

PERSIAN WILDLIFE

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A quarterly newsletter of the Persian Wildlife Heritage Foundation, the PERSIAN WILDLIFE publishes wildlife news, papers, and reports written by zoologists, biologists, nature conservationists, students, and other practitioners in the field of wildlife conservation. Although the material presented in the Newsletter is reviewed by the editorial board before publication, the authors take responsibility for the contents of their reports or articles. The views expressed in the articles reflect the authors, opinions and are not necessarily those of the publisher.

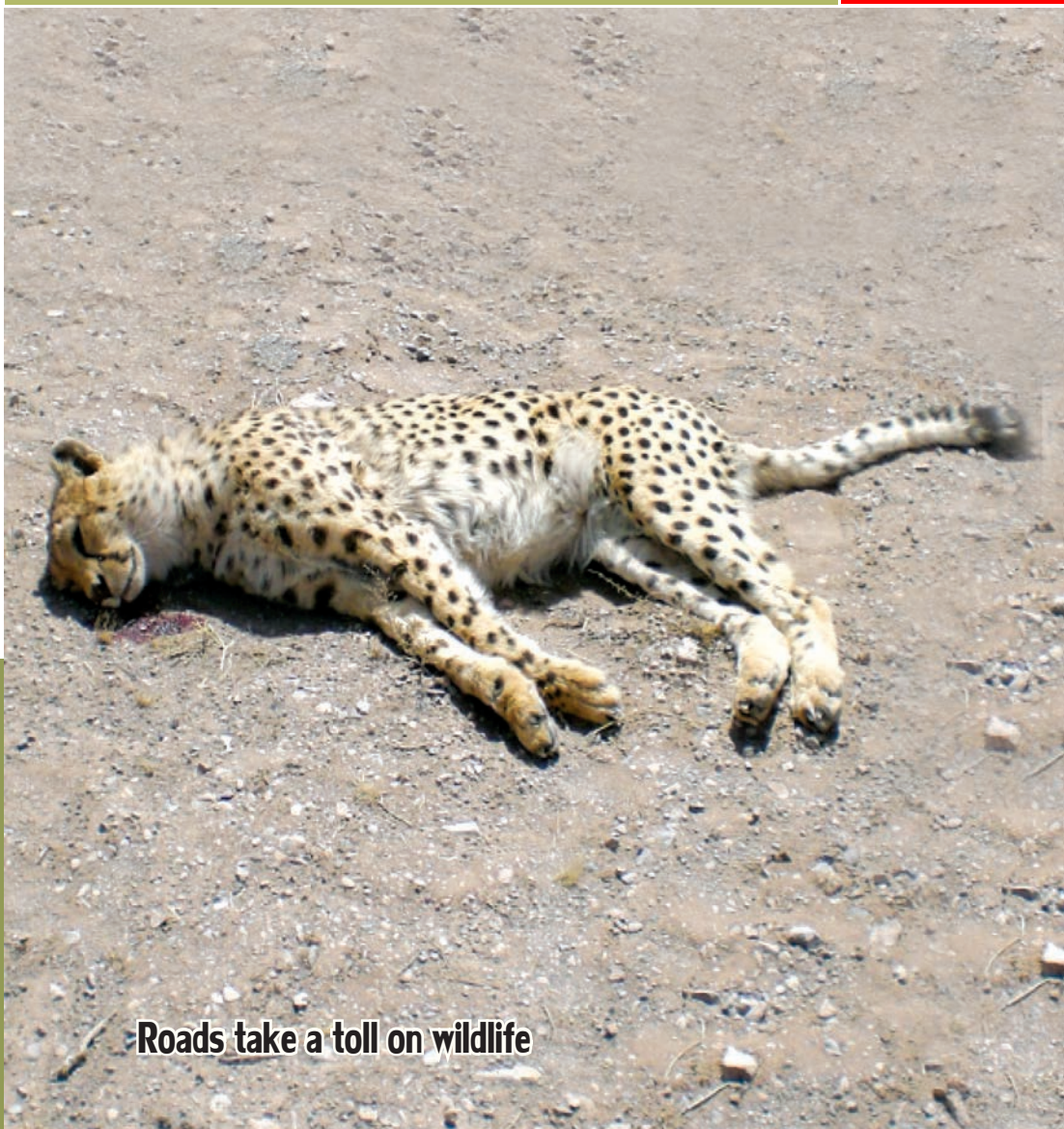
NEWSLETTER

Persian Wildlife Heritage Foundation



VOLUME

1



Roads take a toll on wildlife

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Editorial

Greetings. When we were talking to a middle-aged Iranian friend of forty years about our love and affection for nature and wildlife and the dire need for conservation in Iran, he replied with astonishment, indicating some disbelief: "I can't believe that this kind of thing is done in Iran at all! Has there remained anything in Iran to be protected?" Indeed, is anything left in Iran for us to try to protect? Although it was not his forty year living abroad which could make such an expression justified, but if we look around carefully we will find that many people around us still do not know that Homa (Lammergeier) is not a legendary bird and still spreads its wings over our mountains. We still have cheetah at the heart of Kavir Desert, antelopes on the arid planes, bears and ibexes in our highlands, crocodiles in some parts, and huge sea turtles and giant whales in our coastal waters down south. In our Caspian Sea we host Caspian seal; we also have leopards, hyenas, mongooses, and horned vipers. Beyond that, we have many enthusiasts who have dedicated their lives to research, identification and conservation of these invaluable animals. But like many other parts of the world, lack of publicity and insufficient public awareness has hidden all these valuable wealth from public eyes. All this, in spite of the fact that, throughout their history, Iranians have always been tuned to nature and wildlife spiritually, and they always show great thirst to know more about nature. Rock paintings of ancient Iranian civilization, dating back to 14 thousand years ago, show Iranians' love and passion for animals. So the way ahead is not as difficult as it looks. We should just make serious efforts to fill gaps with words and pictures.

