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**While there has been much ado internationally about Australia's culling practices on large sharks in their coastal waters, there is about to be a similar event to take place in Florida come January 1st, 2016.**

No, it's not because we are faced with a similar perception that the east coast of the United States is inundated by too many sharks running around eating people (which we are not), but for the fact that NOAA's National Marine Fishery Service (NMFS) rescheduled the opening date for the Commercial Shark Fishing Season in the Atlantic from summer to the first day of the year, 1 January 2016.

As a resident of Palm Beach County (South Florida), this news, which by the way was posted on NOAA's website on 30 November 2015, is something I find particularly disturbing. I will explain the reason why.

During the months between December and April, scores of sharks migrate down the coast to a narrow stretch of Florida's east coast for the very same reason tourists flock to the state each winter—to escape the cold! The most prominent local

place most sharks and people will converge is between Stuart and the City of West Palm Beach. For larger coastal species like hammerhead, tiger, lemon, bull and sandbar, the warmer waters are not only inviting, they also place the sharks in a precarious position highly exploited by commercial fishing.

How so, you might ask? Unique among other parts of Florida's coast, the underwater topography here features the narrowest continental shelf anywhere along North America's East Coast. Off-shore of the City of West Palm Beach, the shelf reached its narrowest point, spanning less than three miles (4.8km) in

width. So when sharks move up or down the coast, the narrow shelf acts a little bit like a bottleneck, causing them to concentrate in greater numbers where water temperatures are most desirable. To coin the phrase, "like shooting fish in a barrel," should help complete the picture.

### Lemon sharks

One species that concerns me the most is the lemon shark (*Negaprion brevirostris*). As large coastal species go, lemons can grow impressively large—measuring up to 8ft (2.5m) long, weighing up to 300 lbs (140kg). Between their size and mouth equipped with sharp, short, spike-shaped



## Open Season on US Coastal Sharks

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# shark tales



teeth for capturing fish, have all the bearings of a pretty serious customer. Among divers, particularly underwater photographers, they are local favorites due their highly mild-mannered behavior, seldom getting highly excitable over anything.

My own personal experience with these lemons began as far back as January 2001 when I came upon over 40 adult-size sharks, resting on the bottom in formation like cars in a parking lot. Contacting Dr Samuel Gruber, one of the world's most renowned experts on lemon sharks, confirmed that this particular aggregation behavior was one-of-a-kind, not known anywhere else in the world. This finding set in mo-

tion a highly extensive study under the auspices of Doc Gruber's Bimini Shark Lab. Information gained from the Jupiter Lemon Shark Project was able to fill in new chapters about this shark's natural history that were previously unknown.

In 2010, findings from Gruber's research played an instrumental part in the State of Florida passing into law and granting complete protective status for lemon sharks in state waters.

The reasoning for this action was based on the shark's slow growth rate, which makes them extremely vulnerable to overfishing. Lemons reach sexual maturity at 12 to 15 years of age, and

reproduction takes place every second or third year at most, with the number of pups in a litter averaging between six and 18. Add to that a juvenile mortality rate of 40 to 60 percent the first years of development, and you have a very low recruitment rate for the species.

### Devastating blow

Two years ago, January 2013, NOAA delivered a major blow by repositioning the Commercial Shark Fishing Season from July to January. The net toll on lemons was devastating with NOAA maintaining that very few lemon sharks were reported by the fish houses in 2013.

This does not surprise me for two reasons: First, it is common practice among fish houses to label most large sharks as bull sharks to expedite entries; secondly, the actual number of adult lemons left in the Jupiter area was not that large, considering the overall

population was perhaps in the 200s or 300s for the entire Atlantic coast.

As a means of tracking the movements of living lemon sharks, Gruber and his team, over a 12-year period, placed a variety of acoustic tags on a large number of adult lemons they were able to track through FACT receiver array, which ranges from Key West all the way north to Nova Scotia.

When Ph.D candidate Steve Kessel (a member of Gruber's research team) analyzed the "acoustic catches" collected from FACT array, the data for 2013 said something else entirely different. The most incontrovertible was a sharp decline starting in 2011 that ended at almost "zero" for the number contact pings from returning lemon sharks.

### Response

NOAA's position on this information bordered on ridiculous, saying lemon sharks are still alive but have decided after at least a dozen years, to leave the Jupiter area and perhaps stay in the Carolinas.

But the most interesting footnote to this saga was that during our first battle to get NOAA to change the open-



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ing dates—with them insisting that there was “no data” proving lemon sharks or for that matter any other large coastal species of sharks were aggregated here—the commercial fishermen certainly knew about it. By NOAA’s own admission, the commercial fishers themselves wanted the opening date pushed back to July.

In a letter from Nicholas A. Farmer, Ph.D., to NOAA Fisheries Southeast Regional Office back in September 2013, Farmer wrote:

“While there have been a few lemon sharks reported as purchased, there have not been many—in fact, there have been fewer this year than most years. Most of the lemon sharks have been reported by Florida dealers, which is what we expected.

“When we pushed for more information, we were told that essentially the fishermen in that area were upset that we opened the shark fisheries January 1 in 2013. They preferred it when we opened in July, as we had the few years previous to that (historically, we always opened the sharks fisheries Jan 1—the change to July only lasted a few years). We are in the middle of a comment period for next year’s specifications. If the fishermen continue to have concerns about a January 1 start date, they should submit their comments now. The comment period

ends September 23.”

