 150 to 200 g. A vestigial tail (2.5 cm or 1 inch in adults) and only three pairs of mammae distinguishes it from the wild boar (*Sus scrofa*) which, despite being 10 to 20 times larger, often gets confused with pigmy hogs. The pigmy hog is known as Nol Gahori or Takuri Bora in Assamese and Oma Takuri in Boro.

The main threats to survival of pigmy hog are loss and degradation of habitat due to human settlements, agricultural encroachments, flood control schemes, and improper management. Some management practices, such as planting of trees in the grasslands and indiscriminate use of fire to create openings and to promote fresh growth of grass, have caused extensive damage to the habitats the authorities intend to protect.

The survival of pigmy hogs is closely linked to the existence of the tall, wet grasslands of the region which, besides being a highly threatened habitat itself, is also crucial for survival of a number endangered species such as the one-horned rhinoceros (*Rhinoceros unicornis*), tiger (*Panthera tigris*), swamp deer (*Cervus duvauceli*), wild buffalo (*Bubalus bubalis*), hispid hare (*Caprolagus hispidus*), Bengal florican (*Eupodotis bengalensis*) and Assam roof turtle (*Kachuga sylhetensis*). The pigmy hog is one of the most useful indicators of current wildlife management practices in these habitats as it has disappeared from grasslands, which still support some other species. It is therefore important to understand why it is disappearing faster than other less sensitive species and take remedial actions if we wish to preserve the original habitats in their pristine state and with optimal diversity. This will eventually benefit all species of these threatened habitats. Preserving these important habitats, which are one of the richest in the Indian subcontinent in terms of their biodiveristy, will also help in maintains long term ecological and economic well being of the region.

Conservation Action Plan: It is therefore essential to formulate a properly structured action plan to save the species from extinction. This includes: conservation breeding of the species with aims to reintroduce them to selected sites from where they have disappeared as well as an insurance against the possible early extinction of the species in the wild; upgrading the (legal as well as actual) protection status of the above sites; field research to plan ideal mangaement practices for maintenance of optimal diversity of these habitats and mechanism to implement the recommendations of such studies; reintroduction of viable number of pigmy hogs for their long term survival in the wild, monitoring the reintroduced populations; and monitoring and modifying management practices to promote survival of all original inhabitants of such habitats.

The Pigmy Hog Conservation Programme (PHCP) is a broad based research and conservation programme which aims to fulfil at least some of the above requirements. This important recovery programme for the highly threatened species and their equally endangered habitats is being conducted under the aegis of a formal International Conservation Management and Research

Pigmy Hog Conservation Programme, Indira Nagar, Basistha, Guwahati 781 029 Assam

Agreement (ICMRA), signed at New Delhi on 16 February 1996 between IUCN/SSC Pigs, Peccaries and Hippos Specialist Group, Jersey Wildlife Preservation Trust (JWPT), the Forests, Government of India. The implementation of this agreement, the first of its kind in India, is being undertaken by PHCP, with funds provided by the European Union and JWPT. The sole aim of this collaborative programme is conservation of the pigmy hogs and other endangered species of tall grasslands of the region through field research, captive breeding and reintroductions after adequate restoration of degraded former habitats.

