

SWOT Data Contributors

Definitions of Terms

Clutches: A count of the number of egg clutches laid by flatback females during the monitoring period.

Nesting females: A count of observed individual nesting female flatbacks during the monitoring period.

Crawls: A count of observed number of emergences of female flatbacks from the ocean onto the beach during the monitoring period. These counts include successful oviposition events (egg clutches), failed nest attempts, or false crawls.

Failed nest attempt: An emergence onto the beach by a female flatback that includes attempted nest construction, but does not result in oviposition.

False crawl: An emergence onto the beach by a female flatback that does not result in any attempt to nest, but is a track only.

Nest: The physical structure created by a female flatback into which she deposits her eggs.

Estimated number of clutches/nesting females: An estimate of the number of flatback clutches laid/nesting females in a season. Methods of estimation vary.

Monitoring effort: The level of effort used to monitor nesting activity on a given beach.

Year: The year in which a given nesting season begins (e.g., data collected between late 2005 and early 2006 are listed as year 2005).

Genetic stock: Group of nesting female flatbacks that share haplotype frequency of the mitochondrial control region DNA. Different nesting rookeries are assigned to distinct genetic stocks on the basis of sufficient differences in their haplotype frequencies.

In-water distribution: Spatial extent of flatback marine habitat across life stages, on the basis of tag returns, satellite telemetry, description of habitat use, and other observations

Flatback Data Citations

Guidelines of Data Use and Citation

The flatback nesting data below correspond directly to this report's feature map (pp. 24–25), organized alphabetically by state and beach name. Every data record with a point on the map is numbered to correspond with that point. These data have come from a wide variety of sources and in many cases have not been previously published. To use data for research or publication, you must obtain permission from the data provider and must cite the original source as indicated in the "Data Source" field of each record. See SWOT's Data Sharing Protocol online (www.SeaTurtleStatus.org). Only original data are reported here—not the converted values that were sometimes used in the feature map. For more information on data conversions, see the introductory text to the map on page 23.

In the records below, nesting data are reported from the last complete nesting season (2007 or 2008) or are reported as an annual average during the monitoring period from all available beaches. For those beaches from which recent data were not available, the most recent available data are reported.

Important Notes about Flatback Data

Great effort has gone into providing sufficient information with each data record to allow the quality and source of the record to be fairly evaluated. Although every attempt has been made to ensure the accuracy of these data, absolute accuracy cannot be guaranteed. Information on monitoring effort and its relativity to the nesting season are reported where available in order to allow for a more complete evaluation of the data.

NORTHERN TERRITORY

DATA RECORD 1

Data Source: Chatto, R., and B. Baker. 2007. The distribution and status of marine turtle nesting in the Northern Territory. Parks and Wildlife Service of the Northern Territory, Australia.

Comments: These abundance estimates were extracted directly from the above report, which describes all records of marine turtle nesting during aerial and ground surveys from 1990 to 2004. Values for most sites are annual averages across several years of monitoring within the time period covered in the report. Below, we have grouped all nesting sites with annual nesting abundance estimates of ≤ 10 clutches within regions and have listed separately all other nesting sites. See report for site-specific details of monitoring efforts and abundance estimates. Counts listed here are likely to be underestimates.

Nesting Beaches: 4 sites in Anson-Beagle, Northern Territory
Count: ≤ 6 clutches

Nesting Beach: Casuarina Beach, Anson-Beagle, Northern Territory
Count: 15 clutches

Nesting Beach: North Peron Island, Anson-Beagle, Northern Territory
Count: 17 clutches

Nesting Beaches: 31 sites in Arnhem-Wessel, Northern Territory
Count: ≤ 8 clutches

Nesting Beach: NW Crocodile Islands, Arnhem-Wessel, Northern Territory
Count: 23 clutches

Nesting Beaches: 2 sites in Cambridge-Bonaparte, Northern Territory
Count: ≤ 4 clutches

