

Common Name: Green turtle
Scientific Name: *Chelonia mydas*
Taxon: Sea Turtles

SGCN – High Priority

Federal Status: Threatened
New York Status: Threatened

Natural Heritage Program Rank:
 Global: G3
 New York: S1N
 Tracked: Yes

Synopsis:

In New York, the green turtle can be found from July–November, with individuals occasionally found cold-stunned in the winter months (Berry et al. 1997, Morreale and Standora 1998). Green turtles are sighted most frequently in association with sea grass beds off the eastern side of Long Island. They are observed with some regularity in the Peconic Estuary (Morreale and Standora 1998). Green turtles experienced a drastic decline throughout their range during the 19th and 20th centuries as a result of human exploitation and anthropogenic habitat degradation (NMFS and USFWS 1991). In recent years, some populations, including the Florida nesting population, have been experiencing some signs of increase (NMFS and USFWS 2007). Trends have not been analyzed in New York; a mark-recapture study in 1987–1992 found that there seemed to be more green turtles at the end of the study period (Berry et al. 1997). However, changes in temperature have led to an increase in the number of cold stunned green turtles in recent years (NMFS, Riverhead Foundation). A record number of nests were observed at nesting beaches in Florida in 2013 (Mote Marine Laboratory 2013).

Trends of green turtles in New York are poorly understood. Sadove and Cardinale (1993) estimated that there were “at least 100 turtles” in the New York Bight area each year. Berry et al. (1997) performed a mark-recapture study in 1986–1997 and recapture rates indicated that the number of green turtles appeared to have increased over the study period. Unfortunately, there are no recent numbers (1997 – present) to further analyze if the population has continued to increase. Stranding reports have been variable from year to year, with no significant trends being reported (DiGiovanni 2009). Whether the number of stranded individuals can be used as an estimator of population size is currently unknown.

NMFS and USFWS (2007) compiled information on nesting populations of green turtles from various nesting grounds in the western North Atlantic thought to be representative of their region. Nesting populations in Florida, the Yucatan Peninsula, Costa Rica, and Suriname are all listed as increasing, while the nesting populations in Venezuela and Brazil are stable (NMFS and USFWS 2007). It is largely unknown where the green turtles that are seen in New York nest, though Florida and/or the Caribbean are likely options. Two satellite-tagged green turtles were tracked from New York to South Carolina before the transmitters died (DiGiovanni 2009, DiGiovanni et al. 2010). In Florida, the number of nests has increased to an abundance of over 5,000 annual nests from the late 1980s to 2005 (NMFS and USFWS 2007).

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%		Abundant		Stable	Increasing
6% to 10%		Common			
11% to 25%		Fairly common	X		
26% to 50%		Uncommon			
> 50%	X	Rare			

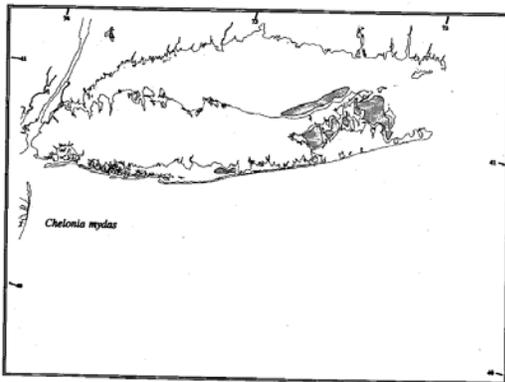
Habitat Discussion:

While green turtles are seen free-swimming in the pelagic environment, their distribution in New York has been found to correlate significantly with that of submerged aquatic vegetation (i.e., eelgrass beds), which they are likely feeding upon (Berry et al. 1997).