Wildlife of Iran is a base for those who want to share their knowledge and findings in the field of nature and wildlife in order to enhance our understanding of nature conservation and be of assistance to conservation efforts that are taking place in this country to safeguard its amazing biodiversity. This newsletter seeks to report on various conservation efforts undertaken by Persian Wildlife Heritage Foundation and other conservation and environmental groups and to publish research discoveries and findings on wildlife of Iran. The Newsletter will be published bilingually in Persian and English. Public awareness and creating a forum for wildlife specialists and enthusiasts to share their ideas and experiences about wildlife research and conservation constitute our main objectives. We welcome all environmental groups and conservation associations to share their conservation news and experiences with our readers. We also seek to attract national and international attention to Iran's wildlife conservation problems and issues and to solicit for scientific, technical, and financial assistance to the cause of wildlife conservation in Iran.

Our wildlife, nature, and those dedicating themselves to the cause of nature conservation need your support.

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

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Persian Wildlife Heritage Foundation



PWHF was established in 2008 to help preserve 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 researchers, academics and experienced conservationists.

Cover Photo: Asian Cheetah, Kalmand Protected Area, Yazd-Kerman Road, Autumn 2008, Photographer: Ahmad Fallah

Study of Persian Leopard in Golestan National Park

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Persian Leopard *Panthera pardus saxicolor*, is one of the endangered species in Iran. It is the largest species of *Felid* family in Iran, but its population is by no means high. Currently, lack of information about the status of leopards within their numerous habitats is considered as one of the major life-threatening factors. Wildlife conservation requires having data on the status of the population of a species in a specific region, its habits and various threats that exist in its habitat. For example, if we do not know that the leopard killed due to car accident on a public road crossing Golestan National Park was one of the last members of its family, we have no way of telling the severity of risks involved. As all of us know, a tragedy occurred in the case of the Caspian Tiger. A tiger was hunted in Golestan National Park several years ago. But at the time no one ever thought that it could be the last Caspian Tiger in the world and that even future efforts to reintroduce it would not be fruitful any longer.

The Project

The leopard project in Golestan is conducted by PWHF with the support of the Deputy for Natural Environment and Biodiversity of the Department of Environment and the DOE General Administration of Golestan Province. In addition, two experienced cat specialists from Plan for Land Association cooperate in this project. Objectives and methods are as follows:

■ Population Estimation of Persian leopard in Golestan National Park

This study is implemented using capture-recapture method and 40 camera traps (20 per each sampling block). Obtained data are analyzed with Capture software. The side bar graphically demonstrates different stages of this study.

■ Determination of Species Distribution

In this study, exact location of any signs and impacts left by leopards are noted down as different points on the map (GIS) after proper identification. As a side study, signs and specimen obtained are classified, age determined and analyzed. This will add to the ecological information collected on leopards of the Golestan National Park. In the next stage, range and frequency of the animals' presence are obtained through joining observation points on the map.

■ Habitat Identification

In this study, basic habitat maps (physical/biological maps) are integrated into the map of density of distribution points, obtained in the previous stage, to provide habitat preference for leopards. Moreover, necessary factors for leopards' survival will be identified by investigating key resources of the habitat within its range, particularly in the high-presence points. Utilization of this information is essential in any calculated and effective measure that will be taken for practical improvement of habitat quality.

■ Identification of Threats and Search for Practical and Sustainable Solutions

- Understanding relationships between human beings and the studied species.
- Study of impacts of direct human activities on species and its habitat (e.g., hunting, animal husbandry, wood and fodder harvesting).
- Study of impacts of indirect human activities on species and habitat (road, tourism, incompatible economic plans).
- Impact of economic/social factors related to the neighboring communities on species and its habitat.



Leopard, Camera Trap, Golestan National Park

Stages

Collection of available maps and information

Determination of study area

Preparation of a GIS map from study area

Exact study of impacts, indices and traces

Determination of sampling area and

Determination of sampling blocks and time period proportional to species abundance and available cameras

Exact study of sampling blocks for determination of the location of cameras

Using GIS for determination of random loca-

Installation of camera-trap and their periodical monitoring

Image analysis in order to convert to data

Data analysis by CAPTURE software

Determination of species population

After identification of major threats, practical and sustainable solutions will be sought and implemented.

■ **Planning for Effective Conservation-related Measures :** At the end of the study, a management plan is prepared after consultation with experts and officials of the Department of Environment. To ensure enforceability and effectiveness, PWHF will seek the active support and supervision of the DOE.