What the letter was essentially addressing was the issue that commercial shark fishermen north of Florida were complaining that the South Florida and Treasure Coast fishermen were getting an unfair advantaged due to the fact that the southern fishers had far better access to the sharks—being that they were aggregating there—than the northern fishers did.

By the way, that comment period for next year’s specifications that Farmer mentioned is opened predominately to the “stake holders” (meaning commercial fisherman) in addition to biologists involved in fisheries management. So, unless you are a member of the South Atlantic Fishery Management Council ([www.safmc.net](http://www.safmc.net)) and/or the Gulf of Mexico Fishery Management Council ([gulfcouncil.org](http://gulfcouncil.org)), you

are not going to hear about these meetings, because they are generally not open to non-stake holders.

### Future action

So, here we are again. The dates are set once again for January 1, and we have little chance, sad to say, in getting NOAA to stop, rescind, or change their decision on this seasonal opening. Sure there has been a petition or two directed at NOAA, but from my own experience, they seldom get that much attention.

But, I for one don’t believe the fight is over. If there is to be any consolation prize to be had, here is what I suggest you do:

Being that lemon sharks are a “protected species” in Florida waters, which extend three miles off Florida’s East Coast, the sharks fall under the Florida Fish and Wildlife Con-

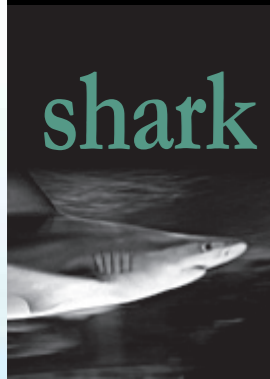
servation Commission’s jurisdiction, so the FWC must enforce the protections, at least in regards to any actions inside state waters.

Taking into consideration, that the FWC Commission is still trying to recover from their decision to open a hunting season on Florida black bear, which turned into a complete debacle not to mention a media nightmare that left the agency bloodied, an opportunity has been created—an opportunity in which the FWC can redeem themselves by “doing their job” in something that matters to many Floridians and marine conservationists.

What I propose is not the creation of another petition, but rather to write a letter to each and every member of the FWC Commission, who you will find right here: <http://my-fwc.com/about/commission/commissioners/>. ■



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## Shark cage diving not a risk to other water users

**Shark cage diving does not increase risks to other water users, New Zealand's Department of Conservation states.**

Residents of Stewart Island, New Zealand, have pleaded for politicians to halt shark cage diving in their waters. The residents and

paua divers have expressed fears that the cage diving is attracting great white sharks to the area and putting them at risk, saying they live in fear of a fatal shark attack.

There are currently two operators offering shark cage diving off the island. New Zealand's Department of Conservation (DOC) introduced permits for cage diving last year

to manage risks from the activity, which was unregulated before 2014. DOC has completed a review of the cage diving season from December 2014 to June 2015.

### No evidence of risk

DOC operations director for the southern South Island, Allan Munn, stated to the New Zealand press that an international review of

shark cage diving indicates there is no evidence shark cage diving increases the risk to water users. The author was world shark cage diving expert, Barry Bruce, from Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO).

DOC has renewed the permits issued to the two operators for the

## Shark repellent in a can?

It has been well documented that sharks have an incredible sense of smell. This fact has been used in the development of an odorous spray, which apparently makes sharks run for cover—a handy thing to have on a dive.

Dr Eric M. Stroud, with the help of Dr Samuel Gruber and Grant Johnson of the Bimini Shark Lab in the Bahamas, developed and tested a composite made of extracts from putrefied shark tissues, which is a "semiochemical"—a chemical signal. SharkTec Anti-Shark 100 is the result of the research. According to the manufacturer, when the product is released, "a cloud of repellent sends a danger signal to sharks in the area that a predator could be nearby", which causes sharks to flee, thus creating a temporary safety zone for the user.

The spray is an all-natural, non-polluting, bio-degradable, environmentally-

sound solution for peace of mind under the waves, which does not harm sharks and does not repel other fish or dolphins.

And if you are worried about the source of the extracts of putrefied shark tissues used in the spray, SharkTec co-founder and CEO, Christopher Dowd, said the sharks used come from bycatch (unintentionally caught by fisheries) donated to academic communities such as universities and aquariums. "Our scientists are tied to the community and have federal permits to use the bycatch sharks. The

amount of bycatch sharks needed is very low—around two a year," said Dowd.

"As you know, the bycatch on sharks is a really big problem, and our main goal is to create a product suitable for commercial fishing and to stop bycatch all together. It just so happens that what we can use to deter sharks away from fishing lines, we can also use for human safety." ■



See the spray in action here: [Youtube.com](https://www.youtube.com)

2015-16 season, but with a number of changes. Changes made to these permits include fighter controls on bait and berley (ground fish) use, and limiting operators to using one boat a day.

The permits continued to limit operations to one site near Motunui/Edwards Island, 8km from Stewart Island, and also have rules for op-

erations that prevent sharks from being fed and rewarded around people.

DOC will review the permits in August next year and will consult with stakeholders, iwi tribes and the public through the 2015-16 season and the August 2016 review, Munn added. ■

SOURCE: CSIRO

