

Mediterranean sea turtles: current knowledge and priorities for conservation and research

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Table S1. Carapace lengths of adult loggerhead turtles from around the Mediterranean. N = number of individuals. SCL = straight carapace length (cm). CCL = curved carapace length (cm). Source: a, in Margaritoulis et al. (2003); b, Patel et al. (2015b); c, Turkozan and Yilmaz (2008); d, Yalcin-Ozdilek et al. (2007); e, Turkozan (2000); f, Sak and Baran (2001); g, Broderick et al. (2003); h, Mingoizzi et al. (2016); i, Schofield et al. (2013).

*Where range of values is presented they represent a range of means and range of sample sizes for a multi-year record. [#]Two entries present, as despite a longer overlapping time series a smaller max CCL was reported. [§]Further data from Laganas Bay, Zakynthos, are presented to highlight the similarity in CCL found for adult males and females in a single study.

Country	Nesting Location	Measurement	Sex	Mean*	Min	Max	SD	N*	Years	Source
Greece	Mounda Beach, Kefalonia	SCL	F	76.8 - 80.1	63.5	87	-	11 - 15	5	a
Greece	southern Kyparissia Bay	SCL	F	78.6 - 79.1	66	95	-	13 - 97	3	a
Greece	Rethymno, Crete	SCL	F	78.4	71	87	4.6	19	2	b
Greece	Laganas Bay, Zakynthos	SCL	F	78.3 - 79.2	68.5	90	-	195 - 343	3	a
Libya	-	SCL	F	78.7	62.3	83.2	-	9	1	a
Turkey	Dalyan	SCL	F	73.1	60.2	83.9	-	49	1	a
Turkey	Dalyan	SCL	F	72	60.5	86.5	-	103	2	c
Turkey	Dalyan	SCL	F	72.6	69	77	2.9	10	1	d
Turkey	Fethiye	SCL	F	73.2	66	87.5	-	22	1	a
Turkey	Fethiye	SCL	F	71.0	63	74	4.4	10	1	d
Turkey	Fethiye	SCL	F	72.1	63	85	-	70	3	e
Turkey	Göksu	SCL	F	72.0	63	76.5	4.0	10	1	d
Turkey	Belek	SCL	F	69.4	60	78	5.7	15	2	f
Cyprus	Alagadi (Alakati) [#]	CCL	F	71.1 - 77.9	64.5	90	-	6 - 39	8	a
Cyprus	Alagadi (Alakati) [#]	CCL	F	73.6	63	87	4.6	159	9	g
Cyprus	West coast	CCL	F	66.5 - 79.8	60	90	-	2 - 11	20	a
Greece	Mounda Beach, Kefalonia	CCL	F	81.6 - 84.7	71.9	93	-	11 - 15	5	a
Greece	southern Kyparissia Bay	CCL	F	83.1 - 83.8	70	99	-	28 - 101	3	a
Greece	Lakonikos Bay	CCL	F	84.1 - 84.6	78	92	-	11 - 12	2	a
Greece	Rethymno, Crete	CCL	F	82.4	75	91	4.3	19	2	b
Greece	Laganas Bay, Zakynthos	CCL	F	82.7 - 83.8	70	96.5	-	146 - 345	4	a
Italy	Calabria	CCL	F	75.5	71	81	3.6	8	4	h
Libya	-	CCL	F	78	71	86.3	-	11	1	a
Tunisia	-	CCL	F	79.7	73	85	-	3	1	a
Turkey	Fethiye	CCL	F	77.3	68	91	-	27	1	a
Turkey	combined	CCL	F	76	63	91	-	58	1	a
Greece	Laganas Bay, Zakynthos [§]	CCL	F	83.7	74	91	4.5	35	-	i
Greece	Laganas Bay, Zakynthos [§]	CCL	M	82.9	71	102	7	33	-	i

Table S2. Carapace lengths (cm) of adult green turtles from around the Mediterranean. N = number of individuals. SCL = straight carapace length. CCL = curved carapace length. Source: a, Broderick et al. (2003); b, Rees et al. (2008b).

Country	Location	Measurement	mean	min	max	SD	N	Years	Source
Cyprus	Alagadi (Alakati)	CCL	91.5	77	106	6.3	92	9	a
Syria	Latakia	CCL	91.4	85	97.5	3.9	10	1	b

Table S3. Loggerhead turtle egg diameters (mm) and weights (g) from nesting areas around the Mediterranean. N = number of individuals. *Where a range of values is present they represent a range of means and range of sample sizes per for a multi-year record. Source: Margaritoulis et al. (2003) and references therein.

Country	Location	Measurement	Mean*	min	max	SD	N*	Years
Cyprus	Alagadi (Alakati)	Width	37.4	32.9	39.6	-	12	1
Cyprus	West coast	Width	38.0 - 38.6	34.9	40.2	-	13 - 26	2
Greece	Mounda Beach, Kefalonia	Width	36.1 - 38.7	27	42.6	-	12 - 30	5
Greece	Laganas Bay, Zakynthos	Width	36.7	33	41.9	-	45	1
Turkey	Akyatan	Width	34.5	31	37	-	15	1
Turkey	Dalyan	Width	37	33	41	-	65	1
Turkey	combined	Width	40.4 - 42.1	37	45	-	5 - 8	1
Cyprus	Alagadi (Alakati)	Weight	32.4	26.4	38.6	-	12	1
Cyprus	West coast	Weight	26.9 - 31.9	22.8	36.5	-	13 - 30	2
Greece	Laganas Bay, Zakynthos	Weight	29.8	23	35.4	-	45	1
Turkey	Dalyan	Weight	27.5	15.9	36.5	-	173	1

Table S4. Loggerhead turtle hatchling lengths (mm) and weights (g) from nesting areas around the Mediterranean. N = number of individuals. SCL = straight carapace length. nat = in situ nests, rel = relocated nests. Source: a, in Margaritoulis et al. (2003); b, Sak and Baran (2001); c, in Sak and Baran (2001); d, Türkozan and Yilmaz (2007). *Where a range of values is presented they represent a range of means and range of sample sizes for a multi-year record.

Country	Location	Measurement	Mean*	Min	Max	SD	N ^a	Years	Source
Cyprus	Alagadi (Alakati)	SCL	40	24.9	49.3	-	2064	1	a
Cyprus	West coast	SCL	40.3 - 41.5	36	45	-	180 - 325	2	a
Greece	Laganas Bay, Zakynthos	SCL	40.4	-	-	0.7	20	1	a
Turkey	Fethiye	SCL	39.8	28	45	-	302	1	a
Turkey	Goksu Delta	SCL	39.1	36	42	-	37	1	a
Turkey	Belek	SCL	41.3	32	47.6	2	851	2	b
Turkey	Kizilot	SCL	39.7	-	-	-	-	-	c
Turkey	Fethiye	SCL	39.8	-	-	-	-	-	c
Turkey	Dalyan	SCL	37.7	-	-	-	-	-	c
Turkey	Dalyan	SCL nat	40.5	33.5	43.6	1.6	734 (34 nests)	1	d
Turkey	Dalyan	SCL rel	40.4	35.6	44.5	1.3	1188 (49 nests)	1	d
Cyprus	Alagadi (Alakati)	Weight	15.3	9.4	21.4	-	1482	1	a
Cyprus	West coast	Weight	15.9 - 16.7	12	21.5	-	180 - 325	2	a
Turkey	Belek	Weight	15.7	10.7	19.9	1.7	425	2	b
Turkey	Dalyan	Weight nat	14.8	8.7	18.9	1.8	734 (34 nests)	1	d
Turkey	Dalyan	Weight rel	14.5	9.6	18.4	1.4	1188 (49 nests)	1	d

Table S5. Green turtle egg weights (g) and diameters (mm) from nesting areas around the Mediterranean. N = number of individuals. *presented as mean of means, range of means, from 11 nests each with 15 eggs sampled. Source: Glen et al. (2003).

Country	Location	Measurement	mean	min	max	SD	N
Cyprus	Alagadi (Alakati)	Weight	39.9	37.7	42.6	1.7	70 (7 nests)

Table S6. Green turtle hatchling lengths (mm) and weights (g) from nesting areas around the Mediterranean. N = number of individuals. SCL = straight carapace length. nat = in situ nests, rel = relocated nests. Source: a, Özdemir and Turkozan (2006); b, Sonmez et al. (2011).