Status of Persian Leopard in Bamu National Park

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Bamu National Park (BNP) is one of the famous protected areas of Iran which is located in the vicinity of Shiraz city and close to the ancient capital of Achaemenid Empire (515 BC). Two types of habitat flora namely arid and semi arid plains and rocky mountains cover most parts of the region. This region with the area of about 48000 ha is protected officially since 1967. In 1970, it classified into the group of National Parks. Elevation of the region varies from 1600 to 2700 meters above sea level. Four hundreds millimeter of annual rainfall and 16 °C of average temperature indicates the arid climate of the region (Darvishsefat, 2006). Main preys of leopard include ewe and ram, goats, gazelle and wild boars.

Persian Leopard is one of the largest subspecies of leopards in the world which is classified in the IUCN Red List of Threatened Species as "Endangered". There are roughly 1,300 individuals left of this species living throughout its distribution range. Most of them (550 to 850) seem to live in different habitats in Iran. Persian leopard is the largest carnivore in the BNP; other main carnivores of this park include wolves and hyenas. Before this project began in 1990s, the number of leopards in the BNP was estimated around 15 to 20 which were considered to be among biggest populations in any protected area of Iran (Kiabi *et al*, 2002).

The main reason for selection of BNP as the study areas has been relative high density of leopard, high level of habitat destruction due to adjacency to human residence centers, sever clashes between natural

guards and unauthorized hunters, and extreme decrease of preys of leopard. These have made the necessity of research and conservation of the region noticeable. Moreover, adjacency of BNP to a city and 14 villages with over 20000 people has turned this park into a completely closed environment. Lack of awareness about wildlife conservation on the part of local communities, human-animal conflicts, and encroachment on park lands are among problems facing the management of the Park.

Leopard conservation project in Bamu National Park consists of two parts: research and education

-Wildlife specialists from Plan for Land Association have been heavily involved in researching leopards of the BNP in the past three years, enjoying full support of the Environmental Administration of Fars Province. Camera traps were installed as a research tool between late September 2007 to late May 2008 to estimate the size, structure and viability of leopard population in the area. After 87 days of arduous field research and analyses of 1012 photos

taken by cameras, 6 adult males and one sub-adult were identified through their unique pattern of spots. Scientific estimation was done by CAPTURE software and 24 leopards (± 6) were counted in the region. Meanwhile, population density in BNP was estimated to be 1.87 individuals per 100 sq km, which is a relatively high population density compared to other studies carried out worldwide. Other research activities included monitoring of the leopards, study of diet, and taking of photographs. Achievements include holding conferences, inviting internationally-known big cat specialists, receiving international awards, and publishing scientific articles. All this has contributed to a better understanding and recognition of the Persian leopard and the kind of threats that it faces. Educational activities related to the project began in 2008. Plan for Land activists attempted various campaigns for public awareness and managed to introduce Persian leopard and BNP to local communities, especially students. Training 1200 10-14 years old students living in villages surrounding Bamu National Park began in May 2009. In the following year, second part of this training program was conducted to educate 2000 students in two age groups: 7-10 and 14-17. Educational programs did make some achievements. The number of wild sheep in the area has quadrupled since the program began due to more awareness about the need to keep leopards' prey in good condition. One of the trained students even prevented his father from killing an adult female and her two juveniles.

Fig.1 : Identifying leopards through unique pattern of spots

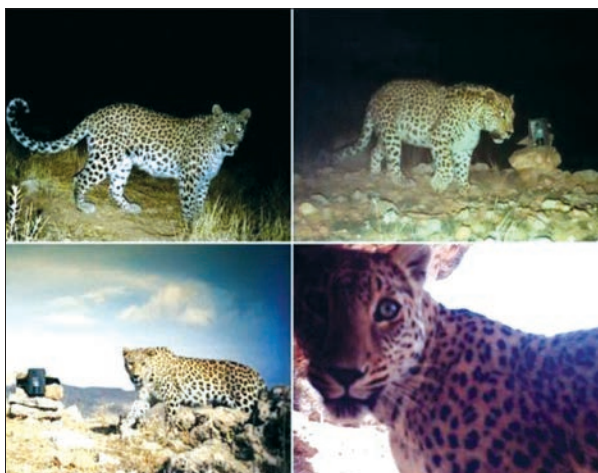
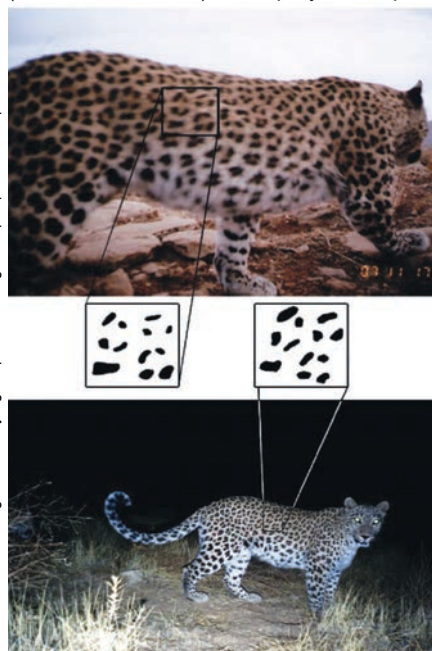


Fig.2 : Various people. Leopards photographed in Bamu National Park Adult male (right-up), female with cub (right-down), female adult (left-down)

Plan for Land Association



Plan for the Land society is a non-governmental non-profitable organization for the conservation of wildlife and biodiversity in Iran. The main objectives of this society are in one of the following categories: Direct conservation in field projects, including data gathering on latest status of the endangered species, indirect conservation through improvement of awareness level, promotion of sustainable livelihood and understanding ecotourism concept within local communities in the surroundings of protected areas, increasing public awareness on the importance of biodiversity and environmental conservation through educational programs for the residents of big cities; more focused on adolescents and children. Conservation of Persian leopard in Bamu National Park is one of this society's projects which are conducted with the cooperation and under the supervision of Environmental Administration of Fars Province.

