

Conservation of Endangered Persian Leopard in Golestan National Park

Country: Iran

Description:

Located in northwest of Golestan province in the north of Iran near the Turkmenistan border and in the Caspian Sea region, Golestan National Park is one of the oldest and most ecologically diverse protected areas of Iran, covering 900 square kilometers of Hyrcan jungle, high altitude juniper covered mountains and dry plain steppes vegetation. Golestan is a mixture of deciduous jungle and dry lands. Golestan is home to a variety of wildlife species such as Brown bear, Persian ibex, wild sheep, wild boar, roe deer, red deer, wild cat and the endangered Persian leopard. Traditionally, a healthy habitat and diverse prey base made Golestan an ideal ecosystem for the Persian leopard to thrive, with some cats weighing up to 100 kilograms.

Prior to 1979, according to surveys, the global population of Persian leopards was over 800. It is estimated that between 1979 and 1986, the global population reduced to 300 due Iran's revolution and other problems in the region which caused intensive hunting and poisoning of wildlife all across Iran. Based on available records of these 300, nearly 270 have been documented to be in Iran, with 200 of them located in protected areas. Before 1979, the leopard population of Golestan National Park was around 30. There is now an estimated 15-18 leopard in the park, amounting to 10% of the overall leopard population of protected areas in Iran.

Golestan is now faced with even more challenges in protecting and decreasing number of leopards. Golestan National Park is located directly along the path of the main road from Tehran to Mashhad (two large cities in Iran). Vehicles cause numerous wildlife casualties each year. Road construction and widening is cutting into the Persian leopard's habitat. Over 300 trees have been cut near the road for road expansion. There are no speed limits on the road. A second challenge to maintaining a healthy ecosystem for the Leopards to survive is flooding due to deforestation and cultivated land just outside Golestan's boundaries. Due to clear cutting outside of the Park boundaries, extensive flooding has taken place in the park, with any heavy rains now causing floods. In August 2001, the first main flood washed away many trees, main parts of the road and many of the villages in Golestan Valley. There were human casualties and extensive habitat destruction. Many endemic fish species in the river were also washed away.

Now, due to flooding, authorities are further clear cutting, expanding the road and building large dikes near the roads, as opposed to building bridges which would not distract the habitats and also would not cause wildlife casualties. The Municipal Departments of Transportation and Environment have also exploded a few parts of the cliffs and mountain by the road, further compromising the leopard's habitat.

Key activities and innovations:

With Golestan National Park being one of the most critical areas of Iran for survival of the Persian leopard; the Persian Leopard Society is committed to addressing threats through working with local authorities and empowering local communities surrounding the Park to create a monitoring network to protect this critical specie. To reach this ultimate goal, the Persian leopard Conservation Society has set a few key activities which are:

- Development of a series of workshops with local community members of three neighbouring villages and local authorities, including the Department of the Environment of Golestan (which is in charge of nature, wildlife and the environment in Iran) to identify the immediate

and the long time threats to Golestan National Park and to address and solve them through the formed group of “*Community for Conservation of Golestan*,” which is now a registered community-based organization in Iran.

- The formation of a sub-group of *Community for Conservation of Golestan* called the “*Local community and Wardens of Golestan for conservation of the Persian leopard*,” which is made up for local community members (women, community members and wardens of the park). This group currently has an office in the Department of Environment of Golestan and is in charge of the annual monitoring of the leopard population in the Golestan national park.
- Establishment of a community-based monitoring system and camera-trapping system of documenting the population changes and identity of Persian Leopards in Golestan National Park for constant monitoring of the leopard population and its increase, decrease and population dynamics.
- Using a system of GPS-Argos telemetry collars, provided by the Barcelona Zoo, for the first time, to track Leopards in Iran. Two collars were delivered in 2009, and the capturing, anesthetising and collaring the leopards is scheduled for the spring of 2010. The use of the collars will lead to a better understanding of the movements and whereabouts of the leopard.
- The design and development of wildlife corridors and passages over the roads.
- Installation of signs along the road describing wildlife requesting vehicles to reduce their speed.
- Advancement of community-based ecotourism. The Persian leopard Conservation Society has discussed the issue of the local communities in Golestan receiving a future share of income from tourism with the local and national Departments of Tourism and the Environment. The Persian leopard Conservation Society has also proposed that the community can run one of the camping areas inside Golestan National Park. The Department of Tourism is currently making improvements to the tourism infrastructure of Golestan and is deliberating over this proposal.
- Writing the book of “Persian Leopard” which has been completed and explains the status of the Persian leopard in Iran and rest of the countries in its distribution range. The book is due to be published in 2010 in Iran.