Country	Location	Measurement	mean	min	max	SD	N	Years	Source
Cyprus	Ronnas	SCL rel	46.1	39	51	1.8	673 (45 nests)	1	a
Cyprus	Golden (Pachyammos) Beach 1	SCL rel	46.1	42.9	50.5	1.6	45 (3 nests)	1	a
Turkey	Samandag	SCL nat	46	42	50	0.16	175 (14 nests)	1	b
Turkey	Samandag	SCL rel	46	41	49	0.18	175 (14 nests)	1	b
Cyprus	Ronnas	Weight rel	19.8	13	26	2	673 (45 nests)	1	a
Cyprus	Golden (Pachyammos) Beach 1	Weight rel	20	17.8	23.5	1.4	45 (3 nests)	1	a
Turkey	Samandag	Weight nat	20.5	16	24	1.5	175 (14 nests)	1	b
Turkey	Samandag	Weight rel	19.9	14	23	2.1	175 (14 nests)	1	b

Table S7. Mediterranean loggerhead carapacial scute counts for hatchlings (H rel = hatchlings from relocated nests, H nat = hatchlings from in situ nests), mixed size classes (M) and adult females (AF). N: number of individuals; H: Hatchlings; A: Adults. Source: a, Türkozan et al. (2001); b, Ergene et al. (2011); c, Sak and Baran (2001); d, Türkozan and Yılmaz (2007); e, Margaritoulis and Chiras (2011); f, Oliver (2014); g, Casale et al. (2017). *One turtle had one (merged) supracaudal and another had each supracaudal fragmented in two.

Country	Location	Size class	Most common pattern (% occurrence) [range]					N (nests)	Source
			Nuchal	Marginal	Costal	Vertebral	Supracaudal		
Cyprus	Karpaz	H	1 (97.9) [1-2]	12:12 (69.0) [11-12]	5:5 (97.9) [5-6]	5 (97.9) [5-6]	2 (100)	145	a
Turkey	Alata	H alive	1 (90.9) [1-2]	12:12 (41.3) 11:11 (37.5) [10-14]	5:5 (96.3) [4-8]	5 (87.2) [5-8]	2 (100)	917 (74)	b
Turkey	Alata	H dead	1 (100)	12:12 (63.5) 11:11 (13.5) [11-13]	5:5 (95.9) [5-6]	5 (93.2) [5-7]	2 (100)	169 (43)	b
Turkey	Belek	H	1 (96.6) [1-2]	12:12 (52.4) [11-13]	5:5 (90.6) [4-8]	5 (85.8) [4 -9]	2 (100)	860	c
Turkey	Belek	H	1 (96.6) [1-2]	12:12 (52.4) [11-13]	5:5 (90.6) [4-8]	5 (85.8) [4 -9]	2 (100)	860	a
Turkey	Dalyan	H nat	1 (95.2) [1-2]	12:12 (62.5) [10-14]	5:5 (92.1) [4-7]	5 (92.0) [5-8]	2 (100)	734 (34)	d
Turkey	Dalyan	H rel	1 (98.5) [1-2]	12:12 (57.1) [10-13]	5:5 (93.9) [4-8]	5 (88.2) [5-8]	2 (100)	1188 (49)	d
Turkey	Dalyan	H	1 (97.7) [1-2]	12:12 (70.1) [10-13]	5:5 (93.0) [4-7]	5 (89.9) [4-8]	2 (100)	1697	a
Turkey	Fethiye	H	1 (97.7) [1-2]	12:12 (38.3) 11:11 (36.8) [11-13]	5:5 (92.5) [5-6]	5 (90.2) [5-7]	2 (100)	133	a
Turkey	Kizilot	H	1 (98.7) [1-2]	12:12 (63.9) [9-13]	5:5 (97.9) [4-6]	5 (94.5) [5-7]	2 (100)	474	a
Greece	Zakynthos	AF	1 (98.7) [1-2]	11:11 (42.1) 12:12 (36.8) [10-13]	5:5 (96.7) [4-6]	5 (97.7) [4-7]	2 (97.7)*	76	e
Turkey	Belek	AF	1 (100)	12:12 (81.2) [11-12]	5:5 (100)	5 (100)	2 (100)	16	a
Turkey	Dalyan	AF	1 (96.1) [1-2]	12:12 (69.2) [11-12]	5:5 (100)	5 (100)	2 (100)	26	a
Turkey	Kizilot & Fethiye	AF	1 (100)	12:12 (61.6) [10-13]	5:5 (100)	5 (100)	2 (100)	112	a
Turkey	Fethiye	AF	1 (100)	12:12 (36.4) 11:11 (31.8) [10-12]	5:5 (100)	5 (100)	2 (100)	22	a
France	France	M	-	12:12 (41.4) 11:11 (30.6) [10-14]	5:5 (90.2)	5 (93.9)	-	157-163	f
Italy	Central Mediterranean	M	-	12:12 (53.9) 11:11 (23.3) [9:13]	-	-	-	1497	g

Table S8. Mediterranean green turtle carapacial scute counts for hatchlings (H rel = hatchlings from relocated nests, H nat = hatchlings from in situ nests) and adult females (AF). N = number of individuals. Source: a, Özdemir and Turkozan (2006); b, Sonmez et al. (2011); c, Ergene et al. (2011). *one hatchling had 3 supracaudal scutes.

Country	Location	Size class	Most common pattern (% occurrence) [range]					N (nests)	Source
			Nuchal	Marginal	Costal	Vertebral	Supracaudal		
Cyprus	Ronas	H rel	1 (83.8) [1-2]	11:11 (94.2) [10-12]	4:4 (85.9) [4-8]	5 (90.0) [5-9]	2 (100)*	673 (45)	a
Cyprus	Golden (Pachyammos) Beach 1	H rel	1 (80.0) [1-2]	11:11 (88.9) [10-12]	4:4 (93.3) [4-7]	5 (86.6) [5-8]	2 (100)	45 (3)	a
Turkey	Samadag	H nat	1 (87.4) [1-2]	11:11 (100)	4:4 (86.3) [4-7]	5 (85.1) [5-9]	2 (100)	175 (14)	b
Turkey	Samadag	H rel	1 (79.4) [1-2]	11:11 (97.5) [10-12]	4:4 (94.8) [4-6]	5 (88.6) [5-7]	2 (100)	175 (14)	b
Turkey	Alata	H alive	1 (95.0) [1-2]	11:11 (95.7) [8-12]	4:4 (88.1) [2-7]	5 (90.0) [3-9]	2 (100)	917 (74)	c
Turkey	Alata	H dead	1 (94.7) [1-2]	11:11 (92.9) [10-12]	4:4 (88.8) [4-6]	5 (87.0) [5-9]	2 (100)	169 (43)	c
Turkey	Alata	AF	1 (84.6) [1-2]	11:11 (100)	4:4 (84.6) [4-6]	5 (92.3) [5-6]	2 (100)	13	c

Table S9. Loggerhead turtle (*Caretta caretta*) nesting locations in the Mediterranean, with nests/yr > 10 and nests/km-yr > 3. If the surveyed beach tract varied among years, the maximum beach length is given. *Most recent 5-yr period: the most recent surveyed year and the 4 previous years, if available. §In two cases, a longer period is included because it was not possible to extract individual years from the data source. ^aTotal from seven beaches surveyed, ^bTotal from five beaches surveyed, ^cTotal from ten beaches surveyed. Data sources: see list below Table S11.

Country	Nesting Beach/Area Name	Survey Length (km)	Survey Year(s)	Entire period		Most recent 5-yr period*		
				Average nests/yr (range)	Nest Density (nest/km)	Survey Year(s)	Average Nests/yr	Data Source
1	Greece Laganas Bay, Zakynthos	5.5	1984-2009	1218 (824-2018)	222	2005-2009	938	70, 74
2	Greece Southern Kyparissia Bay	9.5	1994-2002, 2013-15	781 (331-1472)	82	2013-2015	1403	1, 67, 69, 84
3	Turkey Belek	16	1994-2006	466 (68-819)	29	2002-2006	628	21, 24, 87, 88, 98, 108, 111
4	Turkey Anamur	12	1990, 94, 96, 2006-07	422 (146-907)	35	2006-2007	791	7, 105, 111, 114
5	Greece Rethymno, Crete	10.8	1990-2004	350 (248-516)	32	2000-2004	275	72
6	Turkey Dalyan	4.7	1979, 1988-2011	250 (107-522)	53	2007-2011	307	7, 9, 18, 20, 23, 33, 41, 53, 60, 61, 104, 111,

