PERSIAN WILDLIFE

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In The Name Of God

Editorial

Email: masi.safaei@yahoo.com

Scourge of invasive species

No doubt compression of the world and shortening of distances caused by growing human progress and concomitant developmentalist interventions have by no means benefited natural ecosystems and wildlife across the globe. Ever extending roads and growing means of communications across continents, whatever benefits they may have had for human race, have not necessarily benefited the environment. On the contrary, globalization seems to have ushered into a new era of severe environmental degradation and irreparable damages.

Among unwise human interventions in nature is the introduction, intentionally or unintentionally, of foreign species into new habitats. Some such species are introduced under false pretexts and on the basis of flawed studies. With no natural enemies or rivals in the new environment, the invasive species easily proliferates. The end result in many cases has been invasiveness, as the introduced species finds the new environment so hospitable that it rapidly flourishes and exerts severe pressure on indigenous species, even leading to the extinction of certain species. Introduction of Azolla in Iran is one such case. It was imported into Iran from Southeast Asia to fix soil nitrogen in rice paddies. Nowadays, there is hardly any aquatic ecosystem in Northern Iran that has remained immune from this invasive plant. Sometimes certain species of plants and animals are introduced to provide for dietary needs of the population but end up damaging the native species once they are released in the environment. Introduction of rainbow trout into fresh waters is one such case in point. This species has now driven out indigenous brown trout in many lakes and rivers in Iran. Or take raccoons which were introduced into neighboring countries to the North for their fur, and soon escaped and multiplied in the new habitat and gradually spread across the borders into woodlands of Northern Iran. Raccoons are extremely aggressive and can easily drive out rival species and take over the habitat. This species has now become a farm pest and a diehard rival to some indigenous species such as dormouse.

In the last few years, we have been witnessing an incredible growth in the trade of various non-native species, mostly as pets. These days in the pet markets of Iran you can literally buy any creature that moves on earth. All kinds of fish species, turtles, lizards, and snakes, and arthropods like tarantulas and exotic scorpions and even insects such as chrysalides of African butterflies are now available to the keen buyers. The list of course includes all species of exotic birds and mammals for which there are always some enthusiasts who are willing to pay exorbitant sums. What happens though is that after a few months and once these "pets" have fulfilled their entertainment roles, they are released unscrupulously into nature. Many of these animals eventually find their way into other species' habitats and, being extremely resilient, adapt to their new home and wreak havoc on it. One such example is Red-eared slider turtle which now inhabits all kinds of fresh water ecosystems close to urban areas.

Introduction of invasive species leads to gradual drop in sustainability of habitats, as life chains that have developed over many millions of years in natural processes get disrupted and eventually break down. What results is the extinction of various species and untimely degradation of precious habitats.

Masoumeh Safaei

Objectives of Persian Wildlife Newsletter:

- Reporting on conservation activities and conservation-related studies of the PWHF and other affiliated NGOs and environmental groups
- Providing information on major conservation activities in Iran and in the world
- Increasing environmental awareness with regard to wildlife conservation
- Dissemination of information for improving the management of protected areas and of wildlife of Iran
- Providing space and a forum for researchers and practitioners in the field of natural environment to present their scientific achievements and to discuss their field experiences

PERSIAN WILDLIFE HERITAGE FOUNDATION

PWHF was established in 2008 to help protect biodiversity in Iran. It is active in wildlife research, conservation, and educational programs designed to raise public awareness about the state of the wildlife and environment in Iran. It is a non-governmental, not-for-profit organization. All PWHF activities are supervised by a Board of Trustees. Projects are coordinated with the Islamic Republic of Iran's Department of Environment. All funds for projects are raised from individuals concerned about the state of wildlife in Iran and socially responsible corporations. The Board of Trustees sets and ratifies goals and helps to find necessary financial resources for successful accomplishment of goals. Projects and day-to-day affairs of the Foundation are run by a Board of Directors composed of wildlife managers, academics and experienced conservationists.