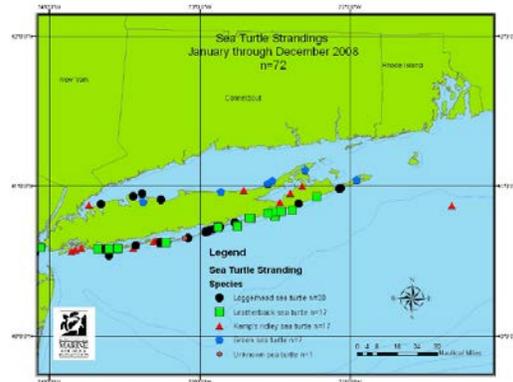
Primary Habitat Type
Marine; Deep Sub-tidal
Marine; Shallow Sub-tidal

Distribution:

The distribution of green turtles in New York is not well understood.



Areas where green turtles have been sighted in New York waters (Sadove and Cardinale 1993).



Distribution of sea turtle strandings for the period of January through December 2008 (DiGiovanni 2008).

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Transportation & Service Corridors	Shipping Lanes (ship strikes)	R	L	M
2. Biological Resource Use	Fishing & Harvesting Aquatic Resources (bycatch and entanglement in fishing gear)	N	L	M
3. Pollution	Garbage & Solid Waste	P	L	V
4. Pollution	Industrial & Military Effluents (contaminants)	P	M	H
5. Pollution	Agricultural & Forestry Effluents (contaminants)	N	L	H
6. Climate Change and Severe Weather	Temperature Extremes (cold-stunning)	W	M	H
7. Residential & Commercial Development	Housing & Urban Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
8. Residential & Commercial Development	Commercial & Industrial Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
9. Residential & Commercial Development	Tourism & Recreation Areas (destruction and alteration of nearshore foraging areas from marina construction)	N	H	H
10. Climate Change and Severe Weather	Habitat Shifting & Alteration	W	M	V
11. Pollution	Excess Energy (anthropogenic noise)	N	L	H
12. Energy Production & Mining	Oil & Gas Drilling (oil spills)	N	L	M
13. Natural System Modifications	Other Ecosystem Modifications (shoreline stabilization)	N	M	V
14. Natural System Modifications	Other Ecosystem Modifications (sea walls)	N	L	H
15. Human Intrusions & Disturbance	Recreational Activities (boating)	N	L	H

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Berry, K. A., M. E. Peixoto, and S. S. Sadove. 1997. Occurrence, distribution and abundance of green turtles, *Chelonia mydas*, in Long Island, New York: 1986 - 1997. In F. A. Abreu-Grobois, R. Briseno-Duenas, R. Marquez-Millan, L. Sarti-Martinez (compilers), Proceedings of the Eighteenth International Sea Turtle Symposium. U.S. Dep. Commer. NOAA Technical Memorandum NMFS-SEFSC-436, 293 pp.

DiGiovanni, R. Jr. 2009. Summary of marine mammal and sea turtle stranding summary for 2008. Riverhead Foundation for Marine Research and Preservation. 17 pp.

DiGiovanni, R. A. Jr., K. F. Durham and J. N. Wocial. 2010. Riverhead Foundation for Marine Research and Preservation's John H. Prescott Marine Mammal Rescue Assistance Grant Program Summary 2001-2010. Riverhead Foundation for Marine Research and Preservation. 11 pp.

Morreale, S. J. and E. A. Standora. 1998. Early life stage ecology of sea turtles in northeastern U.S. waters. U.S. Dep. Commer. NOAA Tech. Mem. NMFS-SEFSC-413. 49pp.

Mote Marine Laboratory. 2013. <http://www.mote.org/2013nesting>

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 2007. Green sea turtle (*Chelonia mydas*) 5-year review: summary and evaluation. National Marine Fisheries Service Office of Protected Resources, Silver Spring, Maryland. 105 pp.

