

Although most Bermudians don't realise it, the Lionfish invasion could have a...

Devastating impact

By Kyle Hunter

The fight to try and control the dangerous Lionfish invasion of Bermuda will intensify with hopefully more divers being issued special permits which will allow them to hunt down the marine predator using scuba gear and spears within the one-mile limit of the Island. Normally the law does not allow a diver to use a spear within that one-mile limit and in fact does not allow a diver to use scuba gear with a spear anywhere off the Island – no matter how far out they go. And Government, which has joined forces with the Ocean Support Foundation (OSF) in the fight to halt the Lionfish invasion, has been trying to keep up-to-date statistics of where the Lionfish are appearing in Bermuda's waters and whether or not the numbers are increasing.

Dr. Tammy Trott, the Senior Marine Resources Officer at the Department of Environmental Protection, said that they have seen the damage the Lionfish can do to the marine environment to islands to the south of Bermuda and are taking the problem very seriously.

Dr. Trott is hoping that more recreational divers, tourist dive shops and especially lobster fishermen, will inform the department where they have managed to kill the Lionfish and how many they have killed and all the other relevant data.

“We want an accurate picture of what is going on with them (Lionfish),” said Dr. Trott adding that before a diver gets a special permit to hunt down the Lionfish with scuba and/or spear within the one-mile limit, they will take a course about Lionfish and the dangers the fish can cause when handling one.

Jim Gleason from the OSF said they work closely with Dr. Trott and added that they have been trying to get the word out to the general public just how much danger the Lionfish poses to Bermuda's marine life – and the overall economy.

He said: “We have been working with Tammy with regards to the Lionfish spearing permit programme. Of course people have to realise that if any other kind of fish is found in the boat it has to be assumed that they (the diver) did it illegally and the penalties for that can be severe. The divers in the special permit programme will receive a two-hour course which will give them a good overview of the Lionfish and how to handle them.”

Mr. Gleason said that it was thought that the invasion originally started in 1992 when Hurricane Andrew smashed an aquarium tank in Florida about a half-dozen of the spiny, venomous Lionfish washed into the Atlantic Ocean, spawning an invasion which has now reached Bermuda. “Now we think it happened in the late 1980s when aquarium hobbyists, either accidentally or deliberately, released them into the ocean,” he said.

In the Atlantic it has been the Bahamas that have been hit the hardest and Bermuda does not want to become another badly mauled victim of the fish which are quite frankly hard to miss with their red and white stripes and a tall row of venomous spines down their backs. The fan-like fins look like a lion's mane. And like lions, they are ferocious predators.

Dr. Trott also admitted that the Bahamas have been hit hard by the explosion of the Lionfish population and that it was integral to keep them at bay around Bermuda's waters.

In fact even two years ago the Bahamas Weekly reported: "The explosion of the Lionfish population in Bahamian waters is 'a plague of biblical proportions stalking the Bahamian economy'."

And marine experts in the Bahamas are "convinced that unless urgent action is taken it will wreck tourism, fishing and related industries".

Lionfish, known for their voracious appetite for marine life, have been decimating fish that tend the coral reefs.

Mr. Gleason said: "The big issue of the Lionfish is that they eat all the juvenile and small fish. Lionfish are ferocious and they are so strong. They can adapt easily to temperatures and water conditions and can be difficult to kill. They also do not have any predators.

"The water conditions around Bermuda are just perfect for them to breed. A female can lay up to two million eggs a year! In fact one can trace the DNA of all the Lionfish in the western Atlantic to just six to eight females. It's amazing."

Mr. Gleason said they have seen the Lionfish move into areas all along the eastern US seaboard and the Caribbean. "They have gone crazy all up and down the eastern seaboard," he said. "In fact some places fear their ecosystems will implode because the Lionfish have put so much pressure on the fish population. They eat all the baby parrotfish – everything. They also kill the herbivores which eat the algae off the reef." If that happens the reef will die. "The reefs protect Bermuda – physically and economically," said Mr. Gleason. "I don't think many people realise the economic impact of the Lionfish."

OSF states that "according to a recent study by Bermuda's Department of Environmental Protection, the economic value of Bermuda's reefs is over \$700 million each year – almost 12% of our GDP. The lionfish invasion poses a serious threat to this."

Mr. Gleason said that Bermuda's first encounter with the Lionfish occurred about 12 years ago. "As I recall it was around 2000 when we first heard about them. Chris Flook (on the board of directors of OSF) said that people in Bermuda at first didn't believe there was a Lionfish in our waters. They thought the person (who first brought it to their attention) had bought it for an aquarium. But the guy had actually captured it. Then we saw a few more and then in 2004 we saw more and more and the past couple of years have even seen them on reefs and wrecks."

The Lionfish population right now around Bermuda are usually found in very deep water – around 200 feet. And Government and the OSF are trying to keep them at bay. Mr. Gleason said their high tech dive teams use very sophisticated deep diving equipment and they have found Lionfish in the 190-200 foot range. "Also lobster fishermen are catching a lot in their traps in deep water."

Earlier this summer two deep dive teams spent less than 10 minutes at about 200 feet hunting the Lionfish in a fairly small area and managed to catch 29 of them before they were forced to

surface. “They were down there for 20-25 minutes with about five to 10 minutes spearing time and they know that there were more fish down there,” he said.

Right now it is slightly unusual to catch the Lionfish on a fishing line.

Some of the facts about Lionfish that Mr. Gleason and the OSF are eager for the Bermuda public to know are:

- Lionfish are indiscriminate predators that consume more than 70 species of fish and many invertebrate species such as shrimp and crab
- Lionfish can reduce juvenile fish populations on a reef by nearly 90 percent in as little as five weeks
- Lionfish can eat up to 30 times their own stomach volume
- Lionfish have been found with more than 30 fish in their stomach
- Lionfish have no known predators in our region so their population can increase exponentially
- Lionfish become capable of reproduction in less than a year – it takes our native fish 3-5 years!
- Reproduction can occur about every four days throughout the year
- In the Caribbean, a single female lionfish can spawn over two million eggs per year
- Lionfish grow rapidly, outgrowing native species with whom they compete for food and space
- Lionfish are relatively resistant to parasites
- In 2011, large numbers of juvenile Lionfish were sighted in Bermuda’s waters, which indicates a population explosion in our waters
- If we reach a time when Lionfish are commonly found in shallower waters, we have lost the battle against controlling their population

Among those leading the fight at the OSF against the Lionfish are Mr. Gleason and Mr. Flook as well as Graham Maddocks, Simon Payne and Ken Vickers.

They have also enlisted the aid of other members of the community for their Advisory Committee and they include Brian Duperreault who is president and chief executive officer of Marsh & McLennan Companies, the second largest insurance broker in the world and Chairman of the Board of BIOS. Actor Michael Douglas as well as local business leaders Jim Butterfield, James Gibbons and Robert Steinhoff along with naturalist Judy Clee is on the committee as well.

Mr. Butterfield said he was shocked when the OSF showed him a short film about the Lionfish. He said: “They really are a major threat to Bermuda. They showed me a film of the Lionfish and they wanted some local advisers and I was more than willing. I am not putting on a tank everyday looking for fish but I am very concerned. The real concern is the Lionfish wiping out the reef fish and as a Bermudian I was horrified. It seems like trying to put out a forest fire with a bucket but on the other hand if you don’t do anything at all...

“Let’s see what we can do – trap them, kill them and keep them at bay which is probably the main thing. If we can arrest the advance we have a chance but if we do nothing then it is all over.”