Soles
(Soleidae and Cynoglossidae)

Background
Soles marketed in NSW belong to the families Soleidae (true soles) and Cynoglossidae (tongue soles). The catch consists mainly of the lemon tongue sole (*Paraplagusia bilineata*) and the black sole (*Brachirus nigra*) with very small quantities of the manyband sole (*Zebrias scalaris*).

The lemon tongue sole is found around northern Australia, extending south in NSW to about Sydney. It inhabits shallow estuaries, tidal rivers and inshore coastal waters to a maximum depth of about 30 m, and prefers mud and sand substrates. The maximum-recorded length is 33 cm.

Both the black sole and manyband sole are endemic to eastern Australia, ranging from southern Queensland to eastern Bass Strait and southern Victoria. They are primarily found inshore in depths less than 50 m preferring muddy or sandy seabeds, particularly in estuaries and shallow coastal bays. Black soles grow to about 35 cm while the manyband sole is a small species reaching only about 20 cm.

All three species spawn pelagic eggs. As for flounders, the pelagic larvae of soles are initially symmetrical like other fish but during development the body plan changes so that both eyes become located on the one side. Both eyes of soles (Soleidae) become located on the right side of the head, while the eyes of tongue soles (Cynoglossidae) are on the left side. The young soles then settle flat on the seabed with the eyed-side, which becomes pigmented and dark coloured, facing upwards. The under-side of soles is pale and unpigmented.

In NSW, small commercial catches of sole (~ 10 t per annum) are landed throughout the year from both estuaries and oceans as a byproduct of trawling. About 80% of the landings come from the ocean prawn trawls with almost all the remainder from ocean fish trawls. A minimum legal length (MLL) of 25 cm total length (TL) introduced in September 2007 reduced the quantities of sole landed in subsequent years and the MLL was removed in September 2010. Soles are not commonly caught by recreational

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### EXPLOITATION STATUS

**UNDEFINED**

Two species are significant in commercial catches, but little biological information and only limited size composition data are available.

<table>
<thead>
<tr>
<th>SCIENTIFIC NAME</th>
<th>STANDARD NAME</th>
<th>COMMENT</th>
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</thead>
<tbody>
<tr>
<td><em>Paraplagusia bilineata</em></td>
<td>lemon tongue-sole</td>
<td>Common in prawn trawl catches.</td>
</tr>
<tr>
<td><em>Brachirus nigra</em></td>
<td>black sole</td>
<td>Caught mostly by fish trawl.</td>
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<tr>
<td><em>Zebrias scalaris</em></td>
<td>manyband sole</td>
<td>Few landed.</td>
</tr>
</tbody>
</table>

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Image © Bernard Yau
Additional Notes

- Black (*Brachirus nigra*) and lemon tongue (*Paraplagusia bilineata*) soles are the most common species marketed.
- These species are an incidental catch of both fish and prawn trawling. They are rarely taken by recreational fishers.
- There is a combined recreational bag limit of 20 for all flounders and soles. The minimum legal length of 25 cm TL introduced for soles in September 2007 was removed in September 2010.

Catch

Recreational Catch of Soles

Historical Landings of Soles

Commercial landings (including available historical records) of soles for NSW from 1990/91 to 2008/09 for all fishing methods. Note that a minimum legal length of 25 cm TL was introduced in NSW in September 2007, and revoked in September 2010.

Landings by Commercial Fishery of Soles

Reported landings of soles by NSW commercial fisheries from 1997/98. * Fisheries which contribute less than 2.5% of the landings are excluded for clarity and privacy.

Length Frequency of Black Sole

The length distribution of black sole landed by NSW commercial fishers during 2005/06 was comprised mainly of fish between 15 and 30 cm total length (TL). A minimum legal length of 25 cm TL was introduced in NSW for all flounder and sole species in September 2007, but the minimum legal length for sole species was removed in September 2010.
Further Reading


Please visit the CSIRO website, http://www.marine.csiro.au/caab/ and search for the species code (CAAB) 37 463001, 37 462017 and 37 462010, common name or scientific name to find further information.