NEWSLETTER EDITORIAL TEAM

Director in charge: **Afshin Zarei**

Email:afel67@yahoo.com

Editor in Chief: **Masoumeh Safaei**

Email:masi.safaei@yahoo.com

Scientific-expert council:

Mahindokht Dehdashtian

Houman Jowkar , Kavous Seyed-Emami

Art Director: **Mohammadreza Mohammadi**

Email:mr_mohammadi55@yahoo.com

Executive Manager &English Translation:

Abnous Sadeghi

Graphics: **Reza Asadi**

Copy Editor: **Sahar Khaleghian**

Postal Address: No. 34, Shahriar Alley.,

North Shiraz St., Molla Sadra Ave., Tehran, Iran.

Postal Code: 19916-43543

Tel: 00982188047841/ 00982188047843

Fax: 00982188049834

Email: info@Persianwildlife.org

Site: www.Persianwildlife.org

Asiatic black bear cub, Kahnooj-Manujan, April 2012
Photo: Hadi Fahimi

Art for conservation

▶ **Afsaneh Ehsani**
Avaye Tabiat-e Paydar Institution

The main objective in implementing the project, "Improving the livelihoods of local communities through ecotourism and handicrafts," in Shibderaz village of Qeshm island was to empower women to take an active role in conserving Hawksbill turtle while they improve their livelihoods by producing and selling local artwork to eco-tourists.

Prior to this project two other projects were carried out in the same location supported by the Small Grants Program (SGP) of the UNDP Global Environmental Facility (GEF): "Protecting Hawksbill turtle," and "Ecotourism in Shibderaz village." Those projects made this village famous and created new avenues to generate income for local community. They also laid the ground for other projects such as "Production and supply of local handicrafts with the aim of conserving biodiversity." Also, the growing presence in the village of tourists who had come to see turtles laying eggs translated into more income for local people who provided room and board for the tourists. It also provided growing opportunities both for locals and tourists to exchange ideas and mutually enrich their cultures.

The current project, initiated by Avay-e Tabiat-e Paydar (ATP) in 2011, has accomplished many of its objectives. Not only women have improved their own and their families' livelihoods by producing and selling local handicrafts, they have also managed to increase their self-confidence and develop teamwork skills. ATP provided consultation and professional advice by artists to women taking part in the project about how to make items that were to be produced more attractive to the tourists. All stages of design and production of the artworks were managed by the women themselves. Local women were also encouraged to offer their products in various domestic and international exhibitions. Other activities undertaken by ATP in this project include: design and production of promotional literature; teaching market skills and proper ways of interacting with potential customers; taking pride in and promoting local values and customs, local cuisine, and values of biodiversity; encouraging women to participate in various social affairs of their community as well as community-level decision making; and inciting young generations to continue their parents' ways.

Challenges

The project faces some challenges too. In some cases, the original environmental orientation of the project has been sidelined by other concerns in the local community. Some members have been so preoccupied with personal profit making that they have forgotten the original goals. Certain unhealthy rivalries have developed among some participants to attract more tourists at the expense of others. With growing demand for local women's artwork, creativity has dropped somewhat and product diversity has diminished. Some women have dropped out of the program because of marriage or child raising responsibilities. Presence of male supremacist attitudes among some men has persisted and acted as an impediment to women's activities.

Current Conditions

Right now, there are 45 local participants in the project. Part of the revenues is deposited into a joint fund to be used for communal purposes, such as participating in exhibitions and production of brochures and other promotional literature. Most women taking part in the project know it too well that opportunities they now enjoy in the form of new income generating activities, interaction with people from other parts of the country and friendships that develop wherefrom, and recognition of their more active role in communal affairs are all the result of the original conservation project to save the endangered Hawksbill turtles. Those involved with the project are trying to convey this message to their family members and other kin as well. Members also take part in educational activities designed for women in other communities. One such example is their involvement in Qeshm island Geopark Project which aims to upgrade the livelihoods of local community and enhance women's social participation.

