



Hawaii Division of Aquatic Resources  
Department of Land and Natural Resources

# Tiger Shark Biology and Movement

## A Brief Summary



**Length** Pups range in size from 2.5 to 3 ft at birth. They grow rapidly, with average individuals in Hawaii reaching 12 ft in length by age 7, and the fastest growing individuals attaining 13 ft by age 5. Maximum size is about 16 ft, but tiger sharks larger than 14.5 ft are very uncommon.

**Description** Broadly rounded snout, becoming more blunt with age; distinctive curved serrated teeth; strong spotting pattern in young sharks, turning to stripes which fade with age.

**Diet** Extremely broad diet, shifting to larger and more diverse prey items as sharks increase in size. Smaller sharks (under 6 feet) feed mostly on slow-moving bony fishes (e.g. pufferfish) and cephalopods (octopus and squid). As they get larger (6-10 feet), their diet includes more crustaceans (especially lobsters) and undigestible items. At about 7.5 feet, they start eating other elasmobranchs (sharks and rays), turtles, and marine mammals. Sharks longer than 10 feet eat elasmobranchs, bony fishes, crustaceans, turtles, marine mammals, and undigestible items. Tiger sharks of all sizes seem to feed near the bottom at night, but larger sharks also feed at or near the surface by day.

**Habitat** In coastal environments tiger sharks occupy the entire water column, from surface to bottom. In pelagic waters, they move between the surface and depths of about 2,500 ft.

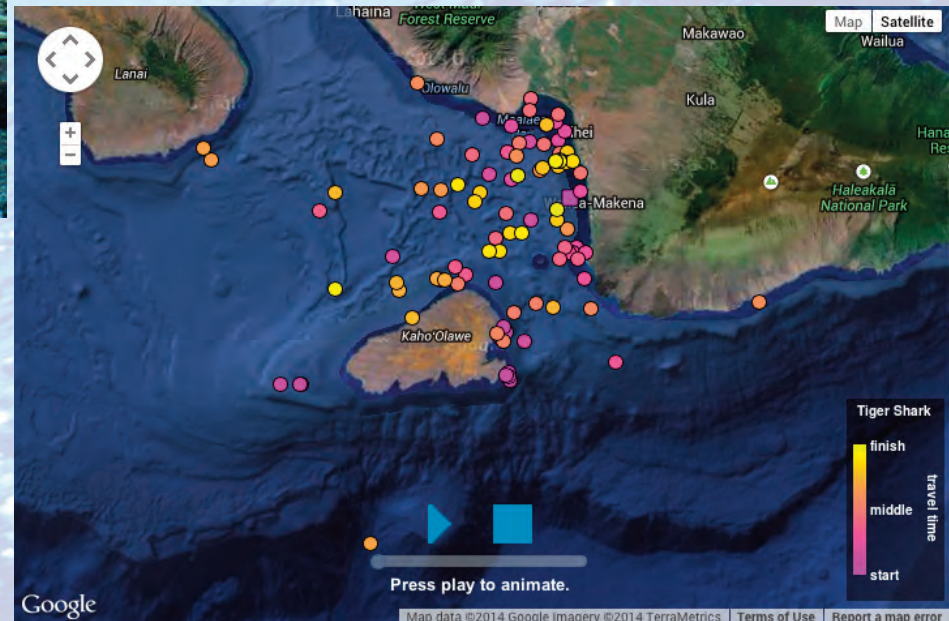
**Movement** Tiger sharks have large home ranges and are known to move over great distances, including between the Main Hawaiian Islands, and between the Main and Northwestern Hawaiian Islands. Each shark's home range is unique, and includes a core area which it visits most frequently. The core areas of different sharks may overlap.

**Q.** If tiger sharks are always on the move, why do people report seeing the same shark in the same place time after time?

**A.** Despite having large home ranges, tiger sharks may return to the same general locations within their core areas. There is a great deal of individual variation with regard to that behavior.

**Q.** Are tiger shark populations increasing?

**A.** Estimates of population size have never been made, so no data is available for comparison. As with all animals, their populations are limited by the availability of food. If resources become depleted, sharks will move to where food is more abundant.



# Maui Shark Incidents 2012-2013 Spike

## Confirmed tiger shark (yellow boxes)

- 2012f 9/2 Spearfishing; minor injury (considered provoked)
- 2012g 10/18 Stand-up paddleboarding; no injury
- 2012h 10/27 Snorkeling; moderate injury
- 2012j 11/4 Spearfishing; serious injury (unprovoked)
- 2012k 11/30 Snorkeling; serious injury

## Whitetip reef shark

- 2013j 10/23 Swimming; minor injury

## Reef shark (tiger shark excluded)

- 2012d 6/26 Swimming; minor injury
- 2013b 2/21 Surfing; no injury

## Species unknown

- 2013c 4/2 Surfing; minor injury
- 2013f 7/31 Snorkeling; minor injury
- 2013k 10/31 Kite surfing; serious injury
- 2013l 11/29 Snorkeling; serious injury

## Fatalities (red boxes)

- 2013g 8/14 Snorkeling
- 2013m 12/2 Fishing from kayak (provoked)

Note: In both fatal incidents, data was insufficient to determine the type of shark involved.