To date, the Persian leopard Conservation Society and local communities have had two meetings with municipality of Golestan and one with Department of Transportation of Golestan regarding speed limits and road signs. The result was successful and it has been agreed that in spring 2010, new signs regarding speed reduction and educational signs near campgrounds explaining the wildlife in the park will be installed.

One area that the Persian leopard Conservation Society is advocating for is construction of bridges rather than the use of dikes to address consequences of flooding. Plans have been submitted to the Ministry of Planning. It is argued that bridges will conserve habitat and allow traffic to move over wildlife areas. A related problem is that water is being drained out of Golestan for land cultivation, impacting the river basin habitat. The Persian leopard Conservation Society’s staff of 15, along with local communities and the Department of Environment are working together to solve these issues to advocate for bridges and better water management in the park. The Persian leopard Conservation Society is also working with consultancy firms to connect them to the Departments of Environment and Transportation in Golestan and present their findings.

Biodiversity impacts:

The biodiversity impact of the project will ultimately be to prevent further destruction of wildlife habitat, collectively engage in better road, land and environment planning among all stakeholders, and to track and conserve existing wildlife, namely the endangered Persian leopard in order to have the necessary data needed to stabilize the population.

To this end, the creation of a systematic camera trapping system in Golestan National Park will be a key tool in helping to determine the exact number of the Persian leopards in the park to monitor population trends in the future and prevent their decline. The use of two GPS telemetry collars to track the leopards and understand their home range and movements will help in the long term management of the species. Scientific and community monitoring are tangible mechanisms to document and protect the Persian leopard. The *Local community and Wardens of Golestan for conservation of the Persian leopard* will also engage in more detailed scientific camera trapping of Leopards in winter 2010 for two months, which will further fine-tune the data, during closed population conditions. Photos will be compared using wildlife software to identify individual leopards.

These tracking methods have also been used around the world to track snow leopards, tigers and other large cats with conservation success. This is the only method available to determine if a population is either stable, decreasing or increasing in order to determine further management techniques and intervention needed to conserve these animals in the wild.

Effectiveness of biodiversity conservation in Golestan National Park can only be achieved through connecting local community and local authorities. With Persian leopards, it may take 20 years for the species to bounce back, but through the project, mechanisms that are being put in place to monitor and prevent the Leopard population from declining. The project will allow the Persian leopard Conservation Society to have the first data on the exact population of leopards in Golestan which will also allow the community to monitor changes in the population over time and address these changes.

Long-term, through the use of camera trapping and GPS collar wildlife tracking; community monitoring; appropriate signage to reduce wildlife casualties; construction of bridges and sustainable land use planning; and productive dialogue among local communities, park wardens and local authorities, it may be possible to conserve the rich biodiversity of Golestan.

Socio-economic impacts:

Socio-economically, the project is already showing visible benefits. One of the key successes is the impact of putting multiple stakeholders together, increasing understanding and dialogue about the ecosystem they all share. Engaging the communities, with the authorities, with wardens and visitors creates a more comprehensive understanding and approach to conservation.

Secondly, the project has resulted in increased conservation awareness among local communities, women and youth. Under the project, students in 6 neighbouring village elementary schools were educated about the Persian leopards and the ecosystem of Golestan National Park and given brochures to take home. In addition, environmental education classes were started in these schools. Students were given t-shirts and wristbands and other reminders of the need for conservation. Project members also visited women's adult education seminars and spoke about the environment and need for conservation.

Lastly, with respect to tourism, an ecotourism working group has also been established alongside the *Community for Conservation of Golestan* to discuss community involvement in tourism and conservation activities in Golestan. There are currently three camps in Golestan National Park, along

with a museum and visitor's center, all run by the Department of Environment. Locals have increased their capacity to be a part of this process through capacity-building activities including three training workshops which were conducted on camera trapping, how to write proposals and work with government authorities, and how to work with wardens to address threats in Golestan National Park. Through educational signage, education of local communities and improvement of camps and tourism areas, there is also a hope to bring additional income to the local communities through increased and improved tourism, with local communities as the beneficiaries of this additional income through park fees or other activities.

Policy Impacts:

Policy is being addressed through the productive dialogue that has started between communities, authorities and the relevant local departments and National Ministries. As a result of this dialogue, the Departments of Environment and Transportation have agreed to install road signs in spring 2010 to help reduce speed on the roads and provide educational signs for visitors.

Community members are now involved in the local Department of Environment of Golestan in their decision-making with respect to Golestan National Park, which was not the case before. Their importance and involvement is now officially recognized, which will hopefully lead to a larger role for them in decision-making and ecotourism activities. Through project efforts, the *Community for conservation of Golestan* is now registered as a community-based organization (CBO) by the Ministry of the Interior, which is a major step in empowering local communities in the decision-making process. The subgroup *Local community and wardens of Golestan for conservation of the Persian Leopard* was also given an office by the Department of Environment of Golestan province, increasing their recognition and creating a platform to continue the important work of monitoring the Persian leopard population in the future.