Empowered women in the "artwork for conservation" project have tried to teach others what they have learnt in their own project. They have offered to sell handicrafts produced by women form other communities in their own exhibitions. They have also declared readiness and participated in the Dolphin project that is currently being carried out by the Persian Wildlife Heritage Foundation in the waters between Qeshm and Hengam islands.

Acknowledgements

We would like to thank the following individuals and establishments for various assistances that they have provided us throughout this project: Mrs. Parvin Dareshuri, Qeshm Free Zone organization, Mohammad Dakhte, Yaran-e Mehr Development Cooperative, ecotour operators and guides, taxi drivers of Qeshm, and Qeshm hotels.

"Dareye Setareha" (Valley of stars) one of Qeshm Island's tourist attractions. Photo by Nima Azari

Author among local women and their handicrafts

A study on the ecology of the Firouz's jerboa

Saeed Mohammadi

Firouz's jerboa *Allactaga firouzi*, named after Eskandar Firouz in 1978, is considered endemic to the south of Shahreza Township, as it has not yet been reported from any other part of Iran. Lack of information on the ecology, population and distribution of the species has led IUCN to classify it in Data Deficiency (DD) category.

In a research project that was carried out from May 2008 to June 2009, presence, hibernation and aestivation, burrow structures, food diet, reproduction period as well as the threats to the survival of this jerboa species were studied.

The study area was situated in Isfahan province, 24 kilometers from Shahreza towards Abadeh to the east of Mir-Abad village. Being nocturnal and trap shy, the *Allactaga firouzi* was caught at night by hand or by special nets. Biometric data on each captured animal, such as body and head length, tail length, ear length and length of hind legs, were recorded.

Firouz's jerboa reproduces only once a year from May to July. In this study, no jerboas were seen from December to mid-March, which may be indicative of the hibernation period of this animal.

Burrowing in this species takes three forms: temporary burrows, summer burrows and winter burrows. Winter burrows are usually made deeper than the other two kinds. Male and female jerboas use a burrow commonly only during reproduction. No food supplies were found in the studied burrows, but traces of plants explain the vegetarian diet of the jerboas.

Overgrazing has damaged the vegetation in the area. Mining, recreational activities and car traffic are among threats to the habitat of this animal. Better management is required to protect the habitat of this endemic species. New molecular studies on the genus of *Allactaga* in Iran classify Firouz's jerboa as a subspecies of the Hudson jerboa; however, further molecular research is needed to arrive at a more accurate classification of this population.

Allactaga firouzi

Firouz's jerboa, Shahreza, June 2010, photo by author

A burrow in use by Firouz's jerboa

Asiatic black bear habitat network study in Kerman province

Hadi Fahimi, Reza Goljani, Siamak Borumand, Hosein Yusefi
Mohitban Society

The Mohitban Society initiated a project in Kerman Province in 2011. This project, named "Asiatic black bear habitat network in Kerman Province," seeks to improve management and protection of bear habitats in Kerman Province. Movement patterns of black bears and the corridors they use in an area of 12,745 square kilometers are being studied in this project. This geographical area includes Jiroft, Bam, Rabor and Baft cities and townships and contains two wildlife refuges, three protected areas, a no-hunting zone, and a national park. Analysis of the field data will help us determine the conditions of black bear habitats and the corridors that connect them.

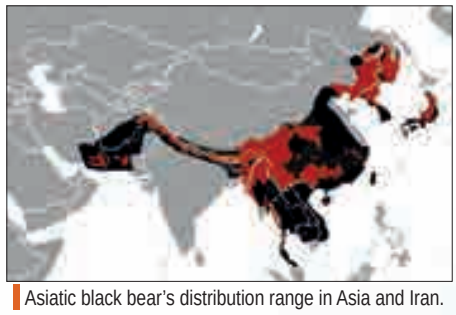
Compared to other large mammals of Iran, field data on Asiatic black bear *Ursus thibetanus* is very scant. This species is classified in IUCN's Red List as vulnerable (VU), but its Baluchistan subspecies, *Ursus thibetanus gedrosianus,* distributed only in south Pakistan and southeast Iran, is classified as critically endangered (CR) in the same rank as Asiatic cheetah *Acinonyx jubatus venaticus*; therefore, small and isolated populations of this species are in need of more attention by both conservation groups and scientific communities.

