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

0.1 Member State	**GR**
0.2.1 Species code	**1224**
0.2.2 Species name	**Caretta caretta**
0.2.3 Alternative species scientific name	N/A
0.2.4 Common name	Helona Kareta

1. National Level

1.1 Maps

1.1.1 Distribution Map	Yes
1.1.1a Sensitive species	No
1.1.2 Method used - map	Estimate based on partial data with some extrapolation and/or modelling (2)
1.1.3 Year or period	1994-2012
1.1.4 Additional map	No
1.1.5 Range map	Yes

2. Biogeographical Or Marine Level

2.1 Biogeographical Region

Marine Mediterranean (MMED)

2.2 Published sources

Unpublished data (ARCHELON);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;
Margaritoulis D., Panagopoulou A. 2010. Greece. Pages 85-111 in Sea turtles in the Mediterranean: Distribution, threats and conservation priorities (editors: P. Casale, D. Margaritoulis). IUCN. Gland, Switzerland. 294 pp; Margaritoulis D., Panagopoulou A., Rees A. F. 2009. Loggerhead nesting in Rethymno, Island of Crete, Greece: Fifteen-year nesting data (1990-2004) indicate a declining population. Pages 116-119 in Proceedings of the Second Mediterranean Conference on Marine Turtles (editors: A. Demetropoulos, O. Turkozan).

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

Barcelona Convention – Bern Convention – Bonn Convention (CMS). 188 pp. PDF Version;
Margaritoulis D., Rees A. F. 2006. Loggerhead nesting in Koroni, southern Peloponnesus, Greece: nesting data 1995-2002. Pages 151-154 in Proceedings of the 23rd Annual Symposium on Sea Turtle Biology and Conservation (compiler: Nicolas J. Pilcher). Kuala Lumpur, Malaysia. 17-21 March 2003. NOAA Technical Memorandum NMFS-SEFSC-536. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, USA; Margaritoulis D. 2005. Nesting activity and reproductive output of loggerhead sea turtles, Caretta caretta, over 19 seasons (1984-2002) at Laganas Bay, Zakynthos, Greece: The largest rookery in the Mediterranean. Chelonian Conservation and Biology 4(4): 916-929;
Margaritoulis D., Argano R., Baran I., Bentivegna F., Bradai M. N., Caminas J. A., Casale P., De Metrio G., Demetropoulos A., Gerosa G., Godley B. J., Haddoud D. A., Houghton J., Laurent L., Lazar B. 2003. Loggerhead turtles in the Mediterranean Sea: Present knowledge and conservation perspectives. Pages 175-198 in Loggerhead Sea Turtles (editors: A.B. Bolten and B.E. Witherington). Smithsonian Books, Washington DC. 319 pp;
Teneketzis K., Spinos E., Margaritoulis D. 2003. Impact of fisheries in the population of sea turtle Caretta caretta in Kyparissia Bay, Greece. Pages 59-62 in Proceedings of the 11th Panhellenic Conference of Ichthyologists. Preveza, 10-14 April 2003. Pan-hellenic Association of Ichthyologists. Preveza, Greece. 304 pp. (in Greek with abstract in English); Margaritoulis D., Rees A. F. 2001. The Loggerhead Turtle, Caretta caretta, population nesting in Kyparissia Bay, Peloponnesus, Greece: Results of beach surveys over seventeen seasons and determination of the core nesting habitat. Zoology in the Middle East, 24: 75-90.

2.3 Range

2.3.1 Surface area - Range (km²)	557407,8	
2.3.2 Method - Range surface area	Estimate based on partial data with some extrapolation and/or modelling (2)	
2.3.3 Short-term trend period	2001-2012	
2.3.4 Short-term trend direction	unknown (x)	
2.3.5 Short-term trend magnitude	min	max
2.3.6 Long-term trend period		
2.3.7 Long-term trend direction	N/A	
2.3.8 Long-term trend magnitude	min	max
2.3.9 Favourable reference range	area (km²)	557407,8
	operator	N/A
	unkown	No
	method	Best expert opinion
2.3.10 Reason for change	Use of different method	

2.4 Population

2.4.1 Population size (individuals or agreed exception)	Unit	N/A		
	min		max	
2.4.2 Population size (other than individuals)	Unit	number of breeding females (bfemales)		
	min	1252	max	2149
2.4.3 Additional information	Definition of locality			
	Conversion method			
	Problems			

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

2.4.4 Year or period	2007-2012
2.4.5 Method – population size	Estimate based on partial data with some extrapolation and/or modelling (2)
2.4.6 Short-term trend period	2001-2012
2.4.7 Short term trend direction	stable (0)
2.4.8 Short-term trend magnitude	min max confidence interval
2.4.9 Short-term trend method	Estimate based on partial data with some extrapolation and/or modelling (2)
2.4.10 Long-term trend period	
2.4.11 Long term trend direction	N/A
2.4.12 Long-term trend magnitude	min max confidence interval
2.4.13 Long-term trend method	N/A
2.4.14 Favourable reference population	number 2236 operator N/A unknown No method 2236 breeding females per annum (about 4472 nests/year) is the maximum number recorded nationwide since 1983 and thus this number is thought to represent the Favourable Reference Population based on the continuing existence of breeding populations in Greece.
2.4.15 Reason for change	