Common Name: Kemp's ridley turtle
Scientific Name: *Lepidochelys kempii*
Taxon: Sea Turtles

SGCN – High Priority

Federal Status: Endangered
New York Status: Endangered

Natural Heritage Program Rank:
 Global: G1
 New York: S1N
 Tracked: Yes

Synopsis:

The Kemp's ridley experienced declines throughout its range from the 1930s to 1980s (NMFS et al. 2011). Most populations appear to be stable or increasing currently (NMFS et al. 2011). Trends are usually derived from nesting beaches. New York appears to be an important foraging ground for juvenile Kemp's ridleys aged 2-5 (Sadove and Cardinale 1993, Morreale and Standora 1998). Long Island Sound was listed as potential critical habitat for the species by a recent petition (WildEarth Guardians 2010). Sadove and Cardinale (1993) estimated that 100-300 juvenile Kemp's ridleys used New York waters each year between June and October. Occasionally, individuals are found cold-stunned during the winter (DiGiovanni 2009, 2010).

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%		Abundant		Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common	X		
26% to 50%		Uncommon			
> 50%	X	Rare			

Habitat Discussion:

In New York, juveniles 2-5 years of age with a carapace length of ~27 cm can be found in certain areas within Long Island Sound, Block Island Sound, Gardiners Bay and the Peconic Estuary. These seem to be the most important habitats for juvenile Kemp's ridleys in New York; they are also found in some number in Jamaica Bay, lower New York harbor and Great South Bay (Sadove and Cardinale 1993). They are found in New York waters from June through October, and cold-stunned individuals are found occasionally during the winter.

There are similar foraging areas that extend from New England south to Florida for Kemp's ridleys that are recruited into the Northwest Atlantic. Many are found in estuarine habitats. In general, the farther south the foraging area is, the larger the average size of Kemp's ridleys utilizing the area (Carr 1980, Henwood and Ogren 1987). Whether this is because the turtles are older or just exhibit higher growth rates is unknown (Snover 2002).

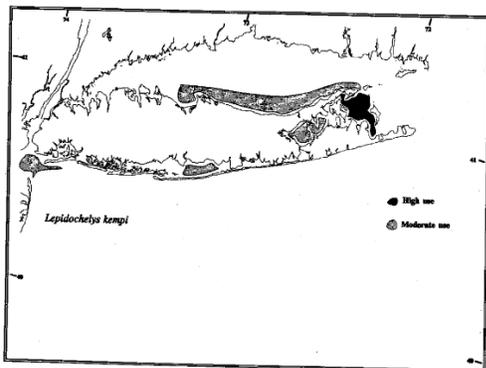
Each winter, juveniles migrate from foraging areas to overwintering areas. Once turtles migrate past Cape Hatteras, North Carolina, some move offshore into the warmer waters of the Gulf Stream, and some continue as far as Cape Canaveral, Florida to overwinter. Those that do continue to Florida primarily use hard bottom substrate and live bottom habitat to overwinter (Gitschlag 1996, Schmid and Witzell 2006). During spring, Kemp's ridleys migrate back north (Henwood and Ogren 1987, Schmid 1995), although

there has not been any evidence to indicate that the same individuals are returning to New York waters each year (Morreale and Standora 1998).

Primary Habitat Type
Marine; Deep Sub-tidal
Marine; Shallow Sub-tidal

Distribution:

Kemp’s ridley turtles are found with some regularity from June – October in the New York Bight (Sadove and Cardinale 1993, Morreale and Standora 1998). Mark-recapture from 1987 – 1992 indicate that around 100 – 300 juvenile Kemp’s ridley turtles use the region each summer. It appears that the majority of these turtles use New York waters for just one season, and do not return in subsequent years. Each winter, Riverhead Foundation responds to cold-stunned Kemp’s ridley turtles. Morreale and Standora (1998) documented two Kemp’s ridleys that were found cold-stunned in subsequent years, but did not ever document a Kemp’s ridley that was tagged during the summer and found cold-stunned the subsequent winter. It is generally believed that those individuals that are found cold-stunned are migrating from more northern foraging grounds (Morreale and Standora 1998).



