



**BlueWater**  
MARINE RESEARCH



## Yellowtail Kingfish Monitoring Report

**Date:** 1 June 2013

### **Objectives:**

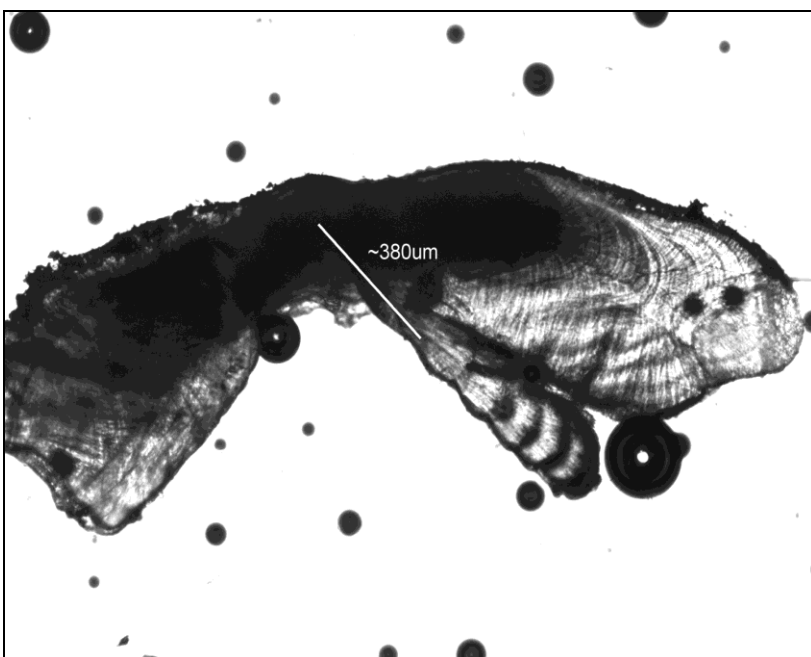
- To collect lengths of kingfish caught in the 2013 Bay of Islands Swordfish Club (BOISC) International Yellowtail Tournament.
- To compare lengths of fish from the 2010, 2011, 2012 and 2013 BOISC Yellowtail Tournaments and describe trends.

### **Background**

Kingfish are a highly valued catch for recreational and charter fishers around northern New Zealand. Without doubt, we have a world class kingfish fishery right here in New Zealand. In October, 2003 the TACC (allowable commercial catch) was reduced by 20% due to concerns that the fishery was in decline. What this effectively meant was that commercial fishers had just enough quota to cover a genuine by-catch in the trawl and snapper longline fisheries. Recreational fishers had their 20% reduction handed to them in a different way – an increase in the minimum legal size from 65 cm to 75 cm – which came into effect on 15 January, 2004.

In 2010, recreational charter and private fishers around the upper North Island worked with us to monitor the status of kingfish stocks. This was the first time a project of this scale had been conducted for kingfish in New Zealand. The results provided a snapshot of the size and age of kingfish in the recreational catch, which is more representative of the overall population than a sampling from the commercial fishing methods. Only fish larger than 75 cm were included.

The results of the 2010 project were intriguing. The size ranges of kingfish in the Bay of Plenty and east Northland and Hauraki Gulf were quite different. A high proportion of fish sampled in Northland and Hauraki Gulf were 4 to 6 year olds (75%) with few fish over 10 years old. There were more older fish in the Bay of Plenty, especially offshore. .

