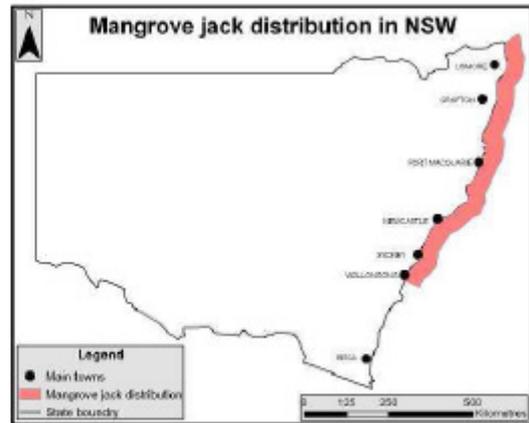


Mangrove Jack (*Lutjanus argentimaculatus*)



A nice mangrove jack taken from a northern NSW estuary.
Image: Tim Price.



Distribution of mangrove jack in NSW.
Image: C. Carruthers, I&I NSW.

Distribution

Mangrove jack live in coastal waters and rivers from Shark Bay in Western Australia through Torres Strait and Queensland, south to Lake Illawarra in NSW. They are occasionally found in more southern estuaries of NSW.

Size

Reach a maximum length of approximately 1.2 metres and 16 kg in weight.

Description

The colour of mangrove jack is quite distinctive, varying from bright reddish-brown to dark olive-brown. Fins have a pinkish hue, with the tail generally a darker shade. Each scale has a dark spot, which gives the appearance of criss-crossing lines on the body. Juveniles possess a blue line below the eye, which is also often evident on the adult.

Mangrove jack are often confused with red bass (*Lutjanus bohar*) on colour alone, however, they lack the deep pit before each eye that is characteristic of the red bass.

Characteristic

The mangrove jack is an extremely strong fighter and regularly finds shelter among submerged snags, making them a very challenging recreational species.

Life History

Mangrove jack move from estuaries to the sea to breed when aged between 3 and 11 years. Spawning varies with location but in NSW this breeding migration is generally observed between October and March. Juveniles then return to the estuaries, rivers and wetlands (including freshwater areas) to feed and grow. The technical term for this type of migration is diadromous. Mangrove jack found in estuaries and inshore coastal areas are generally juveniles.

Once sexual maturity is reached, adults migrate to the open ocean and utilise reefs, rocky headlands and caves up to 50 km offshore where they spawn. A single spawning event can yield up to 4 million eggs.

Diadromous fishes are truly migratory species whose distinctive characteristics include that they (i) migrate between freshwaters and the sea; (ii) the movement is usually obligatory; and (iii) migration takes place at fixed seasons or life stages.

Diet

The mangrove jack is an aggressive predatory species that feeds mainly on fishes and crustaceans such as crabs and shrimp.

Habitat requirements

As the name suggests, mangrove jack are commonly found in mangrove-lined estuaries, however they do utilise a wide variety of habitat types. This species has been recorded more than 100 km upstream from the mouth of an estuary amongst weed beds and instream structure and at depths of over 120 m on offshore reefs.

Estuaries, rivers, coastal wetlands and tidal creeks form the primary habitat for this species during development and growing out until sexual maturity. Naturally, mangrove stands are favourite haunts for this species. Submerged mangrove roots, overhanging vegetation and an abundance of food such as baitfish and crabs make an ideal ambush location.

During the early stages of recruitment to coastal estuaries and bays, mangrove jack often utilise seagrass habitats and tidal or ephemeral (non permanent) coastal wetlands. Mangrove jack are approximately 20 mm or 32 days old when they enter calmer coastal waters so seagrass beds provide a safe hideaway for small fish and an abundant supply of food in the form of other small fish and plankton (small free floating plants and animals). Towards the brackish or freshwater reaches of our coastal rivers, mangrove jack also utilise other aquatic macrophytes such as grasses overhanging undercut banks as cover.

Most research on the habitat preferences for mangrove jack indicate that larger sub-adults (in estuaries) primarily utilise complex snags and rocky areas, both natural and man made.



Tidal coastal wetlands provide essential habitat to numerous juvenile species including mangrove jack.
Photo: C. Carruthers, I&I NSW.



Sampling on the Russell River in Queensland yielded 80 individual Mangrove jack from one snag!
Photo: C. Carruthers, I&I NSW.

Threats to mangrove jack habitat

Habitat degradation and loss associated with inappropriate development is a key threat to mangrove jack stocks. The main issues observed in NSW are the loss of riparian (river bank) vegetation, coastal wetlands, seagrass beds, together with increased sedimentation and desnagging.

This species utilises a wide variety of habitats in salt, brackish and freshwater systems. Barriers to fish passage such as floodgates and block-banks limit habitat availability and inhibit movement in and out of these important nursery and feeding areas.