

# NSW SHARK MANAGEMENT STRATEGY NORTH COAST

Tweed Heads

LS

Byron Bay

A LS<sup>1</sup> T D

Lennox Head

A B LS T D

Ballina

A B LS<sup>1</sup> T SD D

Evans Head

A LS T D

Yamba

A LS

Coffs Harbour

A LS D T SD

South West Rocks

A LS

Port Macquarie

A LS

Forster

A LS

Hawks Nest

T SD



Drone (Unmanned Aerial Vehicle (UAV) Trial



North Coast Shark Tagging Program

- A** aerial surveillance
- B** shark barriers to be installed
- LS** VR4G listening station
- T** shark tagging
- D** drone (UAV) trial
- SD** smart drumlines trial

<sup>1</sup>installed

# SHARK MANAGEMENT STRATEGY TECHNOLOGIES

## AERIAL SURVEILLANCE



Aerial surveillance will continue from Byron Bay to Evans Head and will take place on weekends, weather permitting, until Easter.

Aerial surveillance will also occur every day over the Easter long weekend and April school holidays along the NSW coast.

The purpose of aerial surveillance is to monitor sharks that may pose a hazard to swimmers.

If the pilot spots a shark that poses a threat to surfers or swimmers, a call is immediately made to 000 and to the local Surf Lifesaving Club.

Information is also available via @NSWSHarkSmart on Twitter.

## SHARK BARRIER

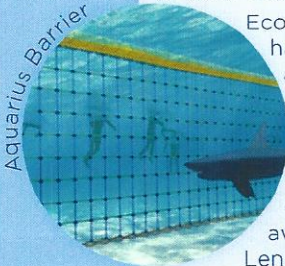
A shark barrier is a physical barrier which either wholly, or in part, separates sharks from water users. They do not aim to entangle sharks or other marine life.

Eco Shark Barrier has been awarded a contract to trial a shark barrier at Lighthouse Beach. Installation is expected to occur around April 2016.

Global Marine Enclosures has been awarded a contract to trial a shark barrier at Lennox Head. Community consultation on the position of the Aquarius Barrier at Lennox Head is currently underway.



Eco Shark Barrier



Aquarius Barrier

## DRONE (UNMANNED AERIAL VEHICLE UAV) TRIAL

An unmanned aerial vehicle or drone is able to provide aerial surveillance of coastal waters and provide real-time vision of the area.

NSW is trialling the use of drones. A five week trial has been completed at Coffs Harbour. Further trials are currently underway in the Ballina/Byron region.

## NORTH COAST SHARK TAGGING PROGRAM

The shark tagging program involves locating and tagging sharks with both externally mounted satellite tags and surgically inserted acoustic tags. The tags register the natural movements of the sharks to help determine the environmental and biological factors affecting their abundance and distribution. This project is done in collaboration with CSIRO.

So far, 14 white sharks have been tagged in ocean waters near Ballina. NSW DPI shark scientists are continuing this ongoing program on the North Coast, targeting white, bull and tiger sharks. To date, seven bull sharks have also been tagged in the Bellinger River near Coffs Harbour.

To see where the tagged sharks' last location was visit [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

## SMART DRUMLINES

Smart Drumlines differ greatly from traditional drumlines as they are not designed to kill sharks. The state-of-the-art technology used is able to alert a response team when a shark is captured. The team then respond immediately to tag and relocate the shark.

Initial communications testing of the 'Smart Buoy' technology occurred in the Bellinger River, south of Coffs Harbour, in late November/early December 2015 with scientists from Reunion Island.

Further trials have taken place at Ballina and at Hawks Nest on the NSW Mid North Coast.

## VR4G SHARK LISTENING STATION

A VR4G shark listening station is a receiver that detects sharks within a 500m radius and immediately transmits the information via satellite.

The information is then instantaneously passed on to the public and beach authorities via Twitter, and will soon be available on the SharkSmart mobile app.

VR4G listening stations are currently positioned at Sharpes Beach, Ballina and Clarkes Beach, Byron Bay. Another three will be installed at Tweed Heads, Evans Head and Lennox Head in February 2016.

