Department of Fisheries
Department of Parks and Wildlife
Department of Regional Development
GOVERNMENT OF WESTERN AUSTRALIA
ROYALTIES FOR REGIONS

Ngari Tales

News from the Ngari Capes Marine Park

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Welcome to the third issue of *Ngari Tales*, a newsletter for everyone who wants to know more about the Ngari Capes Marine Park: one of Western Australia's most recently created State marine parks, located in the south-west of WA.

Have you seen any damselfish along the Capes?

Researchers at the Department of Fisheries, Curtin University and the Western Australian Museum are asking divers in the Cape Naturaliste to Cape Leeuwin area to report any sightings of two damselfish: scissortail sergeant (*Abudefduf sexfasciatus)* and the Indo-Pacific sergeant (*A. vaigiensis)* (pictured right).

For more than three decades, Barry Hutchins from the Western Australian Museum has been monitoring the annual arrival of pulses of tropical fish larvae at Rottnest Island, and the above two damselfish species have always figured prominently. These tropical species do not breed at Rottnest and it appears that larvae originate from the Houtman Abrolhos Islands off Geraldton, where these species are known to breed. Oceanographic studies by Alan Pearce (Department of Fisheries and Curtin University) have demonstrated that they are carried down in the Leeuwin Current to the waters around Rottnest, which has been their southernmost limit along the Western Australian coast.

An event known as the 'marine heat wave' in early 2011 resulted in ecological changes ranging from devastating fish mortality at a number of localities to a variety of tropical fish, including whale sharks and manta rays, being found well south of their normal ranges. The first-ever sighting of a larval scissortail sergeant at the Busselton Jetty Underwater Observatory attracted Alan's attention. Observatory Manager Sophie Teede reported seeing the three centimetre long fish in mid-March 2011, when the water temperature at the jetty reached 23°C (and had even been above 25°C two weeks previously). This individual was spotted around the observatory windows until early May. The following March, two individuals were sighted.

Scissortail sergeant *(Abudefduf sexfasciatus).*

Indo-Pacific sergeant *(A. vaigiensis).*

Alan's investigation of the ocean currents and water temperatures have led him to suspect that these damselfish species could be found between the Capes during March and April. He would greatly appreciate being notified of any sightings of larval or juvenile damselfish by divers or collectors. Please include date, time, location (e.g. nearest landmark), water depth, number and size of the fish, and, if possible, water temperature. A photograph would be a bonus! Email Alan at **alanpearce@iinet.net.au** or call him on (08) 9246 2910. Divers are also asked to log any sightings at the redmap website, **www.redmap.com.au**.

Elusive juvenile dhufish found in Flinders Bay and Geographe Bay

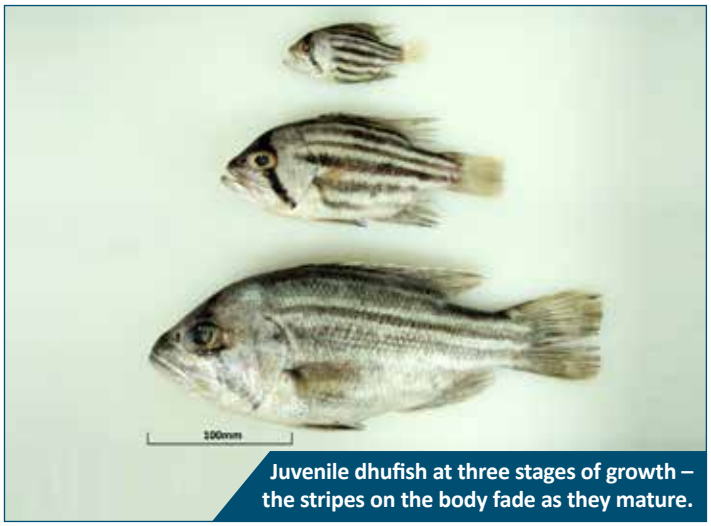
The West Australian dhufish (*Glaucosoma hebraicum*) is one of the most highly targeted commercial and recreational 'demersal' (bottom-dwelling) fish species on the west coast. Dhufish, which can grow to about 125 centimetres and 26 kilograms, are found nowhere else in the world. They are slow-growing and long-lived, with a life span of up to 40 years.

Juvenile dhufish have traditionally been hard to find. Fishers, divers and researchers rarely see juveniles of less than 150 millimetres in length. In the past, only a few have been collected from a small area to the north-west of Fremantle. This has presented scientists with a challenge to collect enough information to get a full understanding of this vulnerable part of a dhufish's life and the entire life cycle of dhufish.

As a result, two years ago Department of Fisheries researchers started a project to identify habitats critical to juveniles, particularly those under 150 millimetres. This State Natural Resource Management-funded study identified the critical habitat as mainly sandy areas with small patches of low-profile reef or seagrass beds. This is very different to the reef habitats where adults generally occur.

The good news is that suitable sites for monitoring the annual numbers of small dhufish have been identified. In April 2011 reports of small juvenile dhufish at an abalone aquaculture site in Flinders Bay near Augusta led to detailed monthly surveys of the location. These surveys have shown that juveniles of between 80 and 240 millimetres consistently school at the aquaculture pipes between November and January, before (presumably) settling in other locations. More recently, researchers carrying out monitoring in the Ngari Capes Marine Park also spotted small juvenile dhufish in Geographe Bay.