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The biological status of breeding birds of the Central Zagros region

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Fig.1 : Red head Woodpecker, Dena Area, Photo: Farshad Eskandari



A number of ornithological studies in Zagros region have been undertaken since 1954. The Quels study of 1954, the Cornwallis study of the late 60s, and the Scott et al study conducted in the 1970s. After the study conducted by Scott, no intensive study has been conducted in this region. However, since then, a number of scattered, non intensive studies have been performed by professors from the University of Isfahan and Yekom Consulting Engineers Company. Since bird species readily show the health of the ecosystem objectively, the present study has significant importance in investigating changes in diversity and richness of species and their historical comparison with the current time. **Pest Species:** A current problem in the study region of Central Zagros is the existence of certain bird

species that are considered pests. For example, the Syrian Woodpecker, Middle Spotted Woodpecker and the Bee-eater are considered as pest birds, even though their negative impacts are not yet proven. Woodpeckers feed on worms and insects yet the locals hunt them with shotguns. Unfortunately, Bee-eaters are also destroyed, however by using pesticides that are smeared on the walls of hives that in turn adhere to the bodies of the bees. **Determination of Specific Species:** Determination of specific species is one of the objectives of the aforesaid project. Specific species are ones that can be an indicator for the well being of all species of an ecosystem. Although these species should be determined after the investigation of the ecological role of each bird, certain birds like the Bearded Vulture, or Lammergeier whose mere presence is indicative of a healthy ecosystem, can also be categorized as bio-indicator species. **Conflicts between Farmers and Nature:** Existing interactions between human beings and the natural environment are glaringly obvious in this region. The mountainous terrain and the lack of flat agricultural land have pushed people to claim ownership of land located on the heights of the Zagros Mountains. Leveling this land has had severe environmental impacts including the threatening of water resources, soil erosion, loss of grasses and trees and threatening animal populations.

● Important Points of Reference for Subsequent Action by Regional Officials:

Determination of Bird Watching Sites: The study has revealed that some regions have the potential for eco-tourism activities including bird watching. Among these, the Choghakhr wetland and Doroudzan dam are noteworthy. These regions, due to the availability of water resources during most of the year and the existence of aquatic birds provide suitable locations for building bird watching sites. **Biodiversity Education in Schools:** Continuous conservation of biodiversity requires raising awareness amongst the native people. Children of primary and junior schools are the most easily educated and are extremely effective in influencing other age groups. The Caspian Institute has held field workshops to stimulate motivation and promote conservation education amongst these groups. **Extending the Study to Include all Seasons:** It is important to extend the study time for the investigation of migratory wintering birds. This will lead to a comprehensive comparison between past-performed studies and the current situation.



Fig.2 : Little Owl, Tang-e-bostanak Protected area, Photo: Yusef Valedi

Biodiversity Conservation in Protected Area of Central Zagros

Cultural, economic and social development of local communities and tribes of the Zagros region is one of the main priority programs of the government of the Islamic Republic of Iran. One of its obvious manifestations is the project for the conservation of biodiversity in the Protected Area of the Zagros Mountains which is conducted with the cooperation of GEF and the UNDP. Economic-social development of local communities, management of natural resources, encouragement of tourism, decentralization, and raising public participation in planning and decision making are considered as the strategic objectives of this project. Documents related to the basic-studies phase of the project for conservation of biodiversity at the Protected Area of Central Zagros were signed by the the Department of Environment Deputy for the Natural Environment and Biodiversity and resident representative of the United Nations in October 2002. Operations related to the basic-studies phase was initially started and concluded in March 2004. Following the implementation of phase one, documents related to the operations phase were signed in July 2005 in Tehran and its related operations commenced in April 2006 as a five-year project. Currently, the project for conservation of biodiversity in the Central Zagros is being implemented in the form of integrating biodiversity conservation and sustainable exploitation through activities including agriculture, forestry, pastures, water, and tourism in the area of 5200000 hectares. This area comprises most of Chahar Mahal va Bakhtiari Province, most parts of Kohgiluyeh va Booyeh Ahmad Province, most parts of Eghlid and Marvdasht in Fars Province and Semirom in Isfahan Province.