Observations and findings of the study point out that, in addition to threats originating in bear-human conflict (e.g. nuisance bears killed because of damages to villagers' orchards) and profit-seeking motives such as occasional killing of bears for their gallbladders, threats emanating from human population growth (including conversion of bear habitats into farms and orchards, construction of roads and other human encroachments on the habitat) also jeopardize survival of this species.

Until recently, no specific conservation measures were taken and no protected areas were designated for this rare species. There were two protected areas, Birak and Puzak in Sistan and Baluchistan Province, which overlapped with the Asiatic black bear's habitat, although we are not certain of the actual presence of this species in those areas. As a result of the study undertaken by the Mohitban Society and with the follow-ups made by Kerman Province DoE, three protected areas – Bahrasman, Kuh-e Shir and Sang-e Mes – as well as Zaryab wildlife refuge were registered as the Asiatic black bear's protected habitats.

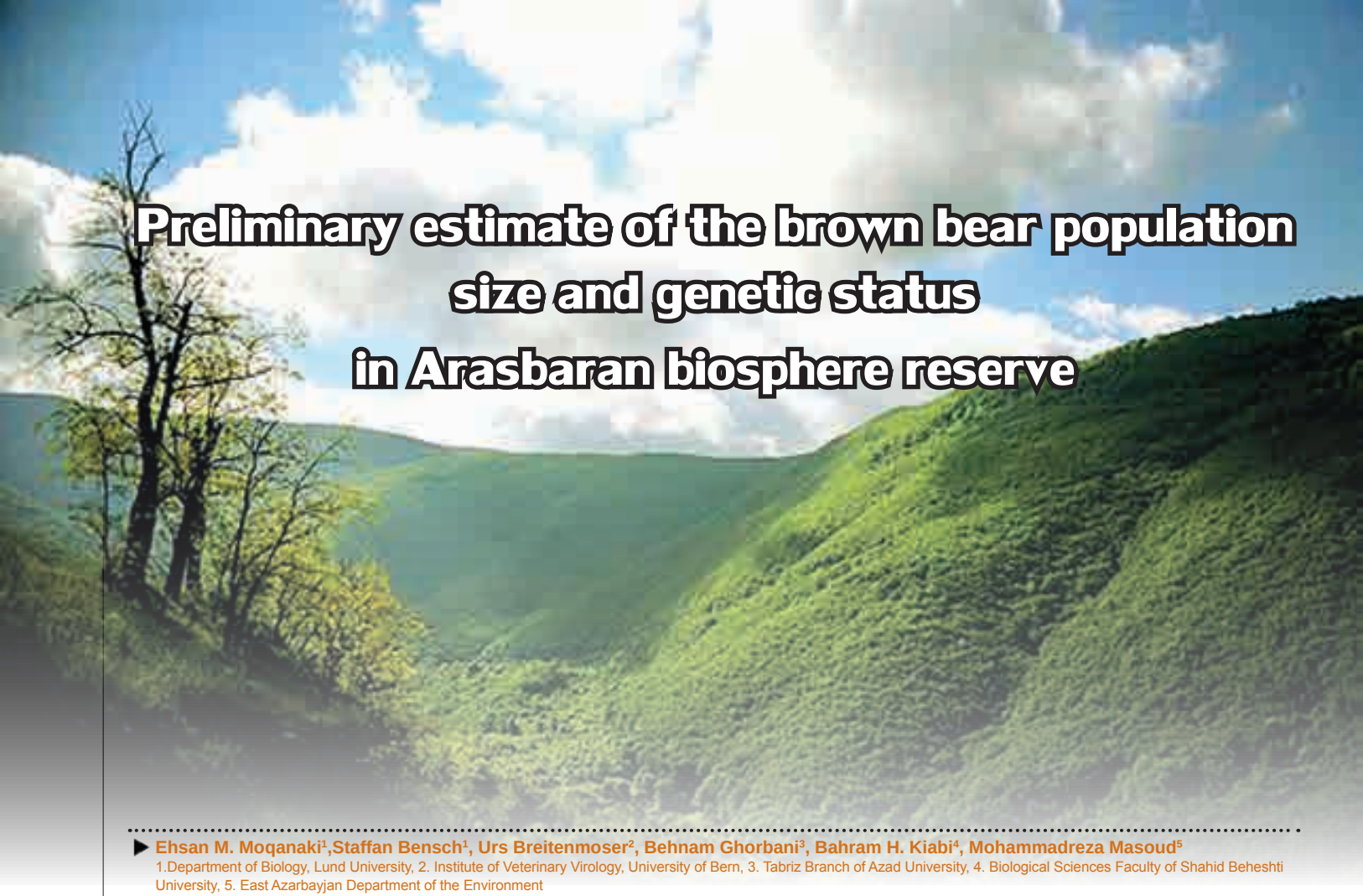
The population of this bear in Iran has suffered a dramatic decline in recent decades, leading to its disappearance from many areas. Therefore, the current dwindling populations are suspected to be under immediate risk of extinction. In the past 30 years there has been no record of the species existence in Khabr National Park and most other areas in Kerman province. Habitat destruction and fragmentation are among main threats to this bear in Iran. In our study we are trying to gather more information about the species habitats and connectivity of these habitats. We are hoping that the results of this study will help us and Kerman DOE to arrive at more scientific and systematic means of protecting this endangered bear.