Multi-stakeholder dialogue on land, water, environment management and conservation is also resulting in increased awareness and potentially improved conservation and land management policies within the Municipal Departments of Environment, Transportation and Planning. The road problem inside the protected areas and the solutions is currently being deliberated by the National Ministry of Transportation in Tehran.

Submission of plans to local authorities regarding wildlife corridors and land use and water management are methods to further reduce threats to biodiversity and sustainably manage their habitat. Plans and designs for wildlife corridors and bridges have been submitted to the National Department of Environment and Ministry of Tourism.

Awareness of the plight of the Persian Leopard also resulted in permits being granted to by the Department of Environment to capture leopards, anesthetize them and equip them with GPS collars. This is the first time GPS collars have been used in Iran.

Sustainability:

Awareness, understanding, dialogue and partnership among all stakeholders of Golestan are key to the sustainability of the project. The designation of the *Community for conservation of Golestan* as an official CBO has ensured its own credibility and viability and the relevance of local communities in decision-making. The establishment of an office for this group has also increased its visibility. Capacity-building, training and community education is empowering locals to work with local authorities to increase awareness and effective monitoring of the Persian Leopard into the future. Partnerships with the University of Vermont, Oxford University, World Conservation Union (IUCN), Species Survival Commission (SSC)'s Cat Specialist Group and the Barcelona Zoo will continue to ensure the technical know-how needed for effective and up-to-date leopard monitoring techniques.

Replication:

The Persian Leopard Conservation Society's GPS collar project is a result of knowledge sharing with the Barcelona Zoo. Trapping systems have also been the result of knowledge sharing with National Park wardens in India and the Cat Specialist Group of IUCN.

The mechanisms being used in Golestan project are replicable in most of Iran's protected areas. The experience under this project is also being shared with other municipal departments of environment around Iran through the GEF Small Grants Programme office Iran. Lessons are also being applied in project sites of the GEF medium sized project concerning Asiatic Cheetah conservation.

Partners:

The Persian leopard Conservation Society is responsible for the project implementation and for facilitating dialogue between wardens, local communities and local authorities such as the Department of Environment of Golestan province, Department of Tourism and the Ministry of Transportation. The PLCS is also in charge of executing the project and conducting workshops to transfer conservation knowledge and science to the local Department of Environment of Golestan, wardens and local communities.

The Department of Environment is the main organization in charge of the protected areas, habitats and wildlife and has helped the PLCS secure the permits needed to safely trap, anesthetise and collar leopards, organize meetings and monitoring workshops with local communities and communicate with other departments and Ministries. The Department of Tourism has worked with the Persian leopard Conservation Society to discuss the role of local communities in Golestan tourism, while the Ministry of Transportation and the Department of Environment of Gorgan have been available for discussion regarding the problem causing by the road, its expansions and the dikes by the river basin and also the necessity of wildlife corridors over the road.

The GEF Small Grants Programme has provided funding and support for this project. Important partners such as the Wildlife Conservation Research Unit (WildCRU) of the University of Oxford and the University of Vermont have brought in-kind contribution and co-funding through scientific consultation and supervision of the scientific aspects of the project including the scientific method of research and systematic camera trapping. The World Conservation Union (IUCN) Species Survival Commission (SSC)'s Cat Specialist Group is a very valuable partner in this project, providing SGP Iran and the Persian leopard Conservation Society with training courses in Wild cats studying and monitoring. It is also helping the Persian leopard Conservation Society with designing the systematic camera trapping in Golestan. Another essential partner, the Barcelona Zoo, has co-funded the Golestan project and provided the project with GPS-Satellite telemetry collars to monitor the Persian leopard and its movements and habitat use in Golestan National Park.

Village councils have provided Persian leopard Conservation Society with a suitable centre for meetings and accessing local communities, ensuring that the multi-stakeholder dialogue and collaboration essential to conservation of the Persian Leopard will continue into the future.

Message on climate change, direct quote

“All of the communities all across the world are affected by the climate change. In our project site, consecutive dry years and lack of rain fall has really affected the jungle and also sudden rain falls has caused flooding and it is hard to adapt to climate change.”

Message to decision-makers:

“People of the world and the world leaders; please take the biodiversity conservation and climate change seriously, in the great circle of life we are all connected, if we don’t take care of our planet, human kind would also soon be extinct!”

International Year of Biodiversity:

“It is not about few degrees colder or hotter, it is about losing our planet, losing our homes due to rising of the ocean’s level. If we humans don’t want to live we should take the climate change and loss of biodiversity for granted, but if we are eager to survive we should all take a step. The core of this problem is really simple; to be or not to be.”