Nesting Beaches: 15 sites in Coburg, Northern Territory
Count: ≤ 4 clutches

Nesting Beach: North Goulburn Island, Coburg, Northern Territory
Count: 24 clutches

Nesting Beaches: 30 sites in Groote, Northern Territory
Count: ≤ 9 clutches

Nesting Beach: Isle Woodah, Groote, Northern Territory
Count: 14 clutches

Nesting Beach: Bustard Island, Groote, Northern Territory
Count: 21 clutches

Nesting Beaches: 13 sites in Pellew, Northern Territory
Count: ≤ 6 clutches

Nesting Beaches: 7 sites in Tiwi, Northern Territory
Count: ≤ 9 clutches

Nesting Beach: SW Bathurst Island, Tiwi, Northern Territory
Count: 17 clutches

Nesting Beaches: 3 sites in Van Diems Gulf, Northern Territory
Count: ≤ 5 clutches

Nesting Beach: Greenhill Island, Van Diems Gulf, Northern Territory
Count: 11 clutches

DATA RECORD 2

Data Source: Guinea, M. 2009. Flatback nesting at Bare Sand Island, Northern Territory: Personal communication. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Nesting Beach: Bare Sand Island
Year: 2008 **Count:** 289 clutches

Comments: From June 16 to July 14, 2008, 189 nesting adult female flatbacks and 341 crawls were recorded. Annual estimate of adult females across several years is ca. 300.

SWOT Contact: Mick Guinea

QUEENSLAND

DATA RECORD 3

Data Source: Sea Turtle Foundation. 2009. Flatback nesting on Aims Beach, Queensland. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Nesting Beach: Aims Beach

Comments: Between 1 and 10 flatback clutches per year are recorded at this site.

DATA RECORD 4

Data Source: Limpus, C. J., and Environmental Protection Agency, State of Queensland. 2009. Flatback nesting in Queensland: Personal communication. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Nesting Beach: Avoid Island, Broad Sound, Queensland
Count: 50–150 females per year

Monitoring Effort: Mid-season 2-week tagging period during the peak of nesting activities.

Nesting Beach: Curtis Island, Queensland
Count: 50–150 females per year

Monitoring Effort: Mid-season 2-week tagging period during the peak of nesting activities.

Nesting Beach: Moore Park Beach, Queensland
Count: 1–10 females per year

Monitoring Effort: Tagging and crawl counts during an 8-week period.

Nesting Beach: Woongarra coast (including Mon Repos), Queensland

Count: 1–10 females per year

Monitoring Effort: Complete tagging census.

Nesting Beaches: Wreck Rock beaches, Queensland
Count: 1–10 females per year

Monitoring Effort: Mid-season 6-week tagging period during the peak of nesting activities.

Nesting Beach: Crab Island, Gulf of Carpentaria, Queensland
Count: 1,000–5,000 females per year

Monitoring Effort: Intermittent crawl counts.

Nesting Beach: Flinders Beach, Gulf of Carpentaria, Queensland

Count: 100–500 females per year

Monitoring Effort: Tagging and crawl counts during an 8-week period.

Nesting Beach: Janie Beach, Gulf of Carpentaria, Queensland
Count: 10–50 females per year

Monitoring Effort: Tagging and crawl counts during an 8-week period.

Comments: Count data provided earlier are annual averages derived from several years (even decades) of monitoring at each site. Monitoring is ongoing at these sites.

Data Source: Limpus, C. J. 2007. *A Biological Review of Australian Marine Turtles*. 5. Flatback Turtle *Natator depressus* (Garman). The State of Queensland. Environmental Protection Agency, 2007.

Nesting Beaches: 1 site in eastern Gulf of Carpentaria
Count: Confirmed but unquantified nesting

Nesting Beaches: 9 sites in Northern Queensland
Count: Confirmed but unquantified nesting

Nesting Beach: Wild Duck Island, Queensland
Count: > 100 nesting females per year

Comments: Information for the above sites was extracted directly from the report cited earlier, which is a synopsis of biological information on the flatback turtle since the 1980s. Values for most sites are annual averages across several years of monitoring within the time period covered in the report. Several sites have confirmed but unquantified nesting. See report for site-specific details of monitoring efforts and abundance estimates.

