



NSW Ocean Trawl Fishery mulloway bycatch action program

Mulloway v teraglin and north coast working groups

Shareholder information paper

NSW DPI has taken preliminary steps to determine whether the juvenile mulloway observed in recent catches may be some other species, such as teraglin.

A small number of samples were sent to the Australian Museum for positive identification and steps have been taken to ensure fisheries managers and local working groups receive accurate advice on mulloway numbers – for the purpose of informing management decisions, including changes to closures.

At a recent 'Ocean trawl mulloway bycatch reduction working group meeting' (held 2 May 2013) DPI committed to work with industry to revise the triggers used to introduce, modify and revoke closures having regard to the effectiveness of industry's preferred net configuration. Any other information available at the time relating to, for example, mulloway and teraglin can also be considered.

To improve communication between shareholders and between industry and DPI a small number of working groups have been established in ports directly affected by closures in recent years. The working groups and membership are detailed below.

Samples taken for identification purposes

A small number of samples were referred to the Australian Museum by compliance officers for positive identification as part of an internal DPI program to improve advice to commercial managers and north coast working groups. These were not random samples and as such cannot be taken to be an indication of the distribution and/or abundance of juvenile mulloway or teraglin on the north coast. Determining this would require a properly designed (and potentially expensive) survey over appropriate spatial and temporal scales.

On 26 March 2013 Mr Gary Joblin referred samples to compliance officers for positive identification. These fish were taken from waters off Airforce Beach, half way between Evans Head and Ballina. Only four of the fish referred to the Australian Museum were dissected by the Museum staff and each was identified as a teraglin.

On 2 April 2013 compliance officers obtained a small number of suspected mulloway taken by Mr Tom O'Grady off Airforce Beach, north of the Evans River. Only four of the fish referred to the Australian Museum were dissected by Museum staff and each was identified as a mulloway.

The samples provide sufficient information to be able to confidently identify the two species through dissection.

Results of observations – separating mulloway and teraglin

Using the knowledge acquired as a result of engaging the Australian Museum, DPI compliance are now actively separating juvenile mulloway and teraglin during routine patrols and test shots. Some of the more recent observations by compliance officers are presented below.

Date	Boat, waters and shot time	Mulloway v teraglin	Comments
2 Apr 2013	Twin G, closed waters off Airforce Beach, 15 min	21 mulloway 77 teraglin	These results were referred to the Evans Head Working Group for consideration. On advice from the Evans Head fleet no changes were made to the closures of Evans Head.
2 Apr 2013	Twin G, closed waters off Airforce Beach, 15 min	69 mulloway 323 teraglin	
2 Apr 2013	Twin G, closed waters off Airforce Beach, 15 min	5 mulloway 48 teraglin	
18 Apr 2013	Val Maree, open waters off Shark Bay, approx. 20 min	163 mulloway 195 teraglin	This observation was from a routine patrol. The shot was in open waters off the southern end of Shark Bay.

Identifying mulloway and teraglin

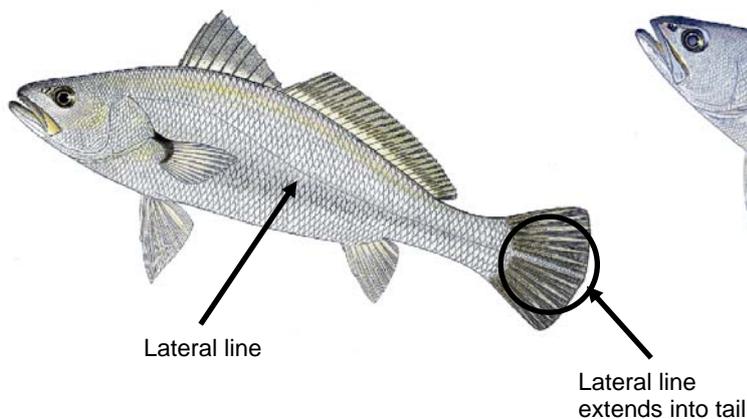
Accurately identifying juvenile mulloway and teraglin based on their external physical features is not as straight forward as using the internal features. However, the most reliable ways to differentiate the two species based on external features, particularly larger fish, include (in the following order):

Lateral line: the lateral line on a mulloway extends into the tail whereas the lateral line on a teraglin does not. The lateral line on a mulloway is also more curved or kinked than that of a teraglin.

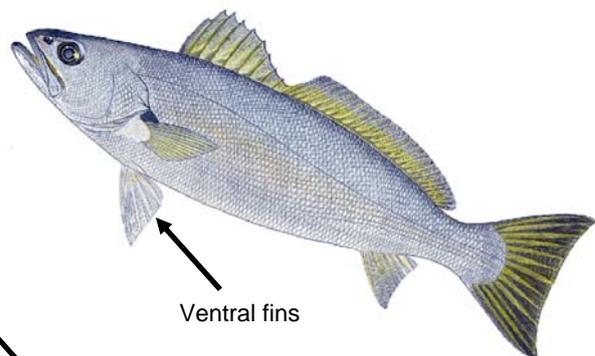
Inside mouth: the inside of the mouth of a teraglin is yellow whereas a mulloway's is white.

Ventral fins: the ventral fins on a mulloway are generally yellow whereas the ventral fins on a teraglin are generally white. Care should, however, be taken as external colouration can sometimes vary.

Mulloway



Teraglin



Pictures courtesy of Bernard Yau.

Recent field observations by compliance officers indicate that for quick identification of small fish (<10 cm), particularly if both species are present, taking note of the eyes, the colour of the ventral fins, the curve of the lateral line and the external texture (or scales) can help.

Although not always practical the most reliable way to differentiate the two species is by the swim bladder, in particular the presence of two 'horns' at the anterior of the swim bladder of a teraglin – note that the branch like structures in the mulloway picture below are not always evident.

Mulloway



Teraglin



Local working groups and the north coast mulloway working group

Three informal local industry working groups have recently been established. They have been established to improve communication between shareholders and between industry and DPI on local issues, including the use of fishing closures to improve industry viability or address bycatch issues. It is envisaged that the groups be maintained locally and that membership may change from time to time as local fishers see fit. Additional working groups may be established in other ports if needed.

Richmond

David Fleming
Mario Puglisi
Garry Joblin

Evans

Chris Bienke
Brett McMahan
Tom O'Grady

Clarence

Robert Toyer
Graeme Williams
Donald Anderson
Stephen Kerr
Ron Prindable

In addition to the local working groups, another broader group known as the north coast mulloway working group has been set up. This group was established mid last year to progress the development of new gear to reduce bycatch of juvenile mulloway – and potentially avoid the need for extensive closures. This group includes industry representatives from major north coast ports including Richmond, Evans, Clarence and Coffs Harbour. The outcomes of meetings of this group are available on the DPI website. Industry representatives on the working group include:

Graeme Williams
Malcolm Kerr
Jay Aleckson

Donald Anderson
Darren Ward
Garry Joblin

Robert Toyer
Philip Ward
Ron Prindable

Stephen Kerr
Chris Bienke

Contact:

For enquiries contact Jacob Crisp, Fisheries Management Officer, on (02) 6691 9683 or Darren Hale, Senior Fisheries Manager, on (02) 6645 0503.