

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

NATIONAL LEVEL

1. General information

1.1 Member State	GR
1.2 Species code	1224
1.3 Species scientific name	<i>Caretta caretta</i>
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Helona Kareta

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2015
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?	No	
3.2 Which of the measures in Art. 14 have been taken?	a) regulations regarding access to property	No
	b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
	c) regulation of the periods and/or methods of taking specimens	No
	d) application of hunting and fishing rules which take account of the conservation of such populations	No
	e) establishment of a system of licences for taking specimens or of quotas	No
	f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
	g) breeding in captivity of animal species as well as artificial propagation of plant species	No
	h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

BIOGEOGRAPHICAL LEVEL

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Marine Mediterranean (MMED)

4.2 Sources of information

Unpublished data (ARCHELON);
Margaritoulis D., Rees A.F., Dean C., Panagopoulou A. 2013. Another declining loggerhead population in the Mediterranean: Bay of Chania, Greece. Page 144 in Proceedings of the 30th Annual Symposium on Sea Turtle Biology and Conservation (compilers: J. Blumenthal, A. Panagopoulou, A.F.Rees). Goa, India, 27-29 April 2010. NOAA Technical Memorandum NMFS-SEFSC-640. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, USA. 177 pp;
Margaritoulis D., Rees A.F., Riggall T.E. 2013. Connecting record levels of loggerhead nesting in Kyparissia Bay, Greece, to long-term nest protection. Page 184 in Proceedings of the 33rd Annual Symposium on Sea Turtle Biology and Conservation (compilers: T.Tucker, L. Belskis, A.Panagopoulou, A.Rees, M. Frick, K. Williams, R. LeRoux, K. Steward). Baltimore, Maryland, USA, 5-8 February 2013. NOAA Technical Memorandum NMFS-SEFSC-645. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, USA. 263 pp;
Rees A.F., Margaritoulis D., Newman R., Riggall R., Tsaros P., Zbinden J., Godley B.J. 2012. Ecology of loggerhead marine turtles *Caretta caretta* in a neritic foraging habitat: movements, sex ratios and growth rates. Marine Biology DOI 10.1007/s00227-012-2107-2;
Margaritoulis D., Rees A. F., Dean C. J., Riggall T. 2011. Reproductive data of loggerhead turtles in Laganas Bay, Zakynthos Island, Greece, 2003-2009. Marine Turtle Newsletter 131: 2-6;
Casale P., Conte N., Freggi D., Cioni C., Argano R. 2011. Age and growth determination by skeletochronology in loggerhead sea turtles (*Caretta caretta*) from the Mediterranean Sea. Scientia Marina 75(1):197-203;

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5.11 Change and reason for change in surface area of range

No change
The change is mainly due to:

5.12 Additional information

6. Population

6.1 Year or period

2015

6.2 Population size (in reporting unit)

a) Unit
b) Minimum
c) Maximum
d) Best single value

6.3 Type of estimate

6.4 Additional population size (using population unit other than reporting unit)

a) Unit number of breeding females (bfemales)
b) Minimum 1252
c) Maximum 2139
d) Best single value

6.5 Type of estimate

Best estimate

6.6 Population size Method used

Based mainly on extrapolation from a limited amount of data

6.7 Short-term trend Period

2007-2018

6.8 Short-term trend Direction

Stable (0)

6.9 Short-term trend Magnitude

a) Minimum
b) Maximum
c) Confidence interval

6.10 Short-term trend Method used

Based mainly on extrapolation from a limited amount of data

6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

a) Minimum
b) Maximum
c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

a) Population size 2400 with unit number of breeding females (bfemales)
b) Operator
c) Unknown
d) Method

Based on long-term data, 2400 breeding females per annum (about 4800 nests/year) is the maximum number recorded nationwide since 1983 and thus this number is thought to represent the Favourable Reference Population for the known and regularly monitored nesting areas in Greece, with a total beach length of about 180km. Taking into account that a

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largely unknown number of nests are deposited in many other areas of the Greek coastline, the actual FRP is though to be greater than 2400.

6.16 Change and reason for change in population size

Improved knowledge/more accurate data
Use of different method

The change is mainly due to: Improved knowledge/more accurate data

6.17 Additional information

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)? No

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)? Unknown

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on expert opinion with very limited data

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Decreasing (-)

7.5 Short-term trend Method used

Based mainly on extrapolation from a limited amount of data

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

The estimated habitat surface area is 557407,8 km² (equal to range) and its quality is assessed as Moderate. This is based mainly on the quality of the habitat at the major nesting areas taking into consideration the pressures on land and at sea. Loggerhead sea turtle (*Caretta caretta*) populations use different foraging, over-wintering, breeding and nesting areas, as well as migratory routes between these areas, which results in their presence practically within the entire Mediterranean basin. Therefore, they can be found in diverse types of habitat, depending on their particular life-stage. *Caretta caretta* is largely dependent on sandy coasts for their reproduction (oviposition, incubation, hatching). Suitable habitat types for this stage are generally sandy beaches with gentle slopes that in many cases are backed by dunes. Besides the known nesting areas, most of which are monitored, foraging and over-wintering areas as well as major migrating routes remain largely unidentified.