## Injury notes

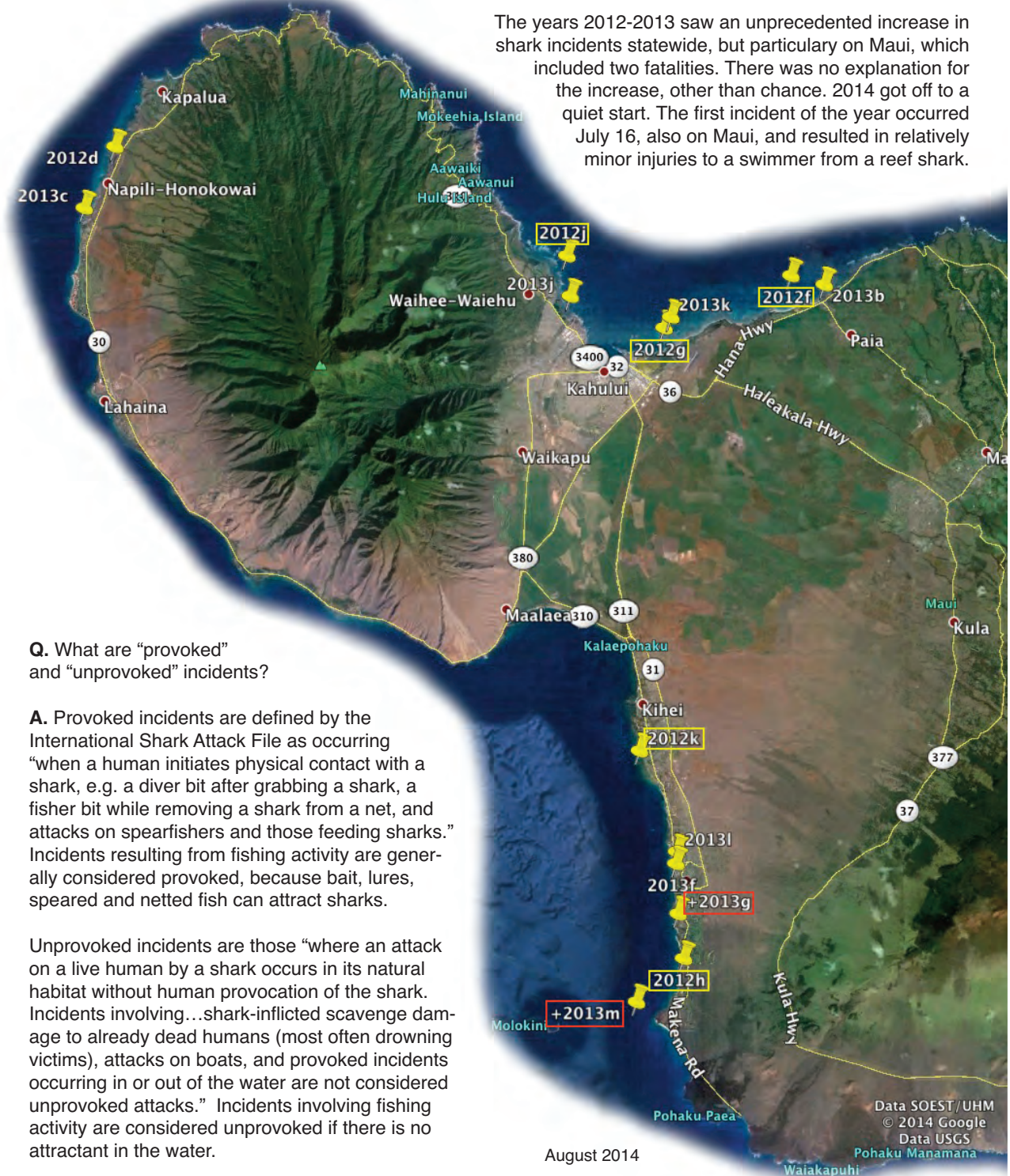
Minor and moderate injury: small to moderate lacerations or puncture wounds.  
 Serious injury: Significant lacerations, no loss of tissue or function.

For more incident details, visit [hawaiisharks.org](http://hawaiisharks.org).

**Q.** What's the best thing I can do to reduce the chances of being bitten by a shark?

**A.** Go to guarded beaches while lifeguards are on duty. Be especially cautious during the months of October through December. Hawaiian traditional knowledge, historical shark incident data, and studies of tiger shark movements all point to an increased risk during those months.

For more safety tips, visit [hawaiisharks.org](http://hawaiisharks.org).



The years 2012-2013 saw an unprecedented increase in shark incidents statewide, but particularly on Maui, which included two fatalities. There was no explanation for the increase, other than chance. 2014 got off to a quiet start. The first incident of the year occurred July 16, also on Maui, and resulted in relatively minor injuries to a swimmer from a reef shark.

**Q.** What are “provoked” and “unprovoked” incidents?

**A.** Provoked incidents are defined by the International Shark Attack File as occurring “when a human initiates physical contact with a shark, e.g. a diver bit after grabbing a shark, a fisher bit while removing a shark from a net, and attacks on spearfishers and those feeding sharks.” Incidents resulting from fishing activity are generally considered provoked, because bait, lures, speared and netted fish can attract sharks.

Unprovoked incidents are those “where an attack on a live human by a shark occurs in its natural habitat without human provocation of the shark. Incidents involving...shark-inflicted scavenge damage to already dead humans (most often drowning victims), attacks on boats, and provoked incidents occurring in or out of the water are not considered unprovoked attacks.” Incidents involving fishing activity are considered unprovoked if there is no attractant in the water.

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Data SOEST/UHM  
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 Data USGS  
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