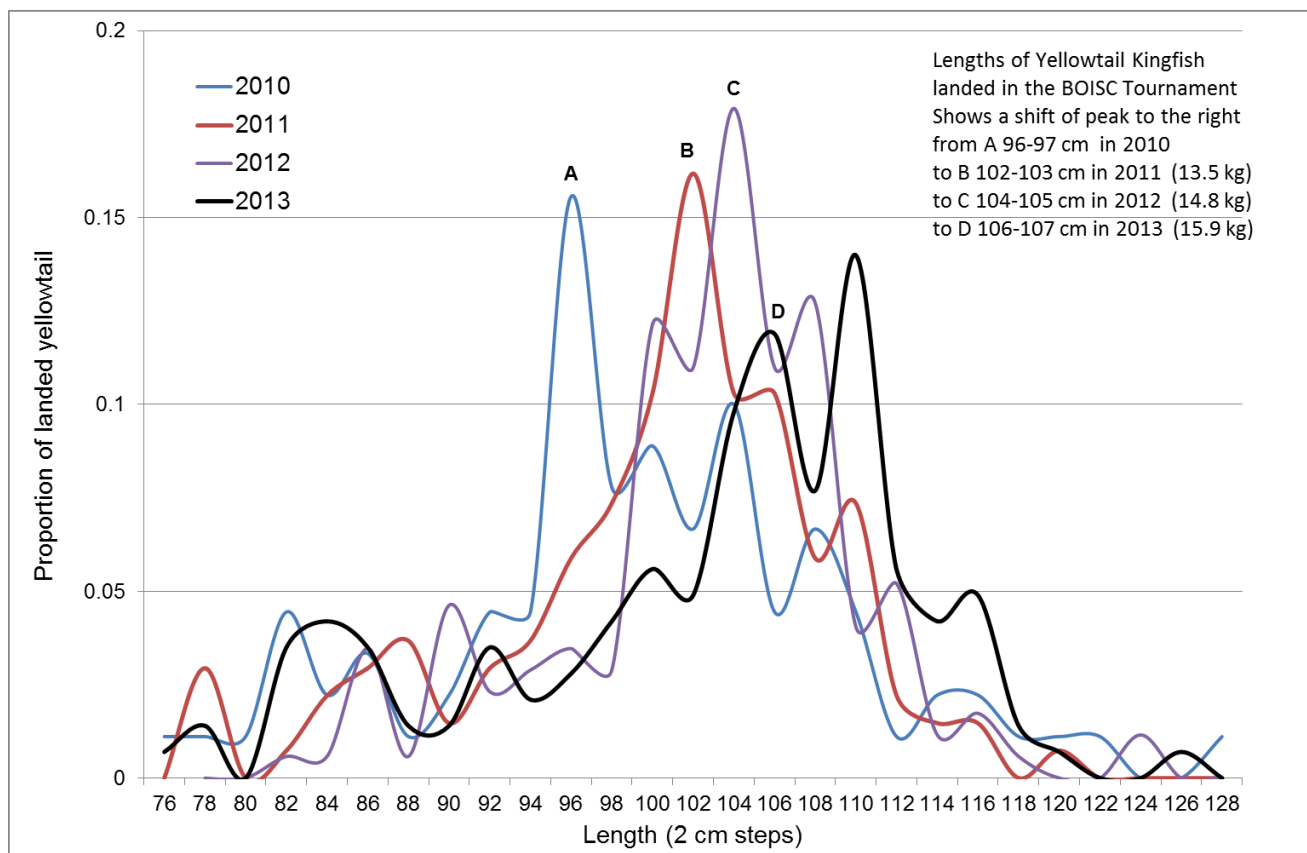


**Figure 1: A thin section of a kingfish otolith (earbone) magnified 40 times showing growth rings. This 99 cm Bay of Plenty fish was 6 years old when caught in March 2010 (dark spots are air bubbles). (Photo NIWA)**

### Results from Bay of Islands Yellowtail Tournament 2010 to 2013

The Bay of Islands International Yellowtail Tournament has been running for 44 years, with both junior and senior teams representing fishing clubs from New Zealand and Australia. This tournament is a great opportunity to collect length data at the weigh station over 4 days of fishing. Since 2010 we have monitored the size of the kingfish catch. This type of time series can reveal trends in the recreational catch that may give an insight into what is happening in this important fishery. Significantly, the size of fish in the landed catch has increased each year since 2010, as shown in the figure below. In 2010 just 14% of fish landed in the contest were 110 cm or more, while in 2013 32% were this size or larger. This is very good news!

In 2010, the landed catch had a peak at 96 & 97 cm (about 10 kg) consisting mainly of 5 year olds and slow growing 6 year olds (blue line in graph below). Overall fish were larger in 2011 with a peak at 102 & 103 cm (about 13.5 kg). In 2012 the peak moved 2 cm to the right and again in 2013 with the reduced peak at 106 & 107 cm (average weight 15.9 kg) (black line). Also the shoulder peaks from 2011 at 106 has shifted right over 2 years to 110 & 111 cm (Figure 2). No aging has been funded since 2010 but it is clear that there has been strong recruitment from successful spawning events eight or nine years ago. This also coincides with the time that the TACC was reduced and the minimum size increased. It appears that these management changes may well have been successful. These fish appear to have stayed in coastal waters and grown about 2 cm per year, so hopefully they will eventually boost the numbers of large teenage fish that were strangely absent during the 2010 study. We also observed huge schools of juvenile kingfish (25 – 35 cm in length) offshore this year, and have received numerous similar reports from throughout the north-east coast. One school encountered outside the Pinnacles off Tutukaka contained many thousands of fish, aggregated under a log. If these fish settle into the coastal population it is likely that excellent kingfish fishing will continue to be available in future years.



**Figure 2: Plot of the proportion at length by year of yellowtail landed in 2010 (90 fish), 2011 (136 fish), 2012 (173 fish), and 2013 (144 fish) during the Bay of Islands International Yellowtail Tournament. Does not include fish tagged and released.**

## **Kingfish Projects**

The 2010 kingfish age and growth project was funded by the Ministry of Fisheries (now the Ministry for Primary Industries) and conducted by Blue Water Marine Research, Stock Monitoring Services and NIWA. Report at <http://fs.fish.govt.nz/Page.aspx?pk=113&dk=23125>

The on-going collection of length data to monitor kingfish in Northland is supported by the Bay of Islands Swordfish Club, New Zealand Sport Fishing Council, LegaSea, The NZ Fishing Competition and Fin-Nor to enable recreational fishers to gather useful information to help monitor kingfish stocks.

Please support this work and sign up to **LegaSea** by visiting [www.Legasea.co.nz](http://www.Legasea.co.nz)

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