Kemp’s ridley sea turtle distribution in New York (Sadove and Cardinale 1993).

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Transportation & Service Corridors	Shipping Lanes (ship strikes)	W	L	M
2. Biological Resource Use	Fishing & Harvesting Aquatic Resources (bycatch and entanglement in fishing gear)	W	M	M
3. Pollution	Garbage & Solid Waste	P	H	V
4. Pollution	Industrial & Military Effluents (contaminants)	P	M	H
5. Pollution	Agricultural & Forestry Effluents (contaminants)	N	L	H
6. Climate Change and Severe Weather	Temperature Extremes (cold-stunning)	W	M	H
7. Residential & Commercial Development	Housing & Urban Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
8. Residential & Commercial Development	Commercial & Industrial Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
9. Residential & Commercial Development	Tourism & Recreation Areas (destruction and alteration of nearshore foraging areas from marina construction)	N	M	H
10. Climate Change and Severe Weather	Habitat Shifting & Alteration	W	M	V
11. Pollution	Excess Energy (anthropogenic noise)	N	L	H
12. Energy Production & Mining	Oil & Gas Drilling (oil spills)	N	L	M
13. Natural System Modifications	Other Ecosystem Modifications (shoreline stabilization)	N	M	V
14. Natural System Modifications	Other Ecosystem Modifications (sea walls)	N	L	H
15. Human Intrusions & Disturbance	Recreational Activities (boating)	N	L	H

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- DiGiovanni, R. Jr. 2009. Summary of marine mammal and sea turtle stranding summary for 2008. Riverhead Foundation for Marine Research and Preservation. 17 pp.
- Gitschlag, G. 1996. Migration and diving behavior of Kemp's ridley (Garman) sea turtles along the U.S. southeastern Atlantic Coast. *Journal of Experimental Marine Biology and Ecology* 205: 115-135.
- Henwood, T. A. and L. H. Ogren. 1987. Distribution and migration of immature Kemp's ridley turtles (*Lepidochelys kempii*) and green turtles (*Chelonia mydas*) off Florida, Georgia and South Carolina. *Northeast Gulf Science* 9(2): 153-159.
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- Snover, M. L. 2002. Growth and ontogeny of sea turtles using skeletochronology: methods, validation and application to conservation. Ph.D. Dissertation. Duke University, Durham, NC.

Common Name: Leatherback sea turtle
Scientific Name: *Dermochelys coriacea*
Taxon: Sea Turtles

SGCN – High Priority

Federal Status: Endangered
New York Status: Endangered

Natural Heritage Program Rank:
 Global: G2
 New York: S1N
 Tracked: Yes

Synopsis:

The leatherback turtle is the only member of the family Dermochelyidae (NMFS and USFWS 1992, ALTRT 2006). Two subspecies, an Atlantic leatherback (*Dermochelys coriacea coriacea*) and a Pacific leatherback (*Dermochelys coriacea schlegelii*) have been described; however, genetics (Dutton et al. 1996) and morphology (Pritchard 1979) do not support the separation and thus, only one species is currently recognized.

The leatherback is the most pelagic species of sea turtles (Morreale and Standora 1998). It has the ability to regulate its body temperature, allowing it to travel farther north than other species (NMFS and USFWS 1992). Shoop and Kenney (1992) performed aerial and shipboard surveys and found about seven leatherbacks for every 1,000 km from Nova Scotia to Cape Hatteras, North Carolina. They estimated a population of 100–900 leatherbacks in this area during the summer. This was recognized as a minimum population based on animals at the surface.

It is found relatively often during May–November in the New York Bight region. Sadove and Cardinale (1993) state that the leatherback is “one of the most abundant species of sea turtle in New York Bight.” They estimated that the annual number of turtles using New York wastewaters was 500–800 animals, noting that this is a “very rough” estimate. Trends for the species in New York are unknown, although nesting data suggests a stable to increasing population (NMFS and USFWS 2007). No surveys have been conducted recently in New York.

