

Facts about the Straight-Horned Markhor

The markhor (*Capra falconeri*) is a species of wild goat belonging to the Family Bovidae and Subfamily Caprinae (sheep and goats). Markhor are sturdy animals with strong, relatively short, thick legs and broad hooves. They spend their lives in extremely rugged terrain with precipitous cliffs, rocky caves, and bare rock surfaces interspersed with patches of arid, steppe vegetation. Markhor are a reddish-grey color, with more buff tones in the summer and grey in the winter. Adult males have an extensive black beard, followed by a shaggy mane of long hairs extending down the chest and from the fore part of the neck. Horns are straight with an open, tight spiral resembling a corkscrew.

Historically, the straight-horned (or Suleiman) markhor (*Capra falconeri jerdoni*), a subspecies, inhabited the mountains of Pakistan and Afghanistan, just inside the Afghanistan border. Today, the markhor is only found in the mountains of Balochistan Province, Pakistan. Although it is considered widely distributed, the straight-horned markhor has been reduced to small, scattered populations on all the mountain ranges immediately to the north and east of Quetta.

In the early 1980s, local tribal leaders became alarmed at the significant decline in the markhor population in the Torghar Hills. At that time, the population had reached a critical level, estimated at fewer than 200. The tribal leaders attributed the decline to an increase in poaching due to the significant increase in weapons in the area during the Afghan War. After unsuccessful attempts to receive assistance from the Balochistan Forest Department, they turned to wildlife biologists in the United States, including the U.S. Fish and Wildlife Service, who worked with them to develop the Torghar Conservation Project (TCP). The TCP is the oldest community-controlled program in Pakistan and has been so successful that tribal groups in other mountain ranges of Balochistan have expressed interest in setting up similar programs.

In general, habitat throughout the range of the straight-horned markhor is threatened by deforestation for logging, fuel, charcoal, and building materials and by overgrazing of domestic livestock. In the Torghar Hills, however, the topography of the upland slopes and high-elevation areas has minimized human influence and grazing pressure. The habitat in these areas is in good condition, but in drought conditions, or if the number and size of domestic herds are not controlled, these areas may experience increased grazing pressure from domestic sheep and goats in search of additional forage. The lower slopes and valleys, which are utilized by markhor and may become more important in supporting an increasing population, have experienced heavy grazing pressure and deforestation for building materials and fuel.

In response, a habitat management plan for both wildlife and domestic livestock was developed in 2001. The plan is being implemented by the Society for Torghar Environmental Protection (STEP), the community-based, nongovernmental organization established to administer the TCP. The plan emphasizes range management, improved agriculture, and water storage projects to improve habitat conditions, reduce grazing pressure, eliminate the need for domestic herds to utilize upper slope areas, and, therefore, reduce interactions between domestic livestock and markhor around forage and water resources.

In addition to livestock management, STEP plans to plant woodlots of indigenous trees to meet the fuel wood and timber requirements of the local tribes and develop orchards and croplands. Agriculture is seen as an alternative to raising livestock and reducing grazing pressure. STEP will also train locals in livestock management and agricultural practices. When fully implemented the improvements will

reduce grazing pressure and deforestation in the lower slopes and valleys of the Torghar Hills, eliminate the need for herds to graze in upland slopes, and manage the natural resources for sustainable use.

Straight-horned markhor in the Torghar Hills, and other subspecies of markhor within community-managed conservation areas in Pakistan, may be legally hunted and exported from Pakistan. In 1997, at the 10th meeting of the Conference of the Parties to CITES, the Government of Pakistan submitted a proposal for approval of an annual export quota for sport-hunted markhor trophies to act as an incentive to communities to conserve markhor. During that same meeting, the Conference of the Parties approved an annual export quota of 6 sport-hunted markhor trophies for Pakistan. Due to the success of conservation programs in Pakistan, CITES increased the annual export quota to 12 markhor in 2002, to further encourage community-based conservation.

Evidence suggests that the limited take of markhor from regulated hunting in the Torghar Hills has not had a significant impact on the population, which has grown from fewer than 200 animals in the mid-1980s to more than 3,000 animals today. This growth is attributed to the substantial reduction in mortality that occurred when uncontrolled hunting by tribes was stopped, as well as the hiring of more than 80 game guards from the local population, which has largely eliminated poaching.