Qara Dagh (IQ039)

Sulaimani–35.331111°N 45.290278°E

KBA Criteria: **V**
IBA Criteria: **A1 and A3**
IPA Criteria: **A4, B1 and B2b**

Area: **25345 ha -** Altitude: **700-1719 m**
Ecoregion: **Zagros Mountains Forest Steppe (PA0446)**
Status: **Unprotected**

Site Description: This area consists of a mountain ridge with rocky slopes and many gorges and valleys. It contains mountain riverine forest and relatively dense oak woodlands. The geology of the area was sedimentary and the soil type was clay. There are farmland and villages nearby (primarily around the base of the ridge but there are some houses on the ridge itself.

The ridge is over 100 km long and runs from northwest to southeast, but the survey area encompasses only about half of the ridge, primarily the southeastern part. A paved road traverses the ridge. There is also at least one deep cave system, Kuna Ba, within the Qara Dagh range. An important archeological site is also located in Qara Dagh, which consists of an ancient rock carving along a stream, which is now part of a water diversion project related to oil development.

A water quality sampling point was located at the base of the ridge in another stream coming from Kani Bajga, which is spring fed. Past water sampling has shown that the water flow in the valley below can be very slow or stagnant and the site was dry in winter 2009 at the end of a period of drought. The stream riparian is well vegetated but in general the area is rocky. Plant decomposition and trash were observed in and around the water. The entire area attracts many picnickers, particularly in spring.

Key Biodiversity Area Criteria	Notes	
V. Vulnerability Criteria: *Presence of Critically Endangered and Endangered species – presence of a single individual or Vulnerable species – 30 individuals or 10 pairs.*		
Capra aegagrus	23 Wild Goats were seen in summer and 26 in winter of 2011 and goats are regularly reported here; available habitat suggests that the population would meet the KBA requirements.	
Panthera pardus saxicolor	A camera trap photographed one male Persian Leopard in October 2011 and another camera trap photo, possibly of the same individual, was taken in February 2012.	
Testudo graeca	Spur-thighed Tortoise was observed at the site frequently and available habitat suggests that the population would meet the KBA requirements	
Important Bird Area Criteria	**Observations made 2007-2010.**	
A1. Globally threatened species	**Breeding**	**Wintering/ Passage**
Egyptian Vulture *Neophron percnopterus* (Summer visitor)	6-11 pairs (counts)	

A3. Biome-restricted species		
Irano-Turanian biome	**Breeding**	**Wintering/ Passage**
See-see Partridge *Ammoperdix griseogularis* (Resident)	150 pairs (2008-2011)	
Upcher's Warbler *Hippolais languida* (Summer visitor)	15 pairs (count 2010)	
Menetries's Warbler *Sylvia mystacea* (Resident)	50 pairs (2008-2010)	
Eastern Rock Nuthatch *Sitta tephronota* (Resident)	600 pairs	
White-throated Robin *Irania gutturalis* (Summer visitor)	40 pairs (2009-2010)	
Finsch's Wheatear *Oenanthe finschii* (Resident)	140 pairs	
Eastern Cinereous Bunting *Emberiza semenowi* (Summer visitor)	70 pairs (2007, 2009 and 2010)	
Mediterranean biome	**Breeding**	**Wintering/ Passage**
Masked Shrike *Lanius nubicus* (Summer visitor)	200 pairs (2008, 2010)	
Sombre Tit *Poecile lugubris* (Resident)	150 pairs (2007, 2008 and 2010)	
Western Rock Nuthatch *Sitta neumayer* (Resident)	150 pairs (2009-2010)	
Eastern Black-eared Wheatear *Oenanthe melanoleuca* (Summer visitor)	500 pairs (2008)	
Black-headed Bunting *Emberiza melanocephala* (Summer visitor)	2000 pairs (2009-2010)	
Important Plant Area Criteria		
A4. Site contains national endemic, near endemic, regional endemic and/or regional range restricted species or infraspecific taxa ***Note: *historically recorded; **historically recorded and seen on recent surveys***		
Historical endemics at this site include:**Alyssum penjwinense, *Asperula friabilis, *Erysimum boissieri , *Galium hainesii, **G. qaradaghense, *Onosma albo-roseum var. macrocalycinum, *Ornithogalum kurdicum,* and **Scilla kurdistanica;* Historical near endemics at this site include: **Acantholimon blackelockii, *Bunium cornigerum, *Campanula acutiloba, *Centaurea gigantea, C. irritans, **Cousinia kopi-karadaghensis, *Echinops inermis, *Ferulago bracteata, *Korshinskia assyriaca, *Malabaila secacul* subsp. *aucheri, *Serratula grandifolia, *Stachys kotschyii*, and **Verbascum alceoides*, and A nationally rare species was *Bromus brachstachys*		
B1. Site is a particularly species-rich example of defined habitat type		
Mountain Forest Vegetation-Mountain Riverine Forest habitat type and Mountain Forest Vegetation- Oak Forest-Medium Zone and Highest Zone habitat type		
B2b.The site is a refuge for: biogeographically and bioclimatically restricted plants to 'retreat to' in the face of global climate change.		
This site represents a good example of Mountain Forest Vegetation- Oak Forest-Medium Zone and Highest Zone habitat types. The mountain top and some gorges/cliffs can provide refuge for these Oak forests and associated plants under possible future climate change.		