SWOT Contact: Col Limpus

DATA RECORD 5

Data Source: Hamann, M. 2009. Flatback nesting in the Gulf of Carpentaria and Torres Strait: Personal communication. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Nesting Beaches: Badu Island area, Dagadan Beach (Mornington Island), Hawkesbury Island, Mabuigai Island, Pisonia Island, Prince of Wales Island, Red and Woody Wallis Islands, Seisa, and Wednesday Island

Comments: Between 1 and 10 flatback clutches per year are recorded at each of these sites.

Nesting Beaches: Dagadan Beach (Mornington Island), Deliverance Island, Hawkesbury Island, and Pisonia Island

Comments: Between 11 and 100 flatback clutches per year are recorded at each of these sites.

SWOT Contact: Mark Hamann

DATA RECORD 6

Data Source: Mackay Turtle Watch. 2009. Flatback nesting in northern Queensland. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Nesting Beaches: Blacks Beach and Rabbit Island

Comments: Between 11 and 100 flatback clutches per year are recorded at each of these sites.

Nesting Beaches: Cape Hillsborough, Carlisle Island, Cockermouth, St. Bees Island, Temple Island, and Wigton Island

Comments: Between 1 and 10 flatback clutches per year are recorded at each of these sites.

SWOT Contact: Mark Hamann

WESTERN AUSTRALIA

DATA RECORD 7

Data Source: Prince, R. I. T., and Western Australia Marine Turtle Program. 2009. Flatback nesting in Western Australia: Personal communication. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Nesting Beaches: Abutilon Island; Adele Island; East Light-house Beach, Airlie Island; Caesar Island; Cape Domett (2 sites); Cape Lambert (2 sites); Dampier Archipelago (8 sites); Eighty Mile Beach (approx. 20 sites); Geoffrey Bay, Governor Islands; Janawan (North Help Island), King Sound; Kingfisher Island; Lacrosse Island; Lowendal Islands (10 sites); Monte Bello Islands (2 sites); Muiron Islands (2 sites); Mundabullangana coast (2 sites); North Kimberley coast (2 sites); Point Torment; Slate Islands (1 site); East End Beach, Thevenard Island; Troughton Island; Yardoogarra.

Comments: Flatback nesting has been confirmed at these sites in the past, since 1980, but most sites are not currently monitored and nesting is unquantified. Also, although some of these sites are being monitored at present, abundance estimates are not yet available.

Nesting Beaches: Cape Keraudren, Cable Beach, Riddle Beach
Count: 8 clutches

Nesting Beaches: 2 sites in Cape Missieissy
Count: 13 clutches

Nesting Beach: Cemetery Beach
Year: 2004–2007 **Count:** 750 clutches per year

Nesting Beach: Helpman Islands
Count: 50 clutches per year

Nesting Beach: Pretty Pool
Year: 2005–2007 **Count:** 125 clutches per year

Nesting Beach: West Island, Lacepede Islands
Count: 50 clutches

Comments: Some of the earlier counts are annual averages representing varying monitoring periods since the 1980s, and thus do not have specific years associated with the values. The counts for Cemetery Beach and Pretty Pool were provided to R.I.T. Prince by Kellie Howlett, Western Australia Marine Turtle Project.