Sadove and Cardinale (1993) gave a rough estimate of 500 – 800 leatherback turtles using the New York Bight region each year. Trends of leatherback turtles in New York are poorly understood. Strandings of leatherbacks are highly variable from year to year, with no significant patterns reported (DiGiovanni 2009). As a highly migratory marine species that is not sighted with any real frequency, it is difficult to evaluate trends. Most trend data that do exist come from nesting beaches. Unfortunately, there is still uncertainty as to where leatherbacks sighted in New York waters nest. One individual that was flipper-tagged on a nesting beach in French Guiana was recovered in New York waters (Morreale and Standora 1998). Whether all leatherbacks seen in the area nest in French Guiana is unknown, but unlikely. Leatherbacks off of Atlantic Canada have been found to nest in French Guiana, Suriname, Trinidad, Costa Rica, Panama, Colombia, Grenada and Puerto Rico (Turtle Expert Working Group 2007).

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%		Abundant		Stable	Stable
6% to 10%		Common			
11% to 25%		Fairly common	X		
26% to 50%		Uncommon			
> 50%	X	Rare			

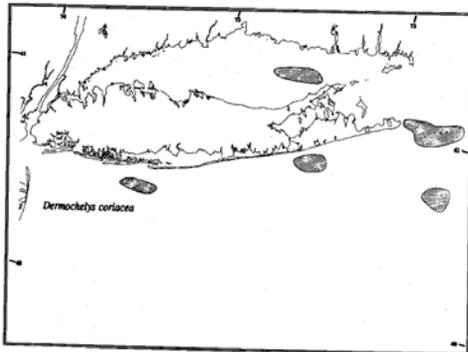
Habitat Discussion:

Because of the ability to regulate their body temperature, leatherbacks can tolerate colder waters than other species of sea turtles (ALTRT 2006, NMFS and USFWS 1992, NMFS and USFWS 2007). Leatherbacks are pelagic.

Primary Habitat Type
Marine

Distribution:

The leatherback is most often seen along the south shore of Long Island and within Long Island Sound (Sadove and Cardinale 1993).



Location of sea turtle strandings responded to by Riverhead Foundation from January through December 2008. Leatherback strandings are represented by green squares (DiGiovanni 2009).

Threats to NY Populations

Threat Category	Threat	Scope	Severity	Irreversibility
1. Transportation & Service Corridors	Shipping Lanes (ship strikes)	N	L	H
2. Biological Resource Use	Fishing & Harvesting Aquatic Resources (bycatch and entanglement in fishing gear)	W	H	M
3. Pollution	Garbage & Solid Waste	P	M	V
4. Pollution	Industrial & Military Effluents (contaminants)	P	M	H
5. Pollution	Agricultural & Forestry Effluents (contaminants)	N	L	H
6. Residential & Commercial Development	Housing & Urban Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
7. Residential & Commercial Development	Commercial & Industrial Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
8. Residential & Commercial Development	Tourism & Recreation Areas (destruction and alteration of nearshore foraging areas from marina construction)	N	M	H
9. Climate Change and Severe Weather	Habitat Shifting & Alteration (the jellyfish shift)	W	M	V
10. Pollution	Excess Energy (anthropogenic noise)	N	L	H
11. Energy Production & Mining	Oil & Gas Drilling (oil spills)	N	L	M
12. Natural System Modifications	Other Ecosystem Modifications (shoreline stabilization)	N	L	V
13. Natural System Modifications	Other Ecosystem Modifications (sea walls)	N	L	H
14. Human Intrusions & Disturbance	Recreational Activities (boating)	N	L	H

References Cited:

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DiGiovanni, R. Jr. 2009. Summary of marine mammal and sea turtle stranding summary for 2008. Riverhead Foundation for Marine Research and Preservation. 17 pp.