This project enjoys the administrative and financial support of DOE Kerman provincial office and DOE biodiversity-wildlife office, Persian Wildlife Heritage Foundation and Barez Industrial Group.



Asiatic black bear's distribution range in Asia and Iran.

Asiatic black bear habitat, Kerman Province, Photo: Hadi Fahimi



Preliminary estimate of the brown bear population size and genetic status in Arasbaran biosphere reserve

Ehsan M. Moqanaki[1],Staffan Bensch[1], Urs Breitenmoser[2], Behnam Ghorbani[3], Bahram H. Kiabi[4], Mohammadreza Masoud[5]
1.Department of Biology, Lund University, 2. Institute of Veterinary Virology, University of Bern, 3. Tabriz Branch of Azad University, 4. Biological Sciences Faculty of Shahid Beheshti University, 5. East Azarbayjan Department of the Environment

Asiatic brown bears *Ursus arctos* are the least studied populations of this species, thus assessment of their status and distribution is recognized as a priority by the IUCN. In fact, the brown bears of Asia have lost more than half of their former range during the past century, yet little scientific information on different aspects of their life is available. Bears of the Caucasus are of particular interest as their populations, for various natural and human-induced causes, are almost isolated from the Eastern European populations and their taxonomic status remains understudied. In the meantime, Iranian bears, at the crossroads of three continents, show a significant diversity from other brown bears and form a unique clade unrelated to any extant lineage. However, no rigorous data on population size, genetic diversity, and conservation status of the bears of Iran is available.

With an area of ~800 km^2, Arasbaran Protected Area (APA) is one of the last nuclei of mixed deciduous forest in Northwestern Iran. The areas have officially received protection since 1973 and declared as a UNESCO Biosphere Reserve in 1976. Nevertheless, conservation of APA has faced major challenges as more than 23,500 nomads live within its perimeters, mainly as traditional pastoralist and bee keepers. As a result, carnivore-human conflicts are high, usually leading to persecution of the so-called problematic predators. Meanwhile, the area has been subject to unsustainable logging, illegal mining, road construction, and poaching in recent decades. Thus, we urgently need to assess the status of bears in this protected area in order to plan more effective conservation programs.

APA is a well-known habitat of the brown bear across the Iranian Caucasus, where it appears to act as a source population to those of adjacent marginal habitats. Therefore, assessing the population size and genetic status of this population can provide valuable guidelines for conservation and management of the brown bears throughout the Caucasian eco-region in Iran.