Country	Nesting Beach/Area Name	Survey Length (km)	Survey Year(s)	Entire period		Most recent 5-yr period*		Data Source	
				Average nests/yr (range)	Nest Density (nest/km)	Survey Year(s)	Average Nests/yr		
								113	
7	Cyprus	Chrysochou Bay	12	1999-2015	372 (123-836)	31	2011-2015	658	25
8	Greece	Lakonikos Bay	23.5	1992-2007	197 (107-288)	8	2001-2005	190	73
9	Turkey	Fenike-Kumluca	21	1979, 88, 94, 98, 2003	184 (75-305)	9	1979, 88, 94, 98, 03 ^s	184	7, 41, 79, 111,112
10	Turkey	Kızılot	8.5	1990, 94, 96-98	139 (50-270)	16	1994-1998	138	7, 103,113, 114
11	Libya	Al-Gbeba	5.7	2005-07	122 (73-154)	21	2005-2007	122	51, 53
12	Libya	Al-Arbaeen	8.5	2006-07	119 (84-154)	14	2006-2007	119	52
13	Turkey	Demirtaş	7.8	1996, 2006	109 (80-137)	14	2006	137	113, 130
14	Libya	Al-Metefla	4.5	2007	104 (104-104)	23	2007	104	52
15	Turkey	Fethiye	8.3	1993-2007, 2011-13	101 (58-191)	12	2011-2013	84	8, 11, 12, 24, 54, 100-102, 113
16	Greece	Northern Kyparissia Bay	34	1984-89	100 (57-151)	3	1985-1989	102	67
17	Turkey	Göksu Delta	34.7	1991-92, 94, 96, 98, 2004-08	99 (36-151)	3	2004-2008	124	24, 27, 43, 50, 83, 98, 106, 111, 113
18	Greece	Bay of Chania, Crete	13.1	1992-2007	94 (45-192)	7	2003-2007	60	73
19	Turkey	Patara	14	1989-90, 92-94, 96-2002, 2004-08, 10, 12-14	93 (33-239)	7	2010, 2012-2014	180	7, 9, 19, 21, 24, 29, 58, 76, 81, 82, 88, 98, 99,110, 111, 113
20	Cyprus	Akdeniz Beaches (Morphou Bay)	8.6	1993-2015	89 (18-207)	10	2011-2015	101	13-16, 35-40, 43-49, 86, 89-95
21	Turkey	Dalaman	10.4	1988-89, 94, 98, 2002-08	88 (61-112)	8	2004-2008	86	6, 34, 36, 61, 113, 114
22	Libya	Al-thalateen	5	2006-07	73 (66-80)	15	2006-2007	73	52
23	Cyprus	West Coast	5	1989-2015	109 (21-296)	22	2011-2015	249	25, 129
24	Turkey	Kale-Demre	8.5	1994, 98, 2006	67 (39-109)	8	2006	52	30, 111, 112
25	Greece	Beaches adjacent to	3.5	1989, 1998	64 (60-68)	18	1998	68	73

Country	Nesting Beach/Area Name	Entire period		Most recent 5-yr period*		Data Source			
		Survey Length (km)	Survey Year(s)	Average nests/yr (range)	Nest Density (nest/km)		Survey Year(s)	Average Nests/yr	
	Kyparissia town								
26	Greece	Kos Island	23	1991	60 (60-60)	3	1991	60	66
27	Cyprus	Alagadi (Alakati)	1.7	1993-2015	59 (28-95)	34	2011-2015	59	13-16, 35-40, 43-49, 86, 89-95
28	Lebanon	El-Mansouri	1.4	2006-07	55 (41-68)	39	2006-2007	55	4, 63
29	Greece	Koroni	2.7	1995-2002	53 (35-66)	20	1998-2002	56	71
30	Turkey	Çıralı	3.2	1994-2006, 2010	51 (23-96)	16	2006, 2010	86	80
31	Greece	Messaras Bay, Crete	8.1	1993-2007	51 (15-80)	6	2003-2007	45	73
32	Greece	Lefkas Island	17.13	1990	50 (50-50)	3	1990	50	66
33	Cyprus	South East Karpaz ^a	7.2	1993-99	48 (27-101)	7	1995-1999	41	13-16, 43-44
34	Cyprus	East Coast ^b	6.6	1993-2007	45 (20-84)	7	2003-2007	53	13-16, 35-40, 43-49
35	Cyprus	Guzelyali (Vasilias)	1	2008-15	41 (18-60)	41	2011-2015	45	128
36	Cyprus	North Coast ^b	2.7	1993-2015	38 (8-63)	14	2011-2015	50	13-16, 35-40, 43-49, 86, 89-95
37	Cyprus	South Karpaz ^c	7.6	1993-99	37 (18-51)	5	1995-1999	41	13-16, 43-44
38	Cyprus	Tatlisu (Akanthou)	0.3	1993-2015	35 (6-62)	116	2011-2015	38	13-16, 35-40, 43-49, 86, 89-95
39	Libya	Semeda	9.4	2006-07	34 (14-54)	4	2006-2007	34	52
40	Greece	Mounda, Kefalonia	2.8	1993-1998	29 (17-45)	10	1993-1998 ^s	29	68
41	Cyprus	North Karpaz ^c	4.4	1993-99	29 (14-63)	7	1995-1999	22	13-16, 43-44
42	Libya	Ain Ghazala 1	1.4	2007	26 (26-26)	19	2007	26	52
43	Turkey	Alata	3	2002-03, 2005-06	25 (16-32)	8	2002-03, 2005-06	25	5, 30
44	Libya	West Camp	2.5	2007	25 (25-25)	10	2007	25	52
45	Libya	Al-Gwezat	5.5	2006-07	23 (13-33)	4	2006-2007	23	52
46	Greece	Romanos	2.7	1989, 98, 99	22 (17-30)	8	1998-1999	25	73
47	Libya	Al Arar	7	2006-07	22 (7-37)	3	2006-2007	22	52
48	Libya	Al Malfa	1.5	2006-07	20 (3-37)	13	2006-2007	20	52

Country	Nesting Beach/Area Name	Survey Length (km)	Survey Year(s)	Entire period		Most recent 5-yr period*		Data Source	
				Average nests/yr (range)	Nest Density (nest/km)	Survey Year(s)	Average Nests/yr		
49	Greece	Kerkyra Island	7.8	1990	20 (20-20)	3	1990	20	66
50	Libya	Elogla	3.9	2006-07	17 (4-30)	4	2006-2007	17	52
51	Libya	Elmabulha	5.3	2006-07	16 (10-22)	3	2006-2007	16	52
52	Tunisia	Great Kuriat	0.9	1993-2008, 2013	11 (4-22)	13	2013	22	55-57
Total		436		6751	15.5		8179		

Table S10. Countries holding minor levels of sea turtle nesting. *all years of the range were surveyed, §clutches were discovered serendipitously or during irregular surveys. Cc = *Caretta caretta*, Cm = *Chelonia mydas*. Data sources: see list below Table S11.

Country	Nesting Area		Clutches			
	Name	Year(s)	Species	Annual Range	Nesting Level	Data Source
Egypt	North-East Coastline	1998-2000*	Cc	20-37	Regular, Dispersed	116, 117
Egypt	North-East Coastline	1998-2000*	Cm	0-3	Occasional	116, 117
France	St. Tropez and Corsica	2002, 2006 [§]	Cc	0-1	Extremely Rare	119, 120
Greece	Rethymno	2007 [§]	Cm	0-1	Extremely Rare	73
Israel	Whole coastline	1984-2016*	Cc	2-183	Regular, Dispersed	121
Israel	Whole coastline	1984-2016*	Cm	1-34	Regular, Dispersed	121
Italy	Pelagian Archipelago	1975-2004 [§]	Cc	0-7	Occasional	122
Italy	Sth Tyrrhenian coastline	1960's, 2002-2015 [§]	Cc	0-8	Occasional	122, 119, 120
Italy	Sardinia	1982-2014 [§]	Cc	0-3	Occasional	122, 119, 120
Italy	Ionian coastline	1994-2004 [§]	Cc	0-13	Occasional	122
Italy	Sth Adriatic	Pre1973-1994 [§]	Cc	0-3	Occasional	122
Italy	Sicily	1963-2013 [§]	Cc	0-3	Occasional	122, 120, 123
Lebanon	El Masouri & Abbassieh	2002-2004*	Cm	4-14	Regular	4, 63
Malta	Gnejna	2012 [§]	Cc	0-1	Extremely Rare	124
Spain	Mediterranean Coast	2000-2016 [§]	Cc	0-2	Infrequent	125, 126, 127
Syria	Latakia	2004-2009	Cc	1-22	Regular	85

Table S11. Green turtle (*Chelonia mydas*) nesting locations in the Mediterranean, with nests/yr > 10 and nests/km-yr > 3. If the surveyed beach tract varied among years, the maximum beach length is given. *Most recent 5-yr period: the most recent surveyed year and the 4 previous years, if available. §In one case, a longer period is included because it was not possible to extract individual years from the data source. ^aTotal from ten beaches surveyed, ^bTotal from five beaches surveyed. Data sources: see list below.