Dutton, P. H., S. K. Davis, T. Guerra and D. Owens. 1996. Molecular phylogeny for marine turtles based on sequences of the ND4-leucine tRNA and control regions of mitochondrial DNA. *Molecular Phylogenetics and Evolution* 5(3): 511 - 521.

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National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 2007. Leatherback sea turtle (*Dermochelys coriacea*) 5-year review: summary and evaluation. National Marine Fisheries Service Office of Protected Resources, Silver Spring, Maryland. 81 pp.

Pritchard, P. C. H. 1979. Encyclopedia of Turtles. T. F. H. Publications, Inc. Neptune, New Jersey, 895 pp.

Shoop, C. R. and R. D. Kenney. 1992. Seasonal distributions and abundances of loggerhead and leatherback sea turtles in waters of the north eastern United States. *Herpetological Monographs* 6: 43 - 67.

Turtle Expert Working Group. 2007. An Assessment of the Leatherback Turtle Population in the Atlantic Ocean. NOAA Technical Memorandum NMFS-SEFSC-555, 116 pp.

Common Name: Loggerhead turtle
Scientific Name: *Caretta caretta*
Taxon: Sea Turtles

SGCN – High Priority

Federal Status: Threatened
New York Status: Threatened

Natural Heritage Program Rank:
 Global: G3
 New York: S1N
 Tracked: Yes

Synopsis:

Linnaeus first named loggerhead *Testudo caretta* in 1758. Although the loggerhead has received more than 35 different names (Dodd 1988), *Caretta caretta* is currently the accepted name. Loggerheads are found in New York waters during the summer months, and occasionally found cold-stunned during the early winter. Sadove and Cardinale (1993) described two separate demographic groups of loggerheads that use New York waters. Juveniles are found frequently in nearshore bays and Long Island Sound, while a broader range of age classes that includes adults are found up to 40+ miles off the southern Long Island coast (Sadove and Cardinale 1993). They estimated approximately 800 loggerheads using the New York Bight region based on data from the 1970s–early 1990s. Studies using captures by pound nets showed declines in relative proportion and total abundance of loggerheads between 1987–1992 and 2002–2004 (Morreale and Standora 1998, Morreale et al. 2005). Morreale et al. (2005) speculated that this decline could be related to shifts in foraging areas, and/or increased mortality of younger age classes. Recent evidence suggests that loggerheads are declining throughout much of their range, as well as in the New York Bight (Morreale et al. 2005, NMFS and USFWS 2008).

The nesting grounds on U.S. beaches are extremely important to the population; South Florida represents one of only two nesting aggregations that have greater than 10,000 nesting females per year (NMFS and USFWS 2008). Data from the Northern Recovery Unit (NRU) suggest a long-term decline. Long-term nest counts from eleven representative beaches from North Carolina, South Carolina and Georgia show an annual decline of 1.3% from 1989–2008 (NMFS and USFWS 2008).

Distribution (% of NY where species occurs)		Abundance (within NY distribution)		NY Distribution Trend	NY Abundance Trend
0% to 5%		Abundant		Unknown	Moderate Decline
6% to 10%		Common	X		
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%	X	Rare			

Habitat Discussion:

Loggerhead nesting beaches in the North Atlantic can be found along the U.S. coast from southern Virginia to Alabama, with Florida being one of only two nesting areas in the world that boasts over 10,000 nesting females each year (Conant et al. 2009). Nesting also occurs on the Yucatan Peninsula, Bahamas, Cuba, on the eastern coast of Central America, Colombia, Venezuela and the eastern Caribbean Islands. Additionally, nesting also occurs in Brazil, the Cape Verde Islands, and the west coast of Africa (Conant et al. 2009).