SWOT Contact: Bob Prince

DATA RECORD 8

Data Source: Pendoley, K. 2009. Flatback nesting in the Pilbara Region of Western Australia: Personal communication. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Nesting Beach: Barrow Island
Years: 2005–2007 **Count:** ca. 1600 adult females per year

Nesting Beach: 1 site in Pilbara Region
Years: 1985–2008 **Count:** < 315 crawls per year

Nesting Beaches: 2 sites in Pilbara Region
Years: 1985–2008 **Count:** < 50 crawls per year at each site

Nesting Beaches: > 50 sites in Pilbara Region and adjacent islands (including Delambre Island, Dampier Archipelago)
Years: 1985–2008 **Count:** < 50 crawls per year at each site

Data Source: Pendoley, K., Chaloupka, M., and R. I. T. Prince. Forthcoming. An encouraging conservation outlook for the most atypical marine turtle species in the world: the endemic flatback. *Endangered Species Research*.

Nesting Beach: Mundabullangana

Years: 1998–2007 **Count:** ca. 1700 (±1200–2200) nesting females per year

Monitoring Effort: Long-term monitoring program; flipper tagging each year for 14-day period during December 5–22 (during peak of austral summer nesting season). Nesting abundance estimates were derived from Horwitz-Thompson type estimates using recapture probabilities from best-fit capture-mark-recapture models.

SWOT Contact: Kellie Pendoley

DATA RECORD 9

Data Source: Whiting, A. U., Thomson, A., Chaloupka, M. Y., and C. J. Limpus. Forthcoming. Seasonality, abundance, and breeding biology of one of the largest populations of nesting flatback turtles, *Natator depressus*: Cape Domett, Western Australia. *Australian Journal of Zoology*.

Nesting Beach: Cape Domett

Year: 2006 **Count:** estimated 3,250 clutches per year

Monitoring Effort: The population estimate was calculated from counts throughout the year for 5 to 15 nights every 7 weeks

Comments: The 95 percent confidence interval of the population estimate is 1,431–7,757 clutches per year.

SWOT Contact: Andrea Whiting

GENETIC STOCK INFORMATION

Data Source: FitzSimmons, N. 2009. Known genetic stocks of the flatback turtle: Personal communication. In *SWOT Report—The State of the World's Sea Turtles*, vol. 4 (2009).

Comments: The following list presents the six known genetic stocks (at the time of printing) for flatbacks, including all flatback nesting sites that have been sampled for genetic stock determination. These sampled sites are displayed on the centerpiece map with colored rings around the corresponding nesting abundance points.

1. **Northwest Shelf, Western Australia** (Mundabullangana, Barrow Island, Delambre Island)
2. **Cape Domett, Western Australia**
3. **Bare Sand Island and Field Island, Northern Territory**
4. **West Island, Northern Territory**
5. **Crab Island, Queensland**
6. **Eastern Australia, Queensland** (Wild Duck Island, Peak Island, Curtis Island)

SWOT Contact: Nancy FitzSimmons

SWOT Online

The Internet is a powerful tool that offers near endless opportunities for exchanging information and for building communities. Until now, SWOT has only skimmed the surface of this vast potential. This year, we are diving in and doing our part to put the Internet to work for sea turtle conservation.

SeaTurtleStatus.org is being overhauled! At the heart of this undertaking is the creation of a more dynamic online presence for the *SWOT Report*. The new site will capitalize on the Internet's boundless space and will provide additional content that includes extended stories, video highlights, and photo slideshows.

TurtleVision is a channel on YouTube.com that brings the world of sea turtle conservation to new audiences through video shorts that were shot in the field by SWOT Team members around the globe. This visual storytelling initiative highlights the human side of sea turtle work, thereby showcasing the countless unique voices from within this extraordinary community. With a generous grant from Pure Digital Technologies, the makers of Flip Video, SWOT will be awarding 30 Flip Video camcorders to

SWOT Team members interested in putting their video stories online. See www.youtube.com/turtlevision.

Oceaneers.org is an online meeting place where volunteer-dependent field projects and adventurous marine enthusiasts can find one another. Set to launch in March 2009, the site's social networking platform will enable project leaders and past volunteers to share their experiences and to recruit new volunteers, thus fostering a mobilized community of people inspiring and encouraging each other to take further action on behalf of marine conservation.



Visit www.SeaTurtleStatus.org to apply for a TurtleVision Flip Video Grant!