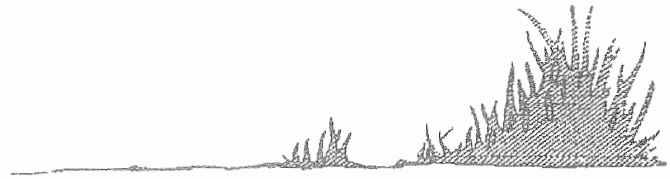
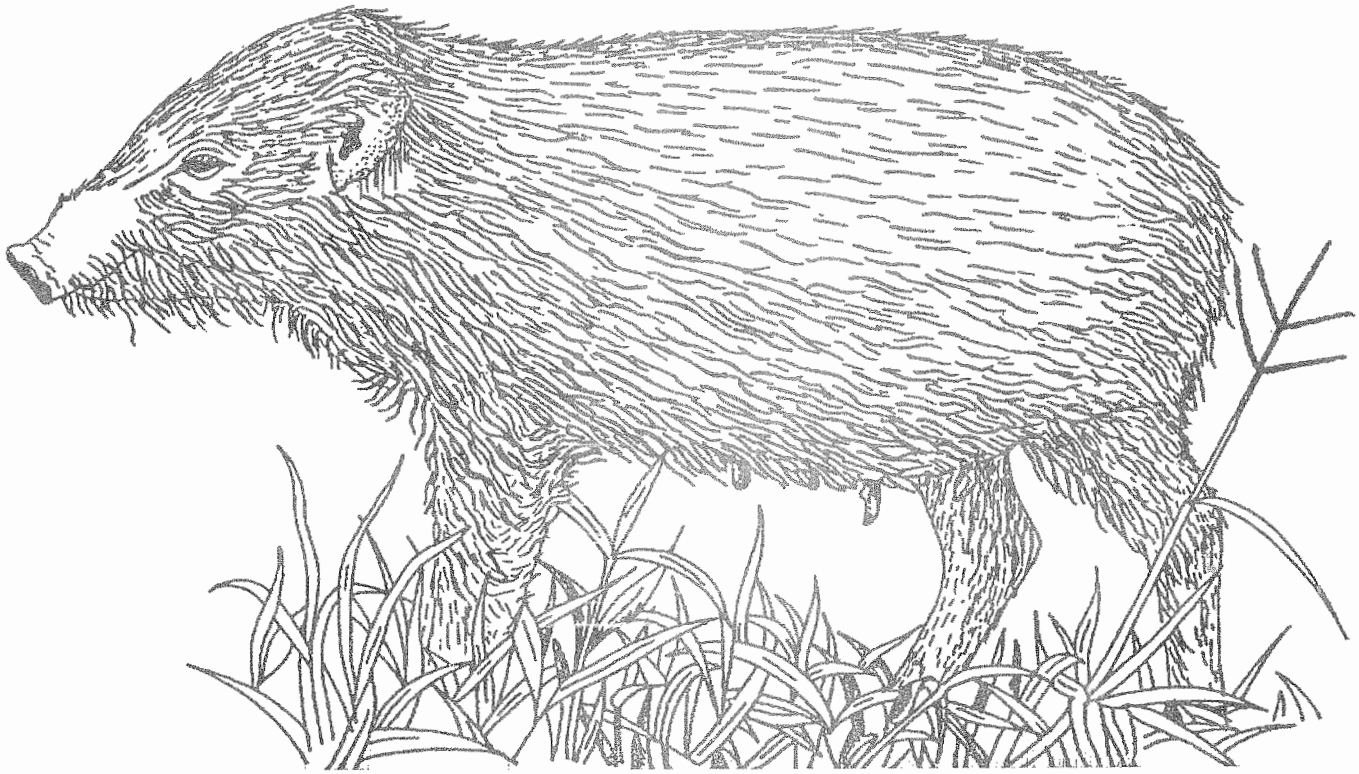
One of the main objectives of the Programme is to establish a well structured conservation breeding project for pigmy hogs as an insurance against the possible early extinction of the species in the wild and as a source of animals for reintroductions projects. In 1996, six wild hogs were caught from Manas National Park and transferred to a custom built research and breeding centre built at Basistha near Guwahati. Five more hogs were caught and released at the capture site after fitting three males and a female with radio harness for radio-telemetry studies.

The six hogs settled down well in Basistha and 3 adult females, which were pregnant from wild, produced healthy litters in 1996. All but one of the 13 young (7 males, 6 females) was reared. Seven more litters were born in 1997, but some hogs died due to an infection, which was effectively controlled with local and international help. Nonetheless, the hog population almost doubled in 1997 from 18 to 35, which constituted a 80% increase in 21 months period.

In the 1998 breeding season, five captive sows farrowed at Basistha adding 22 more hogs to the population. Currently 53 hogs (29 males and 24 females) are present at the Research and Breeding Centre and this represents about 88% increase in the captive population after three breeding seasons-a massive increase by any standard. This unanticipated and rapid increase in the captive population had created a accommodation problems, but extension enclosures and a quarantine facility have been constructed with funds provided by the Assam Valley Wildlife Society.

Like any other modern captive breeding programme, it is necessary to carry out DNA studies to determine relatedness among the wild caught and the wild sired individuals to maximize the genetic heterozygosity in captive population for its long term survival. Besides genetic studies, introduction of a few more wild animals into the captive population may also be required for the same reason.

A second breeding centre is being planned in collaboration with the Assam Valley Wildlife Society, which will, preferably, be located close to one of the reintroduction sites. Since the animals at Basistha Centre are the only captive pigmy hogs in the world, the second breeding centre will also be an insurance against any catastrophe at the present location.

Field surveys and future plans: In addition to the concluded first phase of radio-tracking studies in Manas, a wide ranging survey of known and suspected sites of pigmy hog distribution has been carried out. Grassland ecology studies are being planned in collaboration with University of East Anglia, Norwich (U.K.), Gauhati University, Guwahati and Bombay Natural History Society, Mumbai, to provide grassland habitats. Formation of a local consultative committee consisting Indian experts has also been proposed for management of the Programme.

Surveys to locate possible reintroduction sites have begun as the rapidly increasing captive population will necessitate an early transfer of some of these pigmy hog back to where they belonged.