

9 DESCRIPTION OF COMMERCIAL FISHERIES

This section gives a very brief description of the commercial line fishery to help put biological studies in a context. It is not intended as an exhaustive description of the fisheries.

9.1 Bottom Fishing

Bottom fishing can be simply divided into two fisheries: a deepwater, night-time fishery aimed primarily at 'reds' and a shallow, night-time fishery in lagoons aimed at sweetlip, spangled and red emperor.

9.1.1 Deep-water, Night-time

Techniques used in the deep-water reef fishery in north Queensland have changed little since the fishery commenced prior to the Second World War (McPherson et al. 1988). The commercial fishery is very similar to that carried out by 'recreational' anglers on charter boats in the same areas. They are both essentially 'hand-line' fisheries although large, deck-mounted, hand-operated reels are now often used. The most widely used terminal gear is the 'red' rig which is very similar to that used commonly for snapper (*Chrysophrys auratus*) in waters of southern Australia. It usually comprises two or more hooks (6/0 to 10/0) on short snoods above a sinker. A wide range of fish and squid bait is used.

Localities fished by those in this fishery are often determined by vessel size and prevailing weather conditions (McPherson et al. 1988). When moderate to strong south-east winds are blowing, fishing areas are usually selected in deep water adjacent to, and in the lee of reefs. The targeted species are primarily the 'reds', in particular *L. malabaricus* and *L. sebae*, and the preferred fishing areas are in deeper water away from the reefs over shoals or small pinnacles or around wrecks. Locations with suitable substratum and evidence of fish are generally found using an echo-sounder and the anchor dropped as close as possible (McPherson et al. 1988). Alternatively boats drift until fish are caught or show on the sounder and then the anchor is dropped. Coral trout are very rarely caught in this fishery and the capture of a sweetlip (*L. miniatus*) or trout is considered a certain sign that the boat is drifting onto a coral reef (J. Sikora pers. comm.).

Until recently, considerable skill has been required to find the isolated shoals, pinnacles and wrecks that are prime 'red' fishing grounds. The introduction of GPS systems to many boats will change this situation considerably and may lead to a marked increase in effective effort in this fishery.

In the northern GBR boats in this fishery generally fish in less than 80m. Occasionally larger boats conduct fishing operations in 100 to 160m. However, 100m is usually considered to be the deepest limit for handline fishing operations 'apparently because of low catch rates below 100m' (McPherson et al. 1988). The fishing time lost in retrieving lines and the tangling of lines becomes more of a problem in deeper depths (McPherson et al. 1988). A Townsville fishermen noted for exceptional commercial catches of 'reds' told D. McB. Williams that it was not profitable to fish in depths approaching 180 feet or more. This was not because the fish were not there but that they were too large and brought significantly lower prices than the smaller fish.

9.1.2 Shallow-water Night-time

This fishery targets *L. nebulosus*, *L. miniatus* and *L. sebae* in the sandy lagoons of the larger reefs at night. Perhaps because the main catch is *L. nebulosus*, generally regarded as a fish of

lesser market value, it does not appear to be widely pursued at this point in time. There are claims that it was once possible to catch large numbers of the more valuable *L. sebae* in this manner, even during the daytime (Mathew 1988).

9.2 Trout Fishing

This is a day-time, primarily shallow-water, fishery targeting coral trout and to a lesser extent, *L. miniatus*. This fishery has been revolutionised by the introduction in the last decade of 'tinny' fishing which will be discussed separately below.

9.2.1 Wogging

Traditionally the fishery was based primarily on 'wogging' from dories used in the mackerel fishery. A wog is a large fly or jig made of coloured feathers, polypropylene or plastic fibres. The wog is attached to a long wire trace and towed behind a dory at 3 to 4 knots. The wog is 'worked' or jerked as it is dragged through the water about 100 feet behind the dory. The dory works closely around coral bommies or along the hard wall of the reef (Mathew 1988). Trolling baits behind a dory, as carried out in the mackerel fishery, has also at times been used to catch coral trout (Mathew 1988).

9.2.2 Tinny Fishing

Mathew (1988) attributes the introduction of this form of fishing to north Queensland to Sonny Butterworth from Mackay. 'Essentially it involves the use of light, aluminium open boats powered by outboard motors of 10 to 40hp. [Mackerel dories are generally heavy displacement vessels, powered by small diesel engines]. The areas fished are shallow spots sometimes only 20 feet deep. The anchoring is precise and depends on current, wind and tide. The fishing rig involves light nylon (30-70lb) using the lightest possible running sinker and a size 8/0 to 10/0 hook, baited with a whole Western Australian pilchard (*Sardinops neopilchardus*). These pilchards readily break up underwater and make an ideal 'chumming' bait. Due to their oily nature, fish are attracted from a wide area' (Mathew 1988). Mathew is not explicit as to the timing of the introduction of tinnies but infers that it occurred sometime between the late 1970's and the early 1980's.

Tinny fishing is a far more efficient means of catching trout than wogging or trolling. Fishermen believe it to be far more selective for trout than the latter techniques (more than 80% of fish taken are trout). A large number of fast dinghies can also cover much more ground than mackerel dories and they are much more efficient at targeting trout concentrations around a reef. Light-line fishing with pilchards also results in many smaller fish being taken than with previous methods. In some markets these plate-size fish, very close to the minimum legal size, have brought premium prices.

Trout fishermen often distinguish between fishing 'shallow' water (where they can see the bottom, generally are often used to find fish and bait in shallow waters and depth-sounders in deeper water. Fish caught in the shallower waters tend to be darker coloured and are sometimes called 'greenies'. Those from deeper water are much redder in colour and called 'strawberries'. Many fishermen believe in the principle of 'creaming the top off the reef' and then moving to another reef, often within a day. They believe that the fish taken are replaced by fish moving up from deeper water. The 'creamed-off' fish are often believed to be the largest but presumably reflect the most catchable.