Main research questions

1. What is the population size of brown bears in Arasbaran Biosphere Reserve?
2. Is the Arasbaran population genetically isolated?
3. Is there any risk of inbreeding depression?

Methods

The method will be based on collection of fecal samples throughout the study area in order to perform both a statistically-based population assessment and a genetic analysis. APA will be divided into geographically separated blocks and, given their accessibility and availability of potential bear habitats, transects of different length (maximizing the coverage extent) will be assigned to different teams to search for bear scats by walking the area. Accordingly, a minimum of seven major blocks are recognized that each will be searched in 4-6 days. Scat collection will be based on guidelines provided by Murphy et al. (2002) and Stenglein et al. (2010). Samples will be kept in room temperature prior to the lab work and the remains will be used to determine summer dietary intake of bears. DNA extraction and genotyping for individual identification will be done in accordance with previous similar studies (e.g. Bellemain et al. 2007, De Barba et al. 2010). Moreover, population genetic parameters and relatedness for population genetic analyses will be studied. We will use rarefaction indices for estimating current population size of Arasbaran bears in line with models developed by e.g. Kohn et al. (1999) and Eggert et al. (2003). Finally, genetic makeup of Arasbaran bears will be compared with those of previously reported populations.

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We are grateful to Iran Department of the Environment (DoE), East Azarbayjan DoE, and Kaleybar office of DoE for providing necessary permissions and/or occasional logistic assistance to this study.

The invasion of *Prosopis juliflora* in Iran

Prosopis julijflora

Prosopis juliflora

Sam Radjabi
Persian Wildlife Heritage Foundation

The Honey Mesquite *Prosopis juliflora* is native to the Americas. In the 1800s it was transferred around the world and planted for its ability to thrive in arid zones. And thrive it did. A century later, in certain parts of North India and Islands like Haiti, Mesquite alone provides for some 80% of domestic fuel needs. Yet the ecological and hydrological damages caused by this tree in Africa and Australia have been so much that in the past decade planting it has been prohibited by law. *Prosopis* species are notorious for their deep reaching tap-roots, the deepest ever recorded of all plants at 58 meters.

Honey Mesquite was imported to Iran probably around 1940s or 1950s by the Government as a fast growing, ornamental tree. Ever since, it has proliferated in the southern provinces of Iran and is displacing two of the three native species of Mesquite: *P. cinerea* and *P. koelziana*. The other species, *P. farcta*, is small and shrubby and thus not affected by the Honey Mesquite.

Research is currently being undertaken to assess the ecological impact of *P. juliflora* on Qeshm Island ecosystems. Preliminary results suggest three major problems associated with the species:

- **Changes in hydrology and growing salinity of ground water**

The deep roots of the Honey Mesquite draw out fresh ground water and cause the salty sea water to leak into the soil of the island. Already, villagers are reporting brackish well water where once sweet water was readily available.

- **Shifts in the biodiversity of the Island**

When native trees get substituted by an invasive species, some animals such as insects suffer. Normally, diversity decline while a few species, mainly other invasive species, experience a boom**.**

- **Loss of mangroves**

Indirectly, the invasive *P. juliflora* is causing damage to mangroves of the island. Native *Prosopis* species have traditionally been used as fodder for livestock. Most animals however will refuse to eat *P. juliflora* leaves because of its bitter taste. Herders have thus turned to mangroves and are damaging the ecosystem both by cutting branches and by trampling on the sensitive root system.

In order to mitigate these impacts, an extensive program for the extermination of *P. juliflora* from Qeshm is being planned that relies on local communities and their willingness to get involved in conservation efforts.

Introduction and spread of Prosopis juliflora to other parts of the world is a manifestation of human interference in Earth's natural processes.

Spots marked with dark lines show the natural distribution range of this species. Diamonds show its introduction to new zones, and flags determine deforestation and destruction of the species in its natural habitats.