Country	Nesting Beach/Area		Survey Year(s)	Entire period		Most recent 5-yr period*		Data Source	
	Name	Length (km)		Average nests/yr (range)	Nest Density (nest/km)	Survey Year(s)	Average Nests/yr		
1	Turkey	Akyatan	22	1988, 91-92, 94-98, 00-01, 06-11	321 (108-735)	15	2007-2011	322	2, 6, 17, 42, 77, 78, 103, 107, 111, 114, 115
2	Turkey	Sugözü	3.4	2004	213 (213-213)	63	2004	213	22
3	Turkey	Kazanlı	4.5	1988, 90, 93-94, 96, 2000-02, 04, 06	202.5 (73-403)	45	2002, 2004, 2006	365	3, 6, 7, 10, 26, 28, 114
4	Turkey	Samandağ	14	1988, 94, 96, 2001-06, 08	168.8 (16-441)	12	2004-06, 2008	306	6, 96, 109, 111, 114, 131
5	Syria	Latakia	12	2004-2009	140 (18-273)	12	2004-2009 [§]	140	85
6	Turkey	Alata	3	2002-06	124.6 (20-198)	42	2002-06	125	5, 30
7	Cyprus	Ayios Philon & Ronnas Beach	3.2	1993-1999, 2008	110 (38-220)	34	2008	220	13-16, 46-49, 89
8	Turkey	Davultepe	2.8	2009-14	105.3 (68-172)	38	2010-14	113	31
9	Cyprus	Alagadi (Alakati)	1.7	1993-2015	73.9 (8-236)	44	2011-15	154	13-16, 35-40, 43-49, 86, 89-95
10	Cyprus)	South Karpaz ^a	7.6	1993-99	66.1 (35-109)	9	1995-99	59	13-16, 46-49, 89
11	Cyprus	Akdeniz Beachs (Morphou Bay)	8.6	1993-2015	49.6 (4-125)	6	2011-15	70	13-16, 35-40, 43-49, 86, 89-95
12	Cyprus	West Coast	5	1989-2015	59.9 (9-154)	10	2011-15	108	25, 129
13	Cyprus	North Coast ^b	2.7	1993-2015	15 (0-37)	6	2011-15	11	13-16, 35-40, 43-49, 86, 89-95
		Total	90.5		1650	18.2		2204	

Data sources of Tables S9, S10 and S11. 1, ARCHELON (2016); 2, Aureggi et al. (2000); 3, Aureggi (2001); 4, Aureggi et al. (2005); 5, Aymak et al. (2009); 6, Baran and Kasperek (1989); 7, Baran et al. (1992); 8, Baran and Turkozan (1996); 9, Baran et al. (1996); 10, Baran et al. (2002); 11, Baskale et al. (2012); 12, Başkale et al. (2016); 13, Broderick and Godley (1993); 14, Broderick and Godley (1995); 15, Broderick et al. (1997); 16, Broderick et al. (1999); 17, Brown and Macdonald (1995); 18, Canbolat (1991); 19, Canbolat (1999); 20, Canbolat (2001); 21, Canbolat (2004); 22, Canbolat et al. (2009); 23, Canbolat (2006b); 24, Canbolat et al. (2007); 25, Demetropoulos and Hadjichristophorou (2010); Demetropoulos and Hadjichristophorou (1995); Demetropoulos and Hadjichristophorou (2009); 26, Durmus (1998); 27, Durmuş et al. (2011); 28, Elmaz and Kalay (2006); 29, Erdogan et al. (2001); 30, Ergene et al. (2006); 31, Ergene et al. (2016); 32, Erk'akan et al. (1990); 33, Erk'akan (1993); 34, Erzin et al. (2006); 35, Fuller et al. (2002); 36, Fuller et al. (2003); 37, Fuller et al. (2004); 38, Fuller et al. (2005); 39, Fuller et al. (2006); 40, Fuller et al. (2007); 41, Geldiay et al. (1982); 42, Gerosa et al. (1998); 43, Glen et al. (1997); 44, Glen et al. (2000); 45, Glen et al. (2001a); 46, Godley and Broderick (1992); 47, Godley and Broderick (1994); 48, Godley and Kelly (1996); 49, Godley et al. (1998); 50, Gökdoğan (2007); 51, Hamza and Ghmati (2006); 52, Hamza (2010); 53, Ilgaz and Baran (2001); 54, Ilgaz et al. (2007); 55, Jribi et al. (2006); 56, Bradai and Jribi (2010); 57, Jribi and Bradai (2014); 58, Kaska (1993); 59, Kaska et al. (2010); 60, Kaska et al. (2012); 61, Kaska et al. (2014); 62, Khalil et al. (2009b); 63, Khalil et al. (2009a); 66, Margaritoulis (2000); 67, Margaritoulis and Rees (2001); 68, Margaritoulis et al. (2003); 69, Margaritoulis and Rees (2003); 70, Margaritoulis (2005); 71, Margaritoulis and Rees (2006); 72, Margaritoulis et al. (2009); 73, Margaritoulis and Panagopoulou (2010); 74, Margaritoulis et al. (2011); 75, Newbury et al. (2002); 76, Olgun et al. (2016); 77, Oruç (2001); 78, Oruç et al. (2002); 79, Oruç et al. (2003); 80, Oruç et al. (2007); 81, Öz et al. (2006); 82, Öz et al. (2008); 83, Peters and Verhoeven (1992); 84, Rees et al. (2002); 85, Rees et al. (2010); 86, Rhodes et al. (2012); 87, Sak and Baran (2001); 88, Selin (2004); 89, Snape et al. (2008); 90, Snape et al. (2009); 91, Snape et al. (2010); 92, Snape et al. (2011); 93, Snape et al. (2013a); 94, Snape et al. (2014); 95, Snape et al. (2015); 96, Sönmez and Özdilek (2013); 97, St. John et al. (2004); 98, Taşkavak et al. (2006); 99, Taskin and Baran (2001); 100, Turkozan and Baran (1996); 101, Turkozan (2000); 102, Turkozan (2006); 103, Türkozan et al. (2008); 104, Turkozan and Yilmaz (2008); 105, Uçar et al. (2012); 106, Van Piggelen and Strijbosch (1993); 107, Whitmore (1991); 108, Whitmore (1995); 109, Yalcin-Ozdilek (2007); 110, Yerli (1990); 111, Yerli and Demirayak (1996); 112, Yerli et al. (1998); 113, Yerli and Canbolat (1998b); 114, Yerli and Canbolat (1998a); 115, Yılmaz et al. (2015); 116, Clarke et al. (2000); 117, Campbell et al. (2001); 119, Bentivegna et al. (2010); 120, Maffucci et al. (2016); 121, Yaniv Levy, Israel Sea Turtle Rescue Centre, Pers. Comm. 25/10/2016; 122, Mingozi et al. (2007); 123, Casale et al. (2012d); 124, Mifsud et al. (2015); 125, Carreras et al. (2018); 126, Tomás et al. (2002b); 127, Tomas et al. (2008); 128, Tricia Dann, Society For The Protection Of Turtles, Girne, North Cyprus, Pers. Comm. 03/08/2016; 129, Demetropoulos et al. (2015); 130, Canbolat (2006a); 131, Sönmez and Yalçın-Özdilek (2008).

Table S12. Speed of travel for sea turtles in the Mediterranean according to maturity status, sex, size habitat and behaviour. Source: a, Cardona et al. (2005), Revelles et al. (2007b); b, Cardona et al. (2009) ; c, Casale et al. (2012c); d, Casale et al. (2012a); e, Bentivegna et al. (2007); f, Schofield et al. (2010); g, Casale et al. (2013); h, Godley et al. (2003); i, Zbinden et al. (2008); j, Patel et al. (2015a); k, Dujon et al. (2017); l, Godley et al. (2002); m, Rees et al. (2008a).

Species	stage	Size (cm CCL)	Habitat	Behaviour	Avg. Speed (km h ⁻¹)	Source
<i>Caretta caretta</i>	juveniles	41-67	Oceanic	Foraging	0.7	a
	juveniles	42-60	Neritic	Foraging	0.3	b
	juveniles	55-69	Mixed	Foraging	0.6	c
	juveniles	47-67	Neritic	Foraging	0.5	d
	juveniles	56-73		Migrating	1.6	e
	adult males	79-98	Neritic	Foraging	0.5	f
	adult males	79-98		Migrating	1.5	f
	adult males	75-85	Neritic	Foraging	0.3	g
	adult males	75-85		Migrating	1.1	g
	adult females	71-73		Migrating	1.5	h
	adult females	71-73	Neritic	Foraging	0.5	h
	adult females	76-91		Migrating	1.6	i
	adult females	75-91		Migrating	1.1	j
adult females	71-91	Mixed	Migrating	1.5	k	
<i>Chelonia mydas</i>	adult females		Oceanic	Migrating	2.8	l
	adult females		Neritic	Migrating	1.6-1.7	l
	adult female	N/A	Neritic	Migrating	1.6-2.1	m

Table S13. Summary statistics of the diving behaviour of marine turtles in the Mediterranean Sea. Habitat: OW: overwintering; INT_{ner}= interesting, neritic; FG_{ner} = foraging ground, neritic; FG_{oc} = foraging ground, oceanic; N = number of turtles for which dive data are reported; sex: f = female, m = male, uk = unknown. Source: a, Hochscheid et al. (2013); b, Alvarez de Quevedo et al. (2013); c, Hochscheid et al. (2010); d, Hochscheid et al. (2005); e, Houghton et al. (2000); f, Houghton et al. (2002); g, Broderick et al. (2007); h, Godley et al. (2002); i, Fuller et al. (2009); j, Glen et al. (2001b); k, Hochscheid et al. (1999); l, Hays et al. (2002).