Zist Andishan Caspian Institute



This Institute was established in 2007 through the efforts of a number of enthusiasts of wildlife conservation. This institute works in the following areas:

- Study and research on rare and endangered animal species and other species with a special emphasis on birds
- Creating scientific expert basis for utilization by natural enthusiasts and researchers for opinion and experiences exchange
- Identification and introduction of Iran's potential in the field of ecotourism and creation of an appropriate context for the promotion of its culture
- Making efforts toward promoting the level of professionally obtained information available to the public in the field of biodiversity
- Communicating with international researchers and the utilization of their knowledge in the field of wildlife studies and conservation
- Educating and empowering local communities toward wildlife conservation

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Conservation of Euphrates Turtle and its habitat in Iran

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Fig. 1: Education local students about the turtles



The Euphrates turtle, *Rafetus euphraticus*, is one of the least known species of the Trionchidea. Its global distribution is Euphrates and Tigris rivers and their tributaries in Turkey, Syria, Iraq and Iran. The range of this turtle in Iran is limited to Khuzestan Province. There is limited information available on this species in Iran. Euphrates turtle is listed as "endangered" by International Union for Conservation of Nature and Natural Resources (IUCN) in the "Red

List of Threatened Species." Studies show that lack of awareness on the part of local communities, habitat destruction, release of different pollutants into turtle habitats, and fisheries are the main threats to survival of this species in Iran. Local fishermen consider Euphrates turtle their enemy as it eats fish. Fishermen kill turtles that are trapped, thus contributing to their demise.

The program to save Euphrates turtle is sponsored by Small Grants Program (SGP) as a part of Global Environmental Funds (GEF) of United Nations Development Program (UNDP). It seeks to train local people of Khuzestan Province (distribution range of Euphrates turtle in Iran) and to raise their awareness about the necessity of conservation of this invaluable species and its habitat. Since lack of awareness on the part of local people about the importance of this species is considered one of the main factors damaging its survival, it is tried to make local people familiar with values of this endangered species through various means such as training sessions at schools, workshops, and informative brochures. As an initial step, an educational booklet has been prepared for elementary and middle schools of the city of Dezful. In addition, training workshops have been held at schools of Shahid Beheshti, Seyyed Noor, and Shahid Karimi villages to inform and motivate local students about the necessity of conservation of this species.

First workshop at school level was held successfully on March, 13-14, 2010. Training workshops for fishermen were held before the beginning of fishing season on May 2010, with the assistance of the Department of Environment of Dezful and Khuzestan, to introduce appropriate methods of fishing to fishermen and to raise their awareness about the necessity of conservation of Euphrates turtle and its values.

One of the threats of concern is the potential introduction and establishment of *Pelodiscus sinensis* as an invasive species. In Iran, *P. sinensis* hatchlings are sold in pet stores in Tehran and also in Ahvaz city. Thus it is quite likely that area residents, few of whom were familiar with the Euphrates softshell turtle, may release unwanted captive *P. sinensis* into Khuzestan's freshwater habitats. Habits and characteristics of

P. sinensis are close enough to *R. euphraticus* to cause potential competition. In the pet trade they are explicitly purchased by individuals whose goal is to keep turtles alive and healthy. The majority of these species can become quite aggressive and quickly outgrow most aquariums or outlast the owner's commitment to care for them. As a result, some pet owners unwilling to care for their turtles may release them into nearby bodies of water. This scenario is implicated for invasive introductions elsewhere. The impact of introduced turtles on native turtle populations is difficult to assess, but is almost certainly negative.

To ensure the survival of the species, immediate action is required. This should include the following: drafting an action plan for conservation and management conservation of the most important nesting sites; establishment of undisturbed areas for mating and egg laying protection against persecution by fishermen (public awareness and education programs); and establishment of measures against drowning in nets.

Achievements:

- Trust building among local people through village elders and others whom people trust.
- Raising awareness among children and teenagers about turtles and their environments by holding training workshops in several schools in Shahid Beheshti, Seyyed Noor, and Shahid Karimi villages.
- Encouraging local fishermen to learn eco-friendly methods of fishing by holding various workshops and making attendance a requirement for obtaining fishing licenses.

Pars Herpetology Institute



As the first active institution in the field of herpetology in Iran, Pars Herpetology

Institute was established in 2006 with the aim of studying and identifying species of reptiles and amphibians in Iran and promoting their conservation.

Activities:

- Specialized workshops and related training courses at different levels
- Specialized tours
- Identification of reptiles and amphibians
- Study of reptiles and amphibian habitats
- Conservation of endangered reptiles and amphibians
- Training local people and raising their knowledge of native species



Fig.2:Euphrates turtle (*Rafetus euphraticus*), Dez river, Dezful, Spring 2009, Photo: Barbod safaei

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Impacts of roads on mortality of wildlife

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Roads are considered to be an essential feature of modern life and provide part of the infrastructure for socio-economic development. In recent decades, constructing many miles of roads in the country has had major impact on many kinds of wildlife and their habitats. Among these impacts we can cite the effects of toxic substances on species living close to the roads, animals being killed due to road accidents, and, more importantly, fragmentation of habitats and restrictions on the movement of animals.

Impacts made by air pollution: Air pollution from passing traffic on the roads may engender respiratory problems, physical weakness, infertility, miscarriage, delayed puberty, and even mortality among wildlife living near to roads. In addition, pollutants released due to fuel combustion in vehicles are absorbed by surrounding vegetation and are then accumulated in the body of herbivorous animals, leading to poisoning, neurological problems, decreased growth rate, and higher susceptibility to diseases.

Impacts made by noise pollution: Increased noise levels around roads, especially noises not harmonious with nature, could prevent animals from hearing each other and thus preventing them from an essential means of communication for many species for such purposes as mating, determining territorial boundaries, security alerts, finding food resources and many other daily animal behaviors. Annoying noises made by passing vehicles could also cause severe problems for nocturnal animals that use sonar means to find their way at night. Toads, for example, mistake high-volume sounds of vehicles with thunder which serves as their main stimulator to begin their reproductive activities and move out of their burrows at the wrong time and thus suffer all kinds of harms.