Red-eared slider turtle: unwelcome guest of Iran's waters

Hanieh Ghaffari
Pars herpetology institute

The Red-eared slider *Trachemys scripta elegans* might look cute and harmless, but is in fact one of the most dangerous invasive species in the world. It has no predators and can easily displace native turtles such as the European pond turtle. The Red-eared slider is a fresh water turtle and easily recognizable by the red patch behind its eyes. It is native to the Mississippi valley in the USA and lives in streams, ponds and lakes. Unfortunately the species has become very popular as a pet and has been introduced into the wild in over 30 countries. Freshly hatched small young Red-eared sliders are adorable pets, but it will quickly grow to be a large, unwieldy turtle. Being quite aggressive and delivering painful bites, disgruntled owners quickly rid themselves of their animal by releasing it into local streams and ponds.

In Iran the Red-eared slider is sold as the Singaporean or Miniature turtle in fish and aquarium shops. Because of its small size and comeliness children are attracted to it and parents, unknowing of the problems it will eventually cause, buy it.

Native pond turtles of Iran have adapted to their environment in millions of years. In recent years the invasive Red-eared slider has caused experts and nature-lovers alike to grow suspicious of its impacts on the environment. Based on research findings in Asia and Europe, it has already been established that the Red-eared slider quickly replaces native species. The cost of stopping this invasion now will by far be lower than the weight of its negative long term effects.

Pars Herpetological Institute is now conducting awareness raising programs in schools, aquarium shops and among reptile fans, sharing knowledge about its impacts and ways to prevent further damage. The best management strategy to counter this invasion will be awareness raising and prevention of the import and sale of the species in the country and hence deterring long term damages.

As evident from this example, importing species to non-native habitat should be conducted with extreme caution. We hope responsible organizations, especially the Department of Environment, will act towards collecting invasive species from the market and preventing new species from entering the country, lest an ecological catastrophe happens.

Considering the rapid reproduction of red-eared turtles, getting rid of them in local waterways increases the risk of losing the Iranian highland pond turtle.

The impact of logging on forest birds

Maryam Ghadiri Khanaposhtani

Some decades ago, values of a forest were measured according to their capacity in producing lumber; therefore heavy exploitation was made regardless of its impact on the environment and the ecosystem's capacity. Forests used to cover 30.7 percent of earth's landmass. In recent years clear-cutting, which was considered destructive and a major factor in soil erosion, has been abandoned and new methods such as single cutting and selection cutting are now practiced. Studies of wildlife, especially birds, are important in determining the impact of logging on forest ecosystems. Birds have habitat preferences and are sensitive to changes in vegetation structures. That is why they can serve as a bio-indicator in evaluating a habitat's quality. Birds are much easier to observe than other animals; and even when they are not seen, they can be identified through their sound.

Forest exploitation has different effects on bird populations depending on the method and intensity of logging. Changes in the structure and composition of a forest modify the way birds utilize them since each kind of bird depends more on specific factors in the habitat. Exploitation process has a direct impact on forest canopy, tree density and forest structure, resulting in the extent of sunlight that penetrates and reached the forest bed and modifies the growth of bushes and small plants. For example, woodpeckers, nuthatches, Chiffchaff warblers and robins depend on the height of the canopy and breast-height thickness of the trunks, whereas Common chaffinches, Goldcrest warblers and Coal tits depend on the forest mass.

A research was undertaken in Kheirud forest located east of Nowshahr Township in Mazandaran Province, where single cutting and selection cutting methods had been practiced in different parts of the forest. Bird populations were studied in the logged and unlogged area areas of the forest.

Results indicate that diversity in the forest's structure play an important role in the abundance and diversity of birds living in the habitat. Birds responded in three different ways to the qualitative changes in the forest and so they can be divided into three groups: Shade tolerant birds, Shade intolerant birds and Forest generalist birds

Forest exploitation caused decrease in the population of the first group of birds which are Shade tolerant birds (woodpeckers, owls, Chiffchaff wablers, Winter wrens and cuckoos) since they depend on the density of tree masses as well as the age and thickness of the trunks. Shade intolerant birds which compose the second group saw an increase in their population. Birds like robins, tits and nightingales like to live in luminous and open spaces, on bushes and small trees. The third group consists of Forest generalist birds that are less sensitive to the changes occurring in their environment. Blackbirds are considered "indifferent" since their range of needs is wide and less specific and so deforestation does not greatly affect their distribution or their population.