Additional Important Bird Observations: During the surveys a total of 87 species was recorded. The site also held breeding White-eared Bulbul *Pycnonotus leucotis*, a Sahara-Sindian Desert biome-restricted species. The Eastern Cinereous Bunting *Emberiza semenowi* mentioned in the table above is Near Threatened.

Other Important Fauna: Data collected on 2007-2010 surveys found field signs of a considerable number of the Muridae family that remain unidentified. Wild Goats *Capra aegagrus* (Vulnerable) were the subject of a specific study in 2011. A Persian Leopard *Panthera pardus saxicolor* (Endangered) was camera-trapped during the survey, which was the first photographic record of the species in Iraq. Wild Cat *Felis silvestris*, Golden Jackal *Canis aureus*, Red Fox *Vulpes vulpes*, Indian Crested Porcupine *Hystrix indica*, Wild Boar *Sus scrofa*, and Persian Squirrel *Sciurus anomalus* were also camera-trapped. Grey Wolf *Canis lupus*, Goitered Gazelle *Gazella subgutturosa* (Vulnerable), Indian Grey Mongoose *Herpestes edwardsii,* and Jungle Cat *Felis chaus* are likely present. It is also likely that a variety of bat species inhabit the Kuna Ba cave system and other caves. Iraq's mammal checklist includes several bats of conservation concern but these species are poorly studied.

Fish: Surveys were only conducted in 2007 and 2008 (summer) and two significant species according to Coad (2010) were: *Alburnus mossulensis* and *Garra rufa*.

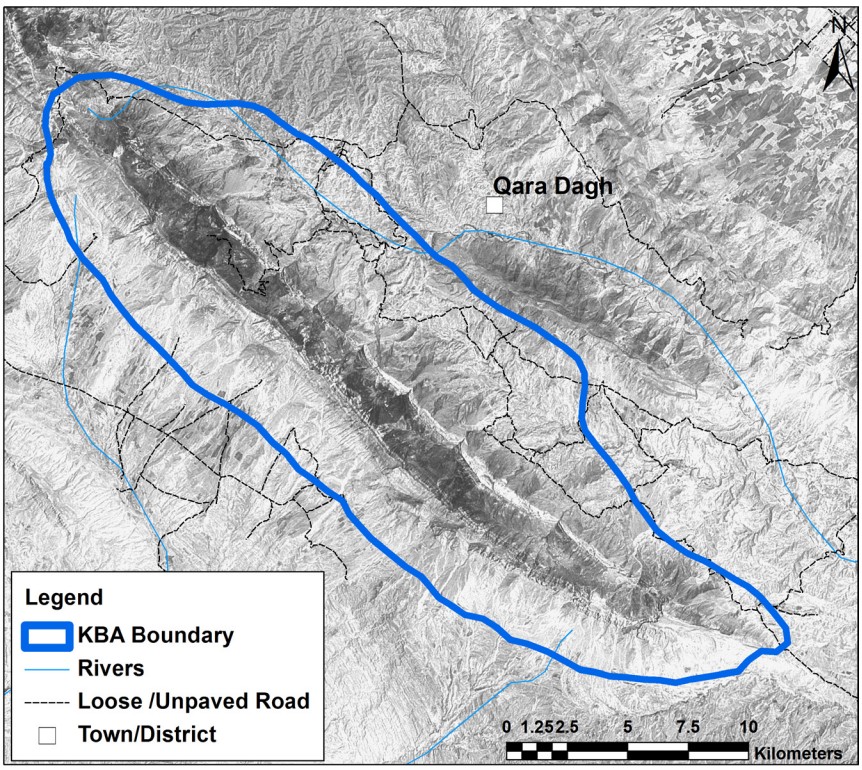
Additional Plant & Habitat Information: Qara Dagh contains a good population of *Pistacia eurycarpa* and *P. khinjuk*, which are culturally and economically important, as well as *Arum conophalloides*, *Anchusa italica*, *Crataegus azarolus*, *Gundelia tournefortii*, and *Rumex ribes*, which are economically important as traditional food plants. Also *Aegilops crassa*, *A. columnaris*, *A. umbellulata*, *Bromus danthoniae*, *B. brachystachys*, *Hordeum bulbosum*, and *Triticum aestivum* are important genetic resources.