Impacts made by water pollution: Penetration of fuel residues, increased sedimentation of chemicals, and runoffs containing chemical salts are some of the main pollutants contaminating aquatic environments. Streams and rivers close to the roads also receive high doses of contaminants released by erosion of car tires, lubricants and grease spilled from cars, gasoline and asphalt. Organic waste by people and animals also add to pollutants in running waters. These pollutants inflict harmful effects on animals, especially on species higher up on the food chain.

Impacts made by accumulation of garbage: Accumulation of waste on road sides may serve as a food source for some animals. Animals that get attracted to the fringes of the roads easily get killed by passing vehicles or fall prey to trigger-happy passers-by. Waste on the road sides kill animals in other ways too. Bottles thrown out of passing cars sometimes act as death traps for small animals, as they enter them and then get trapped. In one study alone 62 cases of trapped animals were observed among 750 bottles counted on a one kilometer stretch of a road.

Impacts of salt used for defrosting icy roads: Salt and mixtures of salt and sand that are normally used to help ice melt on the roads in winter also attract wildlife toward roads. Salt could poison animals, especially mammals and birds which use it as part of their diet. Mortality among rabbits, pheasants, quail and pigeons due to consumption of roadside salt often get reported.

Impacts made by roads on habitat fragmentation: Habitats that get crisscrossed by roads are damaged severely, as animal populations get separated from other populations and their migration routes are blocked.

Increased probability of hunting: Constructing roads in natural environments with high populations

of animals can provide easy access for poachers. Mammals usually suffer most when roads make human intrusion into natural habitats easier.

Collision with passing vehicles: Collision of wildlife with cars is the most obvious harmful effect of roads. Mortality rates of animals on the roads show variation depending on traffic levels in each road, seasonal changes, and the classes and orders of animals that get hit by cars.

Several factors can attract animals to the roads and therefore raise the probability of collisions. Following factors could be cited as the main causes of these accidents:

- In winter, when the ground is covered with snow, ease of movement attracts mammals, especially carnivores and ungulates, to the roads.

- Birds find their required gravel on or around roads when the ground is covered with snow.

- Dazzling lights of vehicles at night get some animals confused and they run onto roads and suffer injuries or get killed.

- Some animals get attracted to roads because more food may be available for them on the road side. For example, deer find dense vegetation around roads very attractive. Carcasses of animals hit on the roads also provide an easy food source for some carnivores.

- Animals such as foxes and badgers find embankments along the roads suitable places to build their burrows.

- Warm surface of the roads serve to attract animals in chilly weather. This is often observed in the case of reptiles such as lizards and snakes.

- Birds roosting on the roads at night are often observed.

Considering all these impacts, controlling traffic and roads passing through wildlife habitat is not a simple task. However, we can draw on the existing methods and experiences of other countries to alleviate this unfortunate condition and reduce wildlife fatalities. Careful study of this problem, particularly in sensitive habitats inhabited by endangered species such as Asiatic Cheetah is of critical importance.

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Small indian mongoose, Dezful, Winter 2005, Photo: M. Safaei

Efforts to reduce pressure on dolphins of Hengam Island

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Less than a decade ago, tourists became interested in Hengam Island. Hopes created by this emerging industry for local people soon gave way to some major environmental concerns. During just a short period of time high influx of tourists and the spread of various tourism activities put a great deal of pressure on vulnerable people and nature of Hengam Island, creating many risks for a sustainable tourism. No proper planning for the development of sustainable tourism was undertaken before the influx began. Due to lack of proper education on the part of local boat drivers, tourism soon turned into an irresponsible, disorderly and spontaneous activity. As a result, essential resources of eco-tourism, namely the natural and native cultural values, were completely neglected.

Threats:

● **Risk of destruction of small population of bottlenose dolphin (*Tursiops aduncus*) in Hengam Island** : Unregulated tourism is considered as one of the most important factors threatening dolphin populations. High influx of tourists has meant that many local boat drivers have taken up the role of guiding tourists without any proper training or knowledge of the fragile reef and fauna environment. In order to show dolphins to tourists, these boat drivers compete with one another and race over the dolphins. Dolphins in this process are constantly receiving cuts; the damage is so severe that in every flock dolphins that have their dorsal fins cut by engine propellers of the boats can easily be observed. In warm waters such as these, a cut in the dorsal fin will lead to gradual death of the animal due to an increase in her body temperature. Dolphins cool off their body temperature through their dorsal fins. Moreover, constant chasing of dolphins (which happens specially on holidays) prevents them from feeding and other normal activities. Uncontrolled fishing of Gariz fish (a small sardine-like fish), which is a main staple for dolphins in these waters, is considered as the next threatening factor. Special conditions of the environment that surrounds Hengam Island attract large schools of this fish which, in return, attract dolphins. Many fishing boats come to Hengam Island to catch these fish legally or illegally. In his unequal competition, it is the dolphins who are gradually losing out and finding their food more scarce as days go by.

● **Risk of destruction of coral reefs in Hengam Island**: Proximity of Hengam Island to Qeshm Island has resulted in the formation of a calm gulf named Deyerestan which is very suitable for the formation of coral reefs. These rare reefs are threatened by an increase in boat traffic and especially by reckless methods of anchoring. Direct reef harvesting to sell to tourists as souvenirs is another factor significantly threatening the coral reefs in the area.