Species	Basin	Habitat type	N	Life stage	Sex	Dive duration (min)		Dive depth (m)		Source
						mean	max	mean	max	
<i>C. caretta</i>	Western	FG _{ner}	1	juvenile	uk	5/2.8	15/10.4	10.25/11.8	35.2/45.6	a
	Western	FG _{oc}	9	juvenile	uk			6.6	125	b
	Central	FG _{ner} , FG _{oc}	8	adult + juvenile	uk=9, m=1					c
	Central	OW	1	adult	f		410		174.5	d
	Eastern	FG _{ner}	4	adult	m	2.3	11			e
	Eastern	INT _{ner}	2	adult	f		55	8.71	70	f
	Eastern	OW	1	adult	f	307.2	614.4			g
<i>C. mydas</i>	Eastern	OW	1	adult	f	100.2	307			g
	Eastern	OW	3	adult	f			9.5	3.4	h
	Eastern	FG _{ner}	3	adult	f			4.1	24	h
	Eastern	INT _{ner}	2	adult	f	5.95	28	2.75	13.1	i
	Eastern	INT _{ner}	1	adult	f			4.6		j
	Eastern	INT _{ner}	2	adult	f		40		24.8	k
	Eastern	INT _{ner}	9	Adult	f			1.9-3.9	57.8	l

Table S14. Major dietary items for marine turtles in the Mediterranean Sea. ●●●: Top ranked prey; ●●: Secondly ranked prey; ●: Thirdly ranked prey. n.a.: not available. N = number of turtles for which dietary information is reported; Method: GICA = gastro-intestinal content analysis, SIA = Stable isotope analysis; Prey: Por: Porifera, Cni: Cnidaria, Dec: Decapoda, Anne: Annelida, Mol: Mollusca other than Cephalopoda; Ceph: Cephalopoda; Echi: Echinodermata; Tun: Tunicata; Anim: all animal groups combined, Seagr: seagrasses. Lazar et al. (2011) details the molluscs consumed by loggerhead turtles in the Adriatic Sea. Source: a, Tomas et al. (2001); b, Ocaña et al. (2005); c, Revelles et al. (2007a); d, Cardona et al. (2012); e, Casale et al. (2008); f, Laurent and Lescure (1994); g, Laurent and Lescure (1994); h, Hochscheid et al. (2013); i, Lazar et al. (2010); j, Hays et al. (2002); k, Cardona et al. (2010).

Species	Basin	CCL (cm)	N	Method	Animals										Plants		Source	
					Por	Cni	Dec	Anne	Mol	Ceph	Echi	Tun	Fish	Anim	Seagr			
<i>C. caretta</i>	Western	34.0-69.0	54	GICA			●						●●	●●●	●●●			a
	Western	n.a.	n.a.	GICA			●●●								●●●			b
	Western	31.2-71.9	19	GICA						●●●		●	●●	●●	●●●			c
	Western	31.2-71.9	21	SIA		●●●				●●			●●	●●	●●●			c
	Western	40.5-54.3	5	SIA		●●●						●●●	●	●●	●●●			d
	Central	24.0-80.3	79	GICA			●		●●		●●●				●●●			e
	Central	<70	19	GICA	●●●		●●		●						●●●			f
Central	>70	12			●	●●		●●●						●●●			g	
<i>C. mydas</i>	Western	57.4-75.0	6	GICA			●●●		●●		●				●●●			h
	Adriatic	40.0	1	GICA				●●●							●●●	●●		i
	Eastern	n.a.	30	GICA												●●●		j
	Eastern	28.0-60.0	13	SIA											●●●	●●		k
	Eastern	60.0-83.0	9	SIA											●●	●●●		k

Table S15. Reproductive parameters of sea turtles in the Mediterranean Sea. Sources: 1, Broderick and Godley (1996); 2, Ilgaz and Baran (2001); 3, Campbell et al. (2001); 4, Margaritoulis et al. (2003); 5, Margaritoulis (2005); 6, Margaritoulis et al. (2011); 7, Silberstein and Dmi'el (1991); 8, Mingozi et al. (2007); 9, Casale et al. (2012d); 10, Newbury et al. (2002); 11, Jribi et al. (2013); 12, Tomás et al. (2002b); 13, Bradai and Jribi (2010); 14, Turkozan and Yilmaz (2008); 15, Kaska et al. (2010); 16, Turkozan (2000); 17, Taskin and Baran (2001); 18, Olgun et al. (2016); 19, Uçar et al. (2012); 20, Durmuş et al. (2011); 21, Yılmaz et al. (2015); 22, Rees et al. (2008b); 23, Ergene et al. (2013); 24, Sonmez et al. (2013); 25, Yalcin-Ozdilek and Yerli (2006). *combined over 19 seasons (1984-2002), §combined over 7 seasons (2003-2009).

	Clutch size (eggs) Mean ±SD or range of means (N)	Incubation duration (days) Mean ±SD or range of means (N)	Hatchling emergence success (%) Mean ±SD or range of means (N nests)	Source
<i>Caretta caretta</i>				
Cyprus				
Alagadi (Alakati)	70±21.7 (323)	48.0±2.9 (115)	79.1±20.8 (321)	1
Northern Karpaz		51.8 (5)		2
			66.4 (60)-76.2 (79)	3
Egypt	64.3 (79)-64.7(60)	48.1 (60)-53.5 (79)		
Greece				
	110.3-117.1 (92- 103)	53.3-54.3 (73-76)		4
Bay of Chania				4
Bay of Messara	108.1 (49)			4
Kefalonia	99.8-120.4 (23-32)	54.9 (26)		4
Southern Kyparissia Bay	105.2-126.8 (33- 506)	48.1-53.9 (35-302)		4
Lakonikos Bay	107.1-126.1 (24- 208)	52.1-59.3 (35-150)		4
Rethymno	102.0-124.6 (160- 378)	51.7-55.2 (105-156)		4
Rhodes	78.0-108.3 (2-6)	49.0-55.0 (1-3)		4
Zakynthos (Laganas Bay)	106.7 (4017) § - 116.5 (5972)*	52.5 (3841)§ -5 5.2 (666)*	66.6 (5972)* - 68.9 (4017)§	5, 6
Israel	82 (34)	54 (34)		7
Italy	97.9 (7)-99 (17)	45.6 (11)-70 (5)	27.4 (7)-86 (13)	8, 9
Lebanon	72.7 (4)			10
Libya	33 (4)-105 (5)	47 (18)-58 (3)	33.3 (5)-95.9 (10)	11, 4
Spain	97(1)		41.2(1)	12
Tunisia				
Kuriat island	87.85		64	13
Turkey				
	72.3 (210)-79.7 (214)	52.3 (273)	60.4 (424)	14
Dalyan			79.7	15
Dalaman	79 (645)	49.3		15
Fethiye	80.7 (336)	56.0	59.0 (336)	16
	68.2 (691)- 68.8 (224)	51 (48)-52.1(52)	42.8 (676)-45.3 (47)	17, 18
Patara			61.8(191) 62.4-	
Kızılot	78.5 (191) -79.7	49.8-59.6	63.5	16
Anamur	76.4 (1123)	49.9 (356)		19

	Clutch size (eggs) Mean ±SD or range of means (N)	Incubation duration (days) Mean ±SD or range of means (N)	Hatchling emergence success (%) Mean ±SD or range of means (N nests)	Source
Göksu Deltası	71 (226)	53 (40)	20.1 (226)	20
Akyatan	71.8±5.3 (21)	50.8±3.4 (10)	53.9 (21)	21
<i>Chelonia mydas</i>				
Cyprus				
Alagadi (Alakati)	115.5±30.4 (347)	51.1 ±3.5 (121)	84.2±19.2 (341)	1
Egypt	101 (10)	46.5 (10)	53.7 (10)	3
Syria				
Latakia	108±25 (29)		80.0 (29)	22
Turkey				
Patara		50 (3)		18
Kazanlı	110.7±30.3 (316)	52.2±4.4 (38)	78.3 (316)	23
Akyatan	113.7±0.8 (1335)	52.9±3.8 (1046)	75.6 (1335)	21
Samandağ		52.9±3,54 (24)	81.1 (96)	24, 25

Table S16. Growth rates (cm yr⁻¹) per size class of *Caretta caretta* in the Mediterranean. ¹N refers to measurable Lines of Arrested Growth (LAGs) used to calculate the growth rates. ²Calculated from the source data. ³Adult females ranging 63-87 cm CCL. Source: a, Casale et al. (2009); b, Piovano et al. (2011); c, Rees et al. (2013); d, Broderick et al. (2003).