Penetration of light due to thinning of forest canopy enhances the undergrowth, photo: Ziaodine Badiyan

Pristine tree cover in Kheyrud forest near the access road. This road decreases the quality of adjacent trees and causes soil erosion in uncovered parts, photo: Ziaodine Badiyan

The book "Cry of the cheetah" is published

The Persian Wildlife Heritage Foundation, in line with its conservation objectives, decided to support the production of the first volume of a 10-volume collection on "Iran's endangered animals." This book is entitled "Cry of the cheetah" and is written by Mr. Ali Golshan, wildlife author and researcher, illustrated by Ms. Maneli Manouchehri, and printed by "Nazar cultural and research printing and publishing institute."

Children and adolescents are the main interlocutors of the book and the text talks about the cheetah's condition in a very simple language and with impressive illustrations. The cheetah asks children for help; and each book contains a mask designed for the children to impersonate the cheetah and talk on its behalf to other children about the challenges cheetahs are facing.

In order to support the Persian Wildlife Heritage Foundation in its conservation projects, especially programs dedicated to cheetahs, wildlife lovers can purchase this book from our office. The book is available both in soft and hard covers (cost: 6,000 and 10,000 Tomans, respectively).

Crisis committee sends emergency helicopter to save Orumiyeh's wildlife

Drought and closing of water allowance to Lake Orumiyeh have caused irreparable damage to the habitats and wildlife of this valuable national park. Currently, the ecosystem and climate of the area has altered so much that the deer of the Ashk Island regularly enter the lake bed, now a salty bog, in search of food and water and face various dangers including getting stuck in mud.

Being informed of this mishap, the Department of Environment of Iran sent a helicopter carrying 15,000 liters of water and 2.5 tons of fodder to the zone.

This, however, is a short-term solution and cannot solve the problem; therefore, a long term solution must be found as soon as possible.

In addition, population count of the fallow deer in the island, an estimation of the island's carrying capacity under existing conditions, and the evacuation of excess population from the island must also be considered. More than anything else, a long-term solution requires an immediate release of water from upstream dams that have caused the Lake to dry in the first place.

Emergency helicopter carries water to save Orumiyeh's wildlife

Omid-e-Mehr girls visit Khojir National Park

Omid-e-Mehr foundation was established in 2003 by Ms. Marjaneh Halati and has fully operated since 2004. The foundation aims to help emotionally and psychologically damaged young girls in Iran. These girls suffer from lack of proper parenting or come from torn families. Omid-e-Mehr tries to help them integrate into the society by organizing professional and art courses for them. In recent months, the Persian Wildlife Heritage Foundation has organized workshops for these girls, introducing them to Iran's nature and wildlife and its values. The workshops are expected to get these girls interested in the environment. Also, contact with nature is hoped to have a positive impact on the girls' moods and attitudes.

Five sessions have already been organized in this connection. The first two sessions were held in Omid-e-Mehr's premises, organized likes classes. But the next three sessions were one-day trips during which the girls visited Khojir National Park near Tehran. During their visits, Mr. Rajab-Ali Kargar – Khojir National Park's former chief – guided and introduced them to the park and discussed the importance of maintaining such natural reserves in proximity to a major metropolitan area like Tehran. He also talked about the importance of national parks in general, responsibilities and roles of the environmental guards, the geographical specifications of Khojir, its history and its flora and fauna. The girls were also lucky to see wildlife such as Urial mouflons and their lambs, and some species of birds. These sightings excited them greatly. Collaboration between the Persian Wildlife Heritage Foundation and Omid-e-Mehr will be an ongoing project.

Omid-e-Mehr girls visiting Khojir National Park. Photo credit: Hamid Akhlaghi