● **Risk of Damaging cultural values of the Island**: Increase in island tourists has brought some opportunities for the local communities. Yet, the local people have not had enough time to adjust to this situation and are rapidly losing their original culture. They are unaware of the fact that it is their cultural values and the pristine qualities of their culture that are supposed to be kept as a valuable resource for eco-tourism. Some of their traditions and



native arts are rapidly being transformed, as a result and they are resorting on a larger scale to cheap handicrafts which have no cultural values anymore.

● **Conservation of dolphins and sea turtles in Hengam Island project** : This project is developed with the financial support of UNDP, SGP, Pars Herpetology Institute and with the assistance of the local people of Hengam Island. Our objective is to alleviate threats and damages to dolphins, sea turtles and other natural and cultural values of the island. The Project is designed to fulfill its goals through the following methods: educating and informing local people through training workshops; providing educational materials for visitors (tourists); putting together proper tourism programs for tour leaders; drawing up standards for activities that may have impact on the environment with the help of local communities; and the establishment of a local organization for providing appropriate supervision on activities related to tourism.

Achievements:

- Making residents of Hengam Island familiar with natural and cultural values and necessity of their conservation.
- Empowering local people for conducting sustainable ecotourism that is compatible with the local environment.
- Alleviation of tourism related pressures on dolphins through essential changes in existing programs of tours.
- Determination of standards and restrictions for tourism and hunting with the participation of local people.
- Creating an organization run by community leaders to supervise tourism activities.
- Promoting responsible tourism by raising awareness among tourists of the importance of respecting local environmental and cultural values and abiding by the rules of tourism in a fragile environment.



bottlenose dolphin (*Tursiops aduncus*) in Hengam, Photo:Houman Jowkar

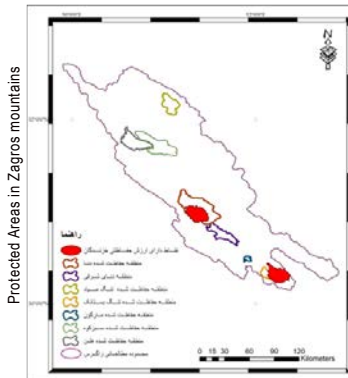


Persian Gulf, Hengam Island

Study of reptiles and amphibians in Central Zagros

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Zagros mountains stretch for 1,500 km from western part of Iran toward south, gaining 400 km width at certain parts. They cover about 25 percent of Iran's total land mass. Several cultures and civilizations have risen in the Zagros region throughout history. Central Zagros is considered one of the most unique regions of the country for its significant biodiversity. Diverse climates and topographies, existence of mountains, woodlands, and marshy areas have contributed to this biodiversity. Unfortunately, all habitats in this region are under serious threat due to population growth and all that comes with

it, including construction of road and pipelines, extra harvesting of wood and medicinal plants, overgrazing of livestock, illegal hunting, and loss of traditional land use practices. Continuation of this trend and lack of sufficient information about the conditions of species living in this region create serious impediments in sustainable management. To help counter this trend, a project called "Conservation of biodiversity in protected area of central Zagros" has been initiated in the region. In this project, collection of data from existing sources and conducting field studies on vertebrate fauna, insects, and vegetation are planned. As part of this project, Pars Herpetology Institute has begun a study on reptiles and amphibians since May 2010.

Line transect method was used for the identification and counting of species. In Isfahan Province, areas studied included: Dena Protected Area, Semirom area, and Khafr and Siyur villages. In this province, 6 families, 11 genera, and 12 species of reptilians were identified. In Chaharmahal and Bakhtiari Province, the following areas were included in the study: Tang-e Sayyad Protected Area and National Park, Helen and Sabzkuh Protected Areas, Sharekord, Ardal, Lordegan, and Borujen regions, and the villages of Heydarabad and Gel Sefid. Results indicated that reptilians of the area consisted of 10 families, 20 genera, and 24 species. In Khogiluyeh and Boyerahmad Province, the following areas were studied: Dena Protected Area, Eastern Dena, and the villages of Deh-e Baraftab, and Dasht-e Raz. In this study area, 10 families, 21 genera, and 25 species of reptiles were found. In Fars Province, the following areas were studied: Margu Protected Area, Tang-e Bostanak Protected Area, and Jiderzar village. Reptilians identified there consisted of 9 families, 18 genera, and 20 species.



Zagrosian Lizard, Eastern Dena protected area in Kohgiluyeh and Boyerahmad province. Photo by: Omid Mozaffari