Size class (CCL, cm)	Italian waters	Italian waters (Mediterranean origin)¹	Italian waters(Atlantic origin)¹	Amvrakikos Gulf, Ionian Sea (Greece)²	Cyprus³
4.1-10.0	11.8				
10.0-20.1	10.1				
20.1-24.3	4.2				
24.3-27.9	3.6				
13.0-19.9		5.1 ± 0.6 (N = 6)	4.6 ± 1.8 (N = 12)		
20.0-29.9		3.5 ± 1.7 (N = 31)	3.2 ± 1.0 (N = 17)		
30.0-39.9		2.9 ± 1.5 (N = 46)	3.0 ± 1.3 (N = 26)		
40.0-49.9		2.9 ± 1.0 (N = 29)	3.0 ± 1.2 (N = 32)		
50.0-59.9		4.1 ± 1.4 (N = 3)	2.1 ± 1.5 (N = 25)	2.71 (N = 1)	
60.0-69.9		4.4 ± 0.4 (N = 2)	2.7 ± 1.1 (N = 12)	0.52 ± 0.46 (N = 7)	0.36 ± 0.57 (N = 39)
70.0-78.9		3.0 ± 0.6 (N = 2)	1.5 ± 0.4 (N = 11)	0.43 ± 0.58 (N = 17)	
≥ 80				0.27 ± 0.45 (N = 8)	
Source	a	b	b	c	d

Table S17. Weighted mean of size of female *Caretta caretta* nesting at the main Mediterranean nesting areas. CCL and nest data from tables S1 and S9 in the Supplement respectively.

Country	Mean CCL	nests/yr
Cyprus	73.8	1357
Greece	83.4	3321
Turkey	76.7	2822
Libya	78.0	601
Weighted mean	79.1	

Table S18. Sex ratios of sea turtles in the Mediterranean Sea. AST-ID: Air-sand temperature-Incubation Duration; GH: Gonad histology; GMG: Gross morphology of gonads; ID: Incubation Duration; Model: OSR modelling; OSR:- Operational sex ratio; NT: Nest Temperature; ST: Sand Temperature; TA: Testosterone assay; TL: Tail length.*Confidence intervals taken from Casale et al. (2014); n.a.: not applicable (see reference source for details).Sources: 1, Zbinden et al. (2007); 2, Katselidis et al. (2012); 3, Rees and Margaritoulis (2004); 4, Kaska et al. (1998); 5, Ozdemir et al. (2011); 6, Sarı and Kaska (2015); 7, Kaska et al. (2006); 8, Oz et al. (2004); 10, Uçar et al. (2012); 11, Kılıç and Candan (2014); 12, Godley et al. (2001); 13, Fuller et al. (2013); 14, Jribi and Bradai (2014); 15, Jribi et al. (2013); 16, Casale et al. (1998); 17, Casale et al. (2006); 18, Maffucci et al. (2013); 19, Casale et al. (2005); 20, Hays et al. (2010); 21, Rees et al. (2013); 22, Casale et al. (2014); 23, Broderick et al. (2000); 24, Casale et al. (2000); 25, Kılıç and Candan (2014); 26, Yalçın Özdilek et al. (2016); 27, Wright et al. (2012).

Species/Stage/Area	Size class (CCL, cm)	N	Method	Proportion of females (%) (95% CI)*	Source	
<i>Caretta caretta</i>						
Hatchlings						
Zakynthos, Greece			ID	68-75	1	
			ID	73.2-80.6	2	
Southern Kyparissia Bay, Greece			ST	70	3	
	Dalyan, Turkey		NT	90	4	
			AST-ID	59.1	5	
			AST-ID	77.7	5	
			NT	61	6	
			GH	55.6	6	
			ID	69.3	6	
			NT	59.5	4	
Fethiye, Turkey			NT	60.8	7	
			ID	60	7	
			GH	64.7	7	
			AST-ID	72.3	5	
			AST-ID	77.1	5	
	Patara, Turkey			NT	72	4
				NT	70.5	8
Kızılot, Turkey			NT	94.5	4	
Anamur, Turkey			ID	75.6	10	
			ID	87.8	10	
			GH	72.1	10	
			GH	79	10	
Goksu Delta, Turkey			NT	81	6	
			ID	73.1	6	
			NT	89.7	11	
Akdeniz Beaches (Morphou Bay), Cyprus			NT	91.5	4	
			ID	99	12	
Alagadi (Alakati), Cyprus			ID	89	12	
			ID	89 (58-98)	13	
Kuriat Island, Tunisia			NT	2	14	
			ID	8	14	
Sirte beach, Libya			NT	70.4	15	
			ID	85.4	15	
Juveniles						
Central Mediterranean (Italy)	29-65	54	TA	55.6 (41.4-69.1)	16	
Central Mediterranean (Italy)	15-65	66	GMG	54.5 (41.8-66.9)	17	
North-West Mediterranean (Spain)	25-65	104	GMG	53.8 (43.8-63.7)	17	
North-East Adriatic Sea (Croatia, Slovenia)	25-65	57	GMG	57.9 (44.1-70.9)	17	
South-West Adriatic Sea (Italy)	5-65	83	GMG	51.8 (40.6-62.9)	17	

Species/Stage/Area	Size class (CCL, cm)	N	Method	Proportion of females (%) (95% CI)*	Source
South-East Tyrrhenian Sea (Italy)	29-70	218	GMG	61.0 (54.2-67.5)	18
Adults					
Italian waters	>75	69	TL	60.9 (48.4-72.4)	19
Laganas Bay, Zakynthos, Ionian Sea (Greece)	n.a	n.a.	Model	47 (OSR)	20
Amvrakikos Gulf, Ionian Sea (Greece)	>75	107	TL	43.9 (34.3-53.9)	21
Central Mediterranean (Italy)	>75	97	TL	51.5 (41.2-61.8)	22
South-East Tyrrhenian Sea (Italy)	>75	45	GMG	40.0 (25.7-55.7)	22
<i>Chelonia mydas</i>					
Hatchlings					
Akdeniz Beaches (Morphou Bay), Cyprus			NT	78.8	4
Alagadi (Alakati), Cyprus			ID	86	23
			ID	96	23
Akyatan, Turkey			ST	female biased	24
Sugözü beach, Turkey			GH	70.5	25
Sugözü beach, Turkey			GH	93.5	25
Samandağ, Turkey			NT	73.7	26
Adults					
Alagadi (Alakati), Cyprus	n.a	n.a.	Genetics	41.7 (OSR)	27

Table S19. Annual survival probabilities for *Caretta caretta* in the Mediterranean Sea. Source: a, Casale et al. (2007); b, Casale et al. (2015).

Area	Mean	CI95% or range of means	size or age class	Source
Mediterranean	0.73	CI95%: 0.67-0.78	25-88 cm CCL	a
North Adriatic	0.84	Range: 0.80-0.89	>11 yrs	b
South Adriatic	0.71	Range: 0.66-0.79	>13 yrs	b
North Ionian	0.82	Range: 0.79-0.89	>7 yrs	b
Tunisian shelf	0.86	Range: 0.84-0.90	>7 yrs	b

Table S20. Main threats to sea turtles on eastern Mediterranean nesting sites. References: 1, Fuller et al. (2010); 2, Broderick and Godley (1996); 3, Demetropoulos and Hadjichristophorou (2010); 4, Nada and Casale (2010) ; 5, Clarke et al. (2000); 6, Campbell et al. (2001); 7, Margaritoulis and Panagopoulou (2010); 8, Levy (2010) ; 9, Silberstein and Dmi'el (1991); 10, Casale (2010); 11, Aureggi and Khalil (2010); 12, Newbury et al. (2002); 13, Hamza (2010); 14, Jribi et al. (2013); 15, Rees et al. (2008b); 16, Bradai and Jribi (2010); 17, Türkozan and Kaska (2010); 18, Turkozan and Yilmaz (2008) ; 19, Canbolat (2004); 20, Kaska et al. (2010); 21, Durmuş et al. (2011); 22, Yılmaz et al. (2015);

Country	Region/ Beach	Beach Debris	Erosion/ Sand Extraction	Coastal Development	Human Use (Beach Furniture)	Light Pollution	Human Exploitation (in the past)	Predation	Nest Predators (able to reach the eggs)	Reported predation rate (%)	References
Cyprus	Alagadi (Alakati)		YES		YES			YES	Fox	38	1, 2
	Akdeniz(Morphou Bay)	YES						YES	Fox, Dog	Variable	1
	Tathsu (Akanthou)	YES						YES	Fox		1
	Lara				YES				Fox		3
	Chrysochou Bay	YES	YES	YES		YES		YES	Fox		3
Egypt	Alexandria	YES					YES				4
	Port Said/zaranik	YES					YES	YES	Ghost Crab	45-99	4, 5, 6
Greece	Zakynthos (Laganas Bay)	YES	YES					YES	Dog	Negligible	7
	Kyparissia Bay	YES	YES	YES				YES	Fox, Dog	48-62	7
	Rethymno	YES	YES	YES	YES	YES		YES	Dog, Ghost Crab	negligible	7
	Lakonikos Bay	YES	YES	YES	YES	YES		YES	Fox, Dog, Jackal	40	7
	Chania Bay	YES	YES	YES	YES	YES		YES	Dog	negligible	7
	Messara Bay	YES	YES	YES	YES	YES		YES	Dog, Marten	negligible	7
	Kefalonia/Mounda beach			YES	YES	YES		YES	Dog	30	7
	Koroni				YES	YES		YES	Fox, Dog	65	7
	Romanos					YES		YES	Fox, Dog	10	7
Israel		YES	YES				YES	YES	Fox, Dog		8,9
Italy				YES	YES						10
Lebanon		YES	YES					YES	Dog, Fox		11,12
Libya	28 beaches		YES					YES	Fox, Jackal		13,14
Syria	6 small beaches		YES								15