2.5 Habitat for the Species

2.5.1 Surface area - Habitat (km²)	557407,8
2.5.2 Year or period	2007-2012
2.5.3 Method used - habitat	Estimate based on partial data with some extrapolation and/or modelling (2)
2.5.4 a) Quality of habitat	Moderate
2.5.4 b) Quality of habitat - method	The definition "Moderate" 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.
2.5.5 Short term trend period	2001-2012
2.5.6 Short term trend direction	decrease (-)
2.5.7 Long-term trend period	
2.5.8 Long term trend direction	N/A
2.5.9 Area of suitable habitat (km²)	0
2.5.10 Reason for change	

2.6 Main Pressures

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

Pressure	ranking	pollution qualifier(s)
accidental capture (F03.02.05)	high importance (H)	N/A
Light pollution (H06.02)	high importance (H)	N/A
predation (K03.04)	high importance (H)	N/A
inundation (natural processes) (L08)	high importance (H)	N/A
roads, motorways (D01.02)	medium importance (M)	N/A
continuous urbanisation (E01.01)	medium importance (M)	N/A
off-road motorized driving (G01.03.02)	medium importance (M)	N/A
other sport / leisure complexes (G02.10)	medium importance (M)	N/A
Trampling, overuse (G05.01)	medium importance (M)	N/A
marine macro-pollution (i.e. plastic bags, styrofoam) (H03.03)	medium importance (M)	N/A
Erosion (K01.01)	medium importance (M)	N/A
Threats and pressures from outside the Member State (XO)	medium importance (M)	N/A
Threats and pressures from outside the EU territory (XE)	medium importance (M)	N/A
Sand and gravel extraction (C01.01)	low importance (L)	N/A
car parks and parking areas (D01.03)	low importance (L)	N/A
piers / tourist harbours or recreational piers (D03.01.02)	low importance (L)	N/A
intensive maintenance of public parks /cleaning of beaches (G05.05)	low importance (L)	N/A
death or injury by collision (G05.11)	low importance (L)	N/A
Noise nuisance, noise pollution (H06.01)	low importance (L)	N/A
temperature changes (e.g. rise of temperature & extremes) (M01.01)	low importance (L)	N/A

2.6.1 Method used – pressures: based exclusively or to a larger extent on real data from sites/occurrences or othe

2.7 Main Threats

Threat	ranking	pollution qualifier(s)
accidental capture (F03.02.05)	high importance (H)	N/A
Light pollution (H06.02)	high importance (H)	N/A
Erosion (K01.01)	high importance (H)	N/A
predation (K03.04)	high importance (H)	N/A
inundation (natural processes) (L08)	high importance (H)	N/A
roads, motorways (D01.02)	medium importance (M)	N/A
piers / tourist harbours or recreational piers (D03.01.02)	medium importance (M)	N/A
continuous urbanisation (E01.01)	medium importance (M)	N/A
off-road motorized driving (G01.03.02)	medium importance (M)	N/A
other sport / leisure complexes (G02.10)	medium importance (M)	N/A
Trampling, overuse (G05.01)	medium importance (M)	N/A
marine macro-pollution (i.e. plastic bags, styrofoam) (H03.03)	medium importance (M)	N/A
temperature changes (e.g. rise of temperature & extremes) (M01.01)	medium importance (M)	N/A

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

Threats and pressures from outside the Member State (XO)	medium importance (M)	N/A
Threats and pressures from outside the EU territory (XE)	medium importance (M)	N/A
car parks and parking areas (D01.03)	low importance (L)	N/A
intensive maintenance of public parks /cleaning of beaches (G05.05)	low importance (L)	N/A
death or injury by collision (G05.11)	low importance (L)	N/A
Noise nuisance, noise pollution (H06.01)	low importance (L)	N/A
sea-level changes (M01.07)	low importance (L)	N/A

2.7.1 Method used – threats: expert opinion (1)

2.8 Complementary Information

2.8.1 Justification of % thresholds for trends

2.8.2 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 exhibit 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 concommitant 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-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.

2.8.3 Trans-boundary assessment

2.9 Conclusions (assessment of conservation status at end of reporting period)

2.9.1 Range
- assessment: Favourable (FV)
- qualifiers: N/A

2.9.2. Population
- assessment: Inadequate (U1)
- qualifiers: stable (=)

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

2.9.3. Habitat	assessment Inadequate (U1) qualifiers declining (-)
2.9.4. Future prospects	assessment Bad (U2) qualifiers declining (-)
2.9.5 Overall assessment of Conservation Status	Bad (U2)
2.9.5 Overall trend in Conservation Status	declining (-)

3. Natura 2000 coverage and conservation measures - Annex II species

3.1 Population

3.1.1 Population Size	Unit	number of breeding females (bfemales)		
	min	1090	max	1926
3.1.2 Method used	Estimate based on partial data with some extrapolation and/or modelling (2)			
3.1.3 Trend of population size within	N/A			

3.2 Conversation Measures

3.2.1 Measure	3.2.2 Type	3.2.3 Ranking	3.2.4 Location	3.2.5 Broad Evaluation
Measures needed, but not implemented (1.2)	Legal Administrative Contractual	()	Both	Not evaluated
Establish protected areas/sites (6.1)	Legal One-off	high importance (H)	Both	Enhance
Legal protection of habitats and species (6.3)	Legal Administrative	high importance (H)	Both	Enhance
Regulation/ Management of fishery in marine and brackish systems (7.3)	Legal Administrative	high importance (H)	Both	Enhance
Specific single species or species group management measures (7.4)	Administrative Recurrent	high importance (H)	Both	Enhance
Managing marine traffic (8.3)	Legal Administrative	high importance (H)	Inside	Enhance