In a related project, funded by the Fisheries Research and Development Corporation, in 2011 Department of Fisheries and CSIRO researchers began collecting planktonic eggs and/or larval dhufish. Previously only



Juvenile dhufish at three stages of growth – the stripes on the body fade as they mature.

a single larval dhufish had been identified in extensive sampling carried out by various research groups along the west coast. Given the extended spawning season for dhufish, from November to April, and wide distribution, it is likely the eggs and larvae become widely dispersed.

In 2012, scientists conducted extensive plankton sampling from Cape Naturaliste to Cape Leeuwin in January and February, the peak of the spawning period. They developed and tested a technique of DNA sequencing of plankton samples to rapidly detect the presence of DNA of dhufish and other species spawning at the same time. The project also used computer modelling of ocean currents and satellite-tracked drifter buoys to predict the likely direction and speed of travel of larvae from known dhufish spawning locations in the area.

Dhufish eggs or larvae were detected in many samples in 20 to 30 metres of water off the Capes region. A higher concentration of dhufish larvae corresponded with warmer water temperatures. Drifter buoys demonstrated high variability of currents in the Capes region, which has implications for the survival and future 'recruitment' (addition of young fish to the stocks) of dhufish.

Between these two research projects our knowledge of the early life history stages of dhufish has been greatly enhanced.

A juvenile dhufish about 120 millimetres long.

Whale rescue at Redgate Beach

Marine park staff assess the whale's condition by monitoring its breathing.

A stranded Gray's beaked whale (*Mesoplodon grayi*) was returned to the ocean by Department of Parks and Wildlife Blackwood District staff with the help of Margaret River Sea Rescue just two days before Christmas last year. The injured whale had become stranded overnight on rocks at Redgate Beach and was discovered at first light by Department of Parks and Wildlife staff on a routine patrol.

The distressed animal, 3.5 metres in length and weighing more than 500 kilograms, was assessed by Department of Parks and Wildlife specialists as being fit for release. It is thought the animal may have become injured at sea and disorientated, which resulted in its stranding.

A group of Department of Parks and Wildlife staff with a purpose-built sling carefully manoeuvred the half-tonne animal out of the shallows and into deeper water, where it was tethered to a waiting sea-rescue boat, with the intention of helping it well offshore. However, once the whale was clear of the shallows it headed off into deeper water under its own steam – after a bit of herding from the sea rescue boats.

Gray's beaked whales are common to the area but do not often come close to the shore. Males can grow up to 5.7 metres in length and weigh up 1,100 kilograms, while females are slightly smaller. They typically occur in the temperate and subantarctic waters of the southern hemisphere. This distribution is assumed from recorded sightings and strandings. The Gray's beaked whale is the second most common beaked whale to become stranded in Australia, with 48 separate strandings recorded – 16 of them in southern Western Australia.

Since sightings are rare and their main food source is deep water cephalopods (squid), it is assumed they generally remain in deeper waters except when calving or nursing their young during the summer months.

Salmon season is here

The word 'ngari' (pronounced 'nyari') is the Noongar word for the western Australian salmon. With the onset of autumn it's about time the Ngari Capes Marine Park namesake arrived from their south coast home for their annual spawning migration. The Noongar Indigenous people traditionally made use of this season to hunt ngari with gidgees.

If you're a fisher who is planning on chasing a few salmon this season, please remember to leave the beaches or rocks as you find them. Fishing debris, plastic rubbish and salmon remains left behind can spoil the enjoyment of the local area for other beach users, while cleaning fish in the shallows can also attract sharks. Please use any bins provided or take all rubbish and scraps home with you.

Western Australian salmon.

Survey of Flinders Bay islands

A big 'thank you' goes out to the Augusta sea rescue group, who provided their time, local knowledge, rescue vessel and jet ski to take Department of Parks and Wildlife staff to visit the island reserves and proposed sanctuary zone off Augusta.

Seal Island and St Alouarn Island are both nature reserves, with Flinders Island, Square Rock and South East Rocks forming the Flinders Bay Nature Reserve, and encompassed by the proposed Flinders Island Sanctuary zone. This sanctuary zone and the Cape Leeuwin sanctuary zone will be important to safeguard a New Zealand fur seal colony. As seal pups can't dive very deep for food, the shallow depths of these areas are perfect foraging grounds for them.

The islands have been visited periodically by Department of Parks and Wildlife staff from the Nature Conservation Branch. This year, the Nature Conservation team was assisted by the new Ngari Capes Marine Park staff and in the future, frequent management visits will be jointly conducted. This collaboration allows for extensive surveys of flora, shore and sea birds and pinnipeds (seals and sea lions) to be carried out.

The Ngari Capes team members were delighted to have the opportunity to quantify and photograph the New Zealand fur seal colony at Flinders Island. This visit will provide them with the knowledge to help them manage this seal colony in the future. Department of Parks and Wildlife staff also collected debris from the islands and catalogued it using methods developed by Tangaroa Blue.

The view from Flinders Island looking towards St Alouarn Island.

Further information

For more information about the Ngari Capes Marine Park or to register to receive this newsletter electronically contact:

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