Country	Region/ Beach	Beach Debris	Erosion/ Sand Extraction	Coastal Development	Human Use (Beach Furniture)	Light Pollution	Human Exploitation (in the past)	Predation	Nest Predators (able to reach the eggs)	Reported predation rate (%)	References
Tunisia	Kuriat Islands						YES				16
Turkey	Ekincik			YES	YES						17
	Dalyan							YES	Fox, Ghost Crab		17, 18, 19
	Dalaman			YES	YES	YES		YES	Foxes	45	17, 20
	Fethiye			YES	YES	YES		YES	Dog, Fox		17, 19
	Patara		YES					YES	Dog, Fox		17
	Kale-Demre			YES	YES	YES					17
	Çıralı			YES	YES						17
	Tekirova			YES	YES						17
	Belek			YES	YES	YES					17
	Kızılot		YES	YES	YES	YES		YES	Dog, Fox		17
	Demirtaş			YES	YES	YES					17
	Anamur			YES	YES	YES					17
	Göksu Deltası		YES					YES	Jackal, Dog, Fox,	33.9	17, 21
	Kazanlı							YES	Dog, Fox		17
	Akyatan							YES	Dog, Fox, Jackal		17
	Yumurtalık, Sugözü							YES	Dog, Fox, Jackal	75.5	17, 22
Samandağ	YES	YES					YES	Dog, Fox, Jackal		17	

Table S21. Recent sea turtle bycatch levels (since the review by Casale 2011) in the Mediterranean Sea. *if different from *Caretta caretta* only (Cc: *Caretta caretta*; Cm: *Chelonia mydas*; Dc: *Dermochelys coriacea*). Source: a, Banaru et al. (2010); b, Alvarez de Quevedo et al. (2010); c, Lozano et al. (2011); d, Septem Nostra (2013), Ocaña (2015); e, Domènech et al. (2015); f, Cambiè (2011); g, Burgess et al. (2010); h, Snape et al. (2013b); i, Levy et al. (2015); j, Lucchetti et al. (2017b); k, Lucchetti et al. (2017a).

Region	Country	Turtles yr ⁻¹ (species*)	Fishing gear	Source
Western	France	5.5	Thonaille	a
	Spain	249	BT	b
		124	DLL	
		11	BLL	
		93	ART	
	Spain	4.5	Trammel net	c
	Spain (Ceuta)	8 4.3 (Dc)	Small traps	d
Spain, Valencia	238	Bottom trawlers	e	
Italy, Sardinia	92	Trammel nets	f	
Central	Malta	320	Tuna longline	g
Eastern	Cyprus	1000 (Cc, Cm)	Bottom-set; trammel nets	h
	Israel	1315 (Cc, Cm)	Trawlers	i
		1672 (Cc, Cm)	Gillnets	
		130 (Cc, Cm)	Longline	
		67 (Cc, Cm)	Purse seine	
Italy (Adriatic)	5400 (Cc)	Set nets	j	
Italy	52000 (Cc)	Trawlers, Longlines		

Table S22. Recent studies related to turtle bycatch in the Mediterranean (including reviews of earlier literature), by fishing categories and country. Source: a, Alvarez de Quevedo et al. (2010); b, Alvarez de Quevedo et al. (2013); c, Lucchetti and Sala (2010); d, Lucchetti et al. (2017a); e, Nada and Casale (2011); f, Burgess et al. (2010); g, Casale (2011); h, Casale et al. (2012b); i, Cambiè et al. (2010); j, Báez et al. (2013); k, Levy et al. (2015); l, Lucchetti et al. (2016a), Lucchetti et al. (2016b); m, Domènech et al. (2015); n,EJF (2007); o, Cornax (2009); p, Banaru et al. (2010); q, Akyol and Ceyhan (2012); r, Karaa et al. (2013); s, Echwikhi et al. (2010); t, Cambiè (2011); u, Snape et al. (2013b); v, Lucchetti et al. (2017b).

Fishing gears	Countries	Source
Tuna & Tuna-like Longlines (LLs)	Algeria; Croatia; Cyprus; Egypt; France; Greece; Italy; Libya; Malta; Morocco; Spain; Tunisia; Turkey;	a, b, c, d, e, f, g, h, i, j, k
Bottom trawl (BT)	Albania; Algeria; Croatia; Cyprus; Egypt; France; Greece; Italy; Libya; Malta; Montenegro; Morocco; Palestinian territories; Slovenia; Spain; Syria; Tunisia; Turkey;	a, g, k, l, d, e, m
Gillnets (GN) & Driftnets	Algeria ;France; Italy; Morocco; Tunisia; Turkey	n, o, p, q, r
Artisanal gears(set nets)	Albania; Croatia; Cyprus; Egypt; France; Italy; Libya; Slovenia; Spain;	a, s, c, t, g, e, k, v

Table S23. Frequency of occurrence (%) of ingested anthropogenic debris in *Caretta caretta* from different studies undertaken around the Mediterranean. N: sample size; * in faeces; §in gut (necropsies); #includes information published in Casale et al. (2008). Source: a, Tomás et al. (2002a); b, Revelles et al. (2007a); c, Campani et al. (2013); d, Matiddi et al. (2017); e, Camedda et al. (2014); f, Gramentz (1988); g, Russo et al. (2003); h, Casale et al. (2016); i, Lazar and Gračan (2011); j, Kaska et al. (2004)

Area	N	%	Turtle size range (CCL in cm)	Source
Western Med (Spain)	54	75.9	34–69	a
	19	37.5	n/a	b
Western Med, Tyrrhenian (Italy)	31	71	29–73.0	c
Western Med, Tyrrhenian (Italy)	120	85	21–82.7	d
Western Med, Sardinia (Italy)	121	14	21–73	e
Central Med (Malta)	99	20.2	20–69.5	f
Sicilia (Italy)	121	18.2*	<70	g
	44	15.9 §		
Central Med, Lampedusa (Italy) #	567	up to 80	18.2–82	h
Adriatic (Croatia and Slovenia)	54	35.2	25–79.2	i
Turkey	42	n/a	47–80	j

Table S24. Heavy metal occurrence in Mediterranean sea turtles. Cc: *Caretta caretta*; Cm: *Chelonia mydas*; Al: Aluminium; As: Arsenic; Ca: Calcium; Cd: Cadmium; Cr: Chromium; Cu: Copper; Fe: Iron; Hg: Mercury; Mg: Magnesium; Mn: Manganese; Ni: Nickel; Pb: Lead; Sb: Antimony; Se: Selenium; U: Uranium; V: Vanadium; Zn: Zinc; A+N: adult females+nests (hatchlings or eggs); J: juveniles, size range (~20-85 cm CCL). * Max N: maximum N among the sample sets of different body parts. Source: a, Garcia-Fernandez et al. (2009); b, Russo et al. (2003); c, Storelli et al. (2005); d, Storelli et al. (2008); e, Maffucci et al. (2016); f, Franzellitti et al. (2004); g, Bucchia et al. (2015); h, Godley et al. (1999); i, Kaska et al. (2004); j, Yipel et al. (2017); k, Mattei et al. (2015).

Area	N	Pollutans	Body parts	Source
S Spain	20J* Cc	Cd, Pb, Zn, Cu	kidneys, liver, muscle, brain, bone	a
Sicily (Italy)	10J Cc	Cd, Hg, Pb, Cr, As	heart, kidneys, liver, muscle, lungs, spleen	b
Adriatic and Ionian	19J Cc	Cd, Hg, Pb, Zn, Cu, Fe, Se	kidneys, liver, muscle, spleen, heart, lung, fat tissue	c
S Adriatic	7J Cm	Cd, Cu, Zn	liver, kidney	d
S Italy	29J Cc	Cd, Hg, Zn, Cu, Se	kidneys, liver, muscle	e
Adriatic Sea	17J Cc	Cd, Zn, Cu, Fe, Mn, Ni	liver, muscle, lungs, fat tissue	f
Adriatic Sea	35J Cc	As, Cd, Cu, Pb, Hg and Zn)	blood	g
Cyprus	7A+48N Cc, 6A+69N Cm	Cd, Hg, Pb	kidneys, liver, muscle, hatchlings, embryos, egg shells	h
E Med	32J+A Cc 22J+A Cm*	Cd, Cr, Pb, Cu, Ni, Pb, Fe, Se, Sb, As	kidneys, liver, muscle, lungs, bladder	i
E Med	10J+A Cc 3A Cm	Al, As, Cd, Cr, Cu, Fe, Hg, Mn, Ni, Pb, Se, Zn	Blood, liver	j
Tyrrhenian	1J Cc	Ca, Cd, Cr, Cu, Mg, Mn, Pb, Sb, U, V, Zn	Carapace	k

Table S25. International conventions and national laws protecting sea turtles in the Mediterranean. Blank spaces: absence of legislation; n/a: unknown. CBD: Convention on Biological Diversity; CMS: Convention on the Conservation of Migratory Species of Wild Animals; CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora.