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Bycatch and incidental killing (due to fishing and hunting activities) (G12)	H
Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (F24)	H

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Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H
Flooding (natural processes) (M08)	H
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (F01)	M
Sports, tourism and leisure activities (F07)	M
Threats and pressures from outside the EU territory (Xe)	M
Residential or recreational activities and structures generating marine macro- and micro- particulate pollution (e.g. plastic bags, Styrofoam) (F22)	M
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	M

Threat	Ranking
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Bycatch and incidental killing (due to fishing and hunting activities) (G12)	H
Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (F24)	H
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H
Flooding (natural processes) (M08)	H
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (F01)	M
Sports, tourism and leisure activities (F07)	M
Threats and pressures from outside the EU territory (Xe)	M
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	H

8.2 Sources of information

PRESSURES: Based exclusively or to a larger extent on real data from sites/occurrences or other data sources.
THREATS: Based on expert opinion.

8.3 Additional information

9. Conservation measures

9.1 Status of measures

- a) Are measures needed? Yes
- b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

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9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Habitat restoration of areas impacted by transport (CE06)

Manage conversion of land for construction and development of infrastructure (CF01)

Habitat restoration of areas impacted by residential, commercial, industrial and recreational infrastructure, operations and activities (CF02)

Reduce impact of outdoor sports, leisure and recreational activities (CF03)

Reduce/eliminate marine contamination with litter (CF08)

Reduce/eliminate noise, light, heat or other forms pollution from industrial, commercial, residential and recreational areas and activities (CF09)

Reduce bycatch and incidental killing of non-target species (CG05)

Minimise/prevent impacts of geological and natural catastrophes (CL02)

Restore habitats following geological and natural catastrophes (CL03)

Reduce impact of transport operation and infrastructure (CE01)

9.6 Additional information

Measures partly taken.

10. Future prospects

10.1 Future prospects of parameters

a) Range	Good
b) Population	Poor
c) Habitat of the species	Poor

10.2 Additional information

11. Conclusions

11.1. Range

Favourable (FV)

11.2. Population

Unfavourable - Inadequate (U1)

11.3. Habitat for the species

Unfavourable - Inadequate (U1)

11.4. Future prospects

Unfavourable - Bad (U2)

11.5 Overall assessment of Conservation Status

Unfavourable - Bad (U2)

11.6 Overall trend in Conservation Status

Deteriorating (-)

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

No change

The change is mainly due to:

b) Overall trend in conservation status

No change

The change is mainly due to:

11.8 Additional information

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12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)	a) Unit	number of breeding females (bfemales)
	b) Minimum	1075
	c) Maximum	1886
	d) Best single value	
12.2 Type of estimate	Minimum	
12.3 Population size inside the network Method used	Based mainly on extrapolation from a limited amount of data	
12.4 Short-term trend of population size within the network Direction	Unknown (x)	
12.5 Short-term trend of population size within the network Method used	Insufficient or no data available	
12.6 Additional information	Species for which either new Natura sites have been designated or former ones have been expanded to cover a bigger part of their populations. The population size in 12.1 is reported as minimum due to the recent update of the Greek Natura 2000 Database (extended areas of current Natura 2000 sites and newly proposed SCIs). No relevant data exist for the extensions or the new Natura 2000 sites.	

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

The population unit used to calculate the population size for *Caretta caretta* is "breeding females per year" which apparently refers to a proportion of the existing adult individuals at sea (*Caretta caretta* exhibits a 2-3 year reproduction cycle). No reliable method exists to estimate the total population including adults, sub-adults and juveniles of both genders. Furthermore *Caretta caretta* in the Mediterranean starts reaching maturity in 14-15 years (Casale et al. 2011). As such, activities/events at the nesting site, having a detrimental effect on the population (e.g. habitat loss/degradation, human disturbances, egg predation, destruction/inundation of nests), manifest their impact after many years, through the concomitant decrease of nests. Although the nationwide annual population of breeding females appears over the period 2001-2014 as more or less "stable", with intense annual fluctuations, in several nesting areas (e.g. Chania, Rethymno) there is a significant downward trend which has been compensated by the "artificial" increase of breeding females in southern Kyparissia Bay due to long-term protection of nests (Margaritoulis et al. 2013). Indeed, all nests in this 9.5km long beach are protected, every year since 1992 (against predation, inundation, bright lights & trampling), and this has caused a gradual increase of nesting females since 2006 with the elapsed time (14 years) coinciding with the minimum age at maturity of *Caretta caretta*. Therefore, the southern Kyparissia Bay nesting population is considered "conservation-

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dependent" and massive nest protection measures should continue. A number of breeding females migrate, after their nesting in Greece, to long distances with main concentration areas the Gulf of Gabes in northern Africa and the northern Adriatic Sea, where they remain for 2-3 years until their next breeding migration to Greece. Both areas are subject to intensive fishing activity which impacts these females as shown by the captured tagged animals (Margaritoulis et al. 2003). In addition, pressures outside the EU boundaries include occasional consumption in some northern African countries. Therefore, co-operation among states within and outside EU, for the effective protection of the species, is imperative.