Lizards of Central Zagros

NO.	Name	Scientific Name
1	Caucasian Agama	<i>Laudakia caucasia</i>
2	Yellow-headed Agama	<i>Laudakia nupta</i>
3	Small-scaled Rock Agama	<i>Laudakia microlepis</i>
4	Persian Toad Agama	<i>Phrynocephalus persicus</i>
5	Brilliant Agama	<i>Trapelus agilis</i>
6	Horny-scaled Agama	<i>Trapelus lessonae</i>
7	Western Leopard Gecko	<i>Eublepharis angramainyu</i>
8	Werner's Leaf-toed Gecko	<i>Asaccus elisae</i>
9	Iranian Keel-scaled Gecko	<i>Carinotagecko aspratilis</i>
10	Nikolski's Spider Gecko	<i>Cyrtopodion agamuiroides</i>
11	Werner's Bent-toed Gecko	<i>Cyrtopodion gastrophole</i>
12	Rough-tail Gecko	<i>Cyrtopodion scabrum</i>
13	Persian Gecko	<i>Hemidactylus persicus</i>
14	Latifi's Dwarf Gecko	<i>Tropicolotes latifi</i>
15	Persian Racerunner	<i>Eremias persica</i>
16	Yassujian Lizard	<i>Apathya yassujica</i>
17	Snake-eyed Lizard	<i>Ophisops elegans</i>
18	Persian Long-tailed Lizard	<i>Mesalina watsonana</i>
19	Zagrosian Lizard	<i>Timon princeps (princeps)</i>
20	Asian Snake-eyed Skink	<i>Ablepharus pannonicus</i>
21	Schneider's Skink	<i>Eumeces schneiderii</i>
22	Southern Grass Skink	<i>Trachylepis Septemtaenita</i>
23	Desert Monitor	<i>Varanus griseus</i>



Amphibians of Central Zagros

NO.	Name	Scientific Name
1	Green Toad	<i>Bufo viridis</i>
2	Marsh Frog	<i>Rana ridibunda</i>
3	Tree Frog	<i>Hyla savignyi</i>

Environmental Events Review

International Tiger Conservation Meeting, St. Petersburg



In November 23, 2010, leading conservationists and leaders of several countries of the world gathered to save tigers from extinction. Leonardo Dicaprio, famous Hollywood actor, donated US\$ 1 million to WWF for conservation of tigers worldwide. His generous donation to the cause of wildlife attracted a lot of attention. The number of tigers has decreased from 100,000 individuals in the early 20th century to a mere 3,200 across Asia at the present time. Leaders of 13 countries within the global distribution range of tigers gathered in St. Petersburg for the first time to take appropriate measures to save tigers. This meeting was hosted by the Federation of Russia's President, Vladimir Putin. Mr. Mohammad-Javad Mohammadzadeh, head of the Department of Environment, and a group of wildlife specialists from the DOE represented the Islamic Republic of Iran in this meeting. The Iranian delegation read a statement in which improving the status of tigers was emphasized and a call was made to double the number of tigers by 2022. Dicaprio recently visited Nepal and Bhutan as a member of the Board of Directors of WWF. He was accompanied in his visit by a group of WWF experts. He participated in elephant-back patrolling in tiger habitats alongside experts in prevention of animal killing. He also attended a meeting of the members of the committee to save tigers and learned about the methods being used by researchers for monitoring of the habitats. He is cooperating with the WWF to raise 20 million dollars required for saving tigers as soon as possible. His donation will be used for conservation of endangered tigers through controlling of poachers and protection of forests that are the main habitats for this species (Fig.1)

Fire at Golestan National Park

Despite efforts made by game wardens, forest wardens, local people, volunteers from Basij, the personnel of the Red Crescent, and volunteers from environmental NGOs, fire engulfed significant woodlands in the Golestan National Park. Fire erupted on October 17 due to negligence on the part of visitors and expanded rapidly, given extremely dry conditions that prevailed in the area due to lack of rainfall in previous months and continuation of drought for the last few years. Intense winds, mass of dried up tree trunks and dry foliage further exacerbated conditions. Lack of access roads and dearth of proper equipments hampered efforts to extinguish fire. Several hectares of this valuable reserve for flora and fauna were burnt to ashes. (Fig.2&3)

Luristan Newt in the Appendix 1 of CITES Convention

Fifteenth meeting of the members of CITES Convention was held on 13-25 March, 2010. In this meeting, Iranian researchers finally managed to get Luristan newt listed in the Appendix 1 of the Convention on International Trade in Endangered Species (CITES) which will result in prohibition of any kind of trade on this species. Kaiser's spotted newt or Luristan newt is one of the most beautiful species of Iranian salamanders and is part of the valuable genetic reserve of amphibians in Iran. The first member of this species was found 42 years ago in northern part of Shahbazan County, Luristan Province. This species is only distributed along southern boundaries of Luristan province (Papi County) and northern part of Khuzestan province. *Neurergus kaiseri* is the only member of salamanders (among 22 amphibians found in Iran) which is listed in the Red List of IUCN as a critically endangered species. Habitat destruction due to unsustainable tourism, excessive livestock grazing, agricultural activities, depleting water supplies, and unsustainable human activities are considered as main threats to the population of the species. One of the major threats to the survival of Luristan newt is illegal trade by national and international smugglers. They remove adult members from their habitats before they have any chance of reproduction, hence causing irreversible damage to the survival of the species. In previous years, some foreign researchers took advantage of lack of proper regulations and hired persons to hunt this endemic species ostensibly for their research purposes. Protection of this valuable species through strict controls, all the way from its original habitats to international markets, could result in its recovery in the near future. (Fig 4)



Fig.1: Leonardo Dicaprio, Hollywood star and member of WWF board of directors installs a camera trap to record presence of tigers in the area



Fig.2: Fire at oak forests of Jan Oloum pass

Fig.3: Jackal killed by fire, Kaboutarn Valley, Golestan National Park, November 24, 2010

Photographer: Alireza Sajedin



Fig.4: Luristan Newt