	International Conventions					Bern Conv.	Habitats Directive (EU)	National Law
	Barcelona Conv.	CBD	CMS	CITES	African Conv.			
Albania	Yes	Yes	Yes	Yes		Yes		Yes
Algeria	Yes	Yes	Yes	Yes	Yes			Yes
Bosnia and Herzegovina	Yes	Yes		Yes		Yes		Yes
Croatia	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Cyprus*	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Egypt	Yes	Yes	Yes	Yes	Yes			Yes
France	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Greece	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Israel	Yes	Yes	Yes	Yes				Yes
Italy	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Lebanon	Yes	Yes		Yes				Yes
Libya	Yes	Yes	Yes	Yes	Yes			Yes
Malta	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Montenegro	Yes	Yes	Yes	Yes		Yes		Yes
Morocco	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Slovenia	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Spain	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Syria	Yes	Yes	Yes	Yes				
Tunisia	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Turkey	Yes	Yes		Yes		Yes		Yes

*not all island

Table S26. Research priorities for sea turtles in the Mediterranean. CC: *Caretta caretta*; CM: *Chelonia mydas*; ALL: both species.

Ran k	Section	Section topic	Species	Priority	Justification/description
1	4 & 6	Foraging areas and migratory corridors Population abundance and trends	ALL	Set up long-term in-water monitoring programs in key foraging areas for assessing sea turtle abundance and trend	Although valuable and necessary, nest counts represent a poor index of population abundance and trends, because of the high uncertainty of the parameters needed to estimate population abundance from nest counts. Quantitative estimates derived from distance sampling should be generated for key foraging sites across the Mediterranean.
2	3 & 6	Distribution -Breeding areas Abundance	CC	Assess distribution and level of nesting activity in Libya	In contrast to other areas, the level of nesting activity along the Libyan coast is still unknown, and even the existence of major nesting sites cannot be excluded. The 66% of the sandy coast, corresponding to ca. 600 km ca., has never been surveyed (Hamza, 2010). The lack of information about nest distribution prevents any site protection plan, while the unknown nesting activity levels prevents the quantification of the abundance of the Mediterranean RMU, needed for conservation status assessments and for modelling population dynamics.
3	7	Threats	ALL	Quantification of bycatch (especially in small-scale fisheries), associated mortality rates and intentional killings in key foraging areas and migratory pathways	Bycatch in fishing gears, including small-scale fisheries, is the major threat for Mediterranean populations. Quantifying the mortality and catch rate by gear and year is of paramount importance to understand the real effects of fisheries in the different populations present in the Mediterranean Sea and the validity of the conservation measures already implemented and to propose new bycatch reduction approaches and tools.
4	7	Threats	ALL	Understanding how climate change might impact sex ratios, geographical range and phenology	The currently poor knowledge of the possible effects of climate change on several life history parameters of turtles impedes understanding of the potential gravity of this threat in comparison to others.
5	5&6	Population abundance and trends Population structure and dynamics	ALL	Estimate/improve demographic parameters values	Demographic data are of the crucial importance for feeding population models and guiding sound conservation management of sea turtles. Population vital rates are under the influence of both environment and intrinsic population factors, and may differ between populations using different areas. Although some demographic information recently became available for loggerheads,

					environmental variance and different threat levels across the Mediterranean basin require further site-specific demographic studies, especially for green turtles for which such data are still lacking. Priorities: age at maturity, annual survival probability at different age classes.
6	6	Population abundance and trends	ALL	Improve population abundance estimates	Information on the population abundance by age is still lacking.
7	4	Foraging areas and migratory corridors	ALL	Assess the movement patterns of adults from key rookeries	Movement patterns and hot-spot areas are poorly known for adults (females and males) breeding in most rookeries. Priorities: the top five rookeries in Turkey, Kyparissia Bay (Greece) and Libya (loggerheads); Akyatan and Kazanli (Turkey), Latakia (Syria) and Ronnas Bay (Cyprus) (green turtles). E.g. through satellite tracking.
8	4	Foraging areas and migratory corridors	ALL	Identification of development habitats of post-hatchling and small turtles. Dispersal and settlement patterns.	Knowledge on how ocean dynamics affect the distribution of post-hatchlings/small turtles, what are the pressures on turtles in these nursery areas and the dispersal and settlement behavioural patterns will help to assess ecological niches and climate change effects. Tracking of small turtles is becoming more possible thanks to the recent miniaturization of telemetry devices.
9	4	Foraging areas and migratory corridors	ALL	Assess the movement patterns of juveniles	Juvenile movement patterns and hot-spot areas are poorly known in the Aegean Sea, south of Turkey, Levantine Sea, Libyan Sea and South Adriatic (both species) and in the Ligurian Sea, Tyrrhenian Sea, Ionian Sea and Sicily Channel (loggerheads). This should be assessed using telemetry studies at each location.
10	7	Threats	ALL	Developing and testing new bycatch reduction methods	There is a general paucity of bycatch mitigating measures and the existing ones may not be applicable in all cases.
11	4	Ecology and behaviour	ALL	Factors affecting turtle dormancy, areas and susceptibility to incidental capture	Turtles are most vulnerable to threats where essential resources are concerned, such as searching for food (e.g. preying on fishery's baits), or suitable resting places (e.g. on frequently used bottom trawling transects). These selection criteria need to be understood to mitigate interactions with fishing activities.
12	5	Population structure and dynamics	CM	Assess population structure	The species shows clear signs of deep structuring in the Mediterranean that can be assessed by means of high resolution genetic markers. The use of more informative mitochondrial DNA markers (Tikochinski et al. 2012), and the use of larger sets of microsatellites to populations across the whole region (Bagda et al. 2012; Wright et al. 2012) are needed to clearly delineate the management units.

13	7	Threats	ALL	Debris ingestion: standardization of assumptions and methodologies (particularly on quantification)	To make comparisons among studies possible and to detect the areas of importance for this threat. To reinforce the network of experts working on debris ingestion. To evaluate debris ingestion in the populations and effects and associated mortality.
14	6	Population abundance and trends	ALL	Standardize collection on nesting population abundance	Lack of standardization make comparisons among areas or estimates of total abundance difficult and weak.
15	7	Threats	ALL	Improve the knowledge of the phenology of turtles in relation to areas of intensive fishing	Interactions depend on turtle's life cycle and fleets strategies. Understanding these factors can facilitate the implementation of effective mitigation measures in fisheries and fishing grounds, including related legislation.
16	6	Nesting population abundance and trends	ALL	Genetic tagging	Over recent years there have been some significant changes (both increases and decreases) of nest counts at different localities throughout the region (section 6). These changes may be either the results of population change or nesting shifts. This can be assessed by genetic tagging.
17	4	Foraging areas and migratory corridors	CC	Assess connection of adult sized turtles frequenting the Western Mediterranean to breeding sites and other foraging grounds	Considering the increase of nesting events in western Mediterranean, and to elucidate the connectivity between Atlantic and Mediterranean stocks with the specimens present in the western Mediterranean region, multiple approaches (e.g. genetic markers, remote tracking) in the western Mediterranean are needed.
18	7	Threats	CM	Debris ingestion	Very little is known about debris ingestion by green turtles in the Mediterranean
19	5	Population structure and dynamics	CC	Improve genetic signature of rookeries	MSA has low power, at least in certain foraging grounds, due to a general weak structuring with the current genetic markers and to "orphan haplotypes" (for mtDNA) which indicate a poor baseline (i.e. unsampled rookeries). Actions should include (i) increase coverage (at least all major rookeries), (ii) improve characterization (increase sample size and use better genetic markers)
20	7	Threats	CC	Debris ingestion: expand the studies size range including post-hatchlings	Post-hatchlings individuals use more pelagic habitat and are more vulnerable to floating debris and plastics
21	2	Biometrics	CM	Collection/publication of sizes (lengths and weights)	Biometric data may help to understand ecological/population processes (e.g. difference in sizes between neophyte/remigrant nesting turtles).

				of eggs, hatchlings, juveniles, adults	
22	7	Threats	ALL	Pollutants: screening analyses	To establish toxicity thresholds and to assess the potential risk of organic pollutants to these species.
23	7	Threats	CC	Impact of turtle watching and other recreational activities on marine turtles (stress levels etc)	The effect of this emerging tourist activity, already exercised in Laganas Bay (Zakynthos) and providing income to local professional boaters, needs to be assessed as per its impact on interesting turtles
24	2	Biometrics	CC	Collection/publication of carapace scute variation of hatchlings, juveniles, adults	Turtles with scale abnormalities are less prevalent by the time they reach reproductive age. Studies to determine the underlying causes during incubation may be used to inform conservation measures.

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