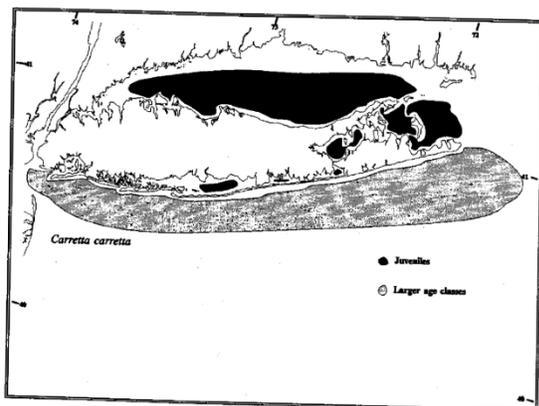
Once hatchlings enter the surf, they enter a “swim frenzy” stage and travel to areas of downwelling (Witherington 2002). They often spend periods of time within floating *Sargassum* patches (Witherington 1995). Juvenile loggerheads enter the oceanic zone. During this period, most loggerheads spend 75% of their time in the first five meters of the water column (Bolten 2003). After a period of time that can span up to 15 years, juveniles move into continental shelf waters from Massachusetts south into the Caribbean (NMFS and USFWS 2008). They are frequently found in estuarine waters during this life stage, and may occasionally move back into the oceanic zone, especially during winter (Morreale and Standora 2005, Mansfield 2006, McClellan and Read 2007, NMFS and USFWS 2008).

As loggerheads enter the adult stage, their habitat preferences shift. While they still use the neritic zone, they are less likely to use shallow, estuarine habitats with limited ocean access. Instead, they are found in shallow water habitats that have large areas of open ocean access, such as Florida Bay (NMFS and USFWS 2008). Adults are also found in offshore continental shelf waters from New York to the Caribbean (Schroeder et al. 2003).

Primary Habitat Type
Cultivated Crops
Native Barrens and Savanna
Old Field/Managed Grasslands
Pasture/Hay

Distribution:

In New York, loggerheads can be found from May through October. Juveniles can be found using bays and Long Island Sound, while a larger range of age classes that includes adults can be found offshore. These individuals can be found 40 miles or more off the south side of Long Island (Sadove and Cardinale 1993). Loggerheads in New York prey upon spider, horseshoe, green, and portunid crabs (Sadove and Cardinale 1993). Morreale et al. (2005) initiated a study using a subset of the pound nets used in the 1987–1992 study period. During 2002–2004, only two loggerheads were captured. The species represented just 4% of captures.



Areas where green turtles have been sighted in New York waters (Sadove and Cardinale 1993).

Threats to NY Populations				
Threat Category	Threat	Scope	Severity	Irreversibility
1. Transportation & Service Corridors	Shipping Lanes (ship strikes)	W	M	H
2. Biological Resource Use	Fishing & Harvesting Aquatic Resources (bycatch and entanglement in fishing gear)	W	H	M
3. Pollution	Garbage & Solid Waste	P	M	V
4. Pollution	Industrial & Military Effluents (contaminants)	P	M	H
5. Pollution	Agricultural & Forestry Effluents (contaminants)	N	L	H
6. Climate Change and Severe Weather	Temperature Extremes (cold-stunning)	W	M	H
7. Residential & Commercial Development	Housing & Urban Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
8. Residential & Commercial Development	Commercial & Industrial Areas (destruction and alteration of nearshore foraging areas from coastal development)	N	L	H
9. Residential & Commercial Development	Tourism & Recreation Areas (destruction and alteration of nearshore foraging areas from marina construction)	N	M	H
10. Climate Change and Severe Weather	Habitat Shifting & Alteration	W	M	V
11. Pollution	Excess Energy (anthropogenic noise)	N	L	H
12. Energy Production & Mining	Oil & Gas Drilling (oil spills)	N	L	M
13. Natural System Modifications	Other Ecosystem Modifications (shoreline stabilization)	N	M	V
14. Natural System Modifications	Other Ecosystem Modifications (sea walls)	N	L	H
15. Human Intrusions & Disturbance	Recreational Activities (boating)	N	L	H

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