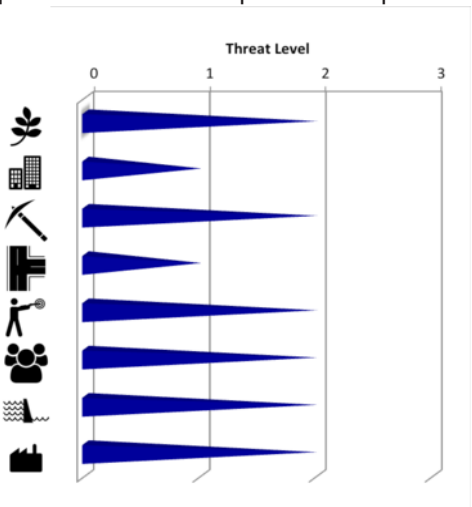
Conservation Issues: Industrial and oil development present the most serious threats to Qara Dagh. In 2010 oil drilling began, which has led to increased utilization of ground and surface water. A representative of the company indicated that the entire range would be dedicated to oil development. This poses the most serious threat, though with proper planning and oversight, oil exploration can coincide with development of the site as a protected area. Another resource extraction threat is limestone quarrying with related road construction that is causing erosion and threatens the

Kuna Ba Cave system. Finally a dam is under construction just east of Kuna Ba Cave that will affect the stream flowing along the northeast base of Qara Dagh and may negatively impact biodiversity.

In 2008 and 2009 the area experienced a period of drought, which led to low water conditions. In 2008, the target area showed heavy metal contamination in the sediments, particularly cadmium, zinc and nickel during water quality and sediment monitoring. In 2009, also copper and manganese were found to be elevated above Iraqi standards.

Qara Dagh is also seriously impacted by illegal hunting, which is widely practiced. According to locals, hunting has led to a decline in the status of wildlife, particularly large mammals, such as the Wild Goat *Capra aegagrus*. This area also has overgrazing issues as well as road construction, extension of the electrical grid along the road, and trash from tourists, all of which have caused some level of damage and/or fragmentation of the landscape. However, Qara Dagh is presently still in overall good condition and there are many endemic and rare plants in addition to important bird species.





Recommendations: This area has previously been recommended as a site that should receive additional protection (Nature Iraq and Iraqi Ministry of Environment, 2010). If this site is identified as a future protected area, funds should be made available for a more comprehensive and targeted survey to assess the site in more detail and build a comprehensive inventory of its resources (both natural and social-economic). It is unclear what the sources of heavy metal contamination are but this requires more study. An adjacent site, De Lezha (IQ036) could potentially be incorporated in any protected area developed here. Also as previous attempts to fence part of the site were not successful, protection of the site will require extensive local stakeholder input. Other issues such as cultural sites and land ownership will need to be addressed, as well as oil development within the site, which should not stop the potential designation of the site as a protected area.