

SEA NET

smarter fishing for industry

King George Whiting South Australia's Newest Iconic Species

Sillaginode punctata or King George Whiting (KGW) was named as a South Australian Icon Species in May 2004. KGW along with Murray Cod are considered to have cultural significance in South Australia, hence their iconic status.

In South Australia, KGW are targeted by both recreational and commercial fishers. There is a long tradition of catching KGW in the commercial fishery which started in the mid 1800's. In the 2000/01 season, the commercial sector landed 453 tonnes of live product. However, this species is equally important to the wider South Australian community and to the recreational fishing sector throughout Australia (there are also commercial KGW fisheries in WA and VIC).



The recreational catch of KGW is not surveyed each year, unlike the commercial sector, so the information to assist management is only a snap shot from the National Recreational and Indigenous Fishing Survey completed in 2000/01. In the report on the National Survey, it was estimated that the recreational landed catch of KGW (for fishers older than 5 years of age) was 2,238,071 individual fish. In comparison with the commercial sector, this equates to 606,517 kg, which is approximately 58% of the total landed catch of KGW. The level of recreational harvest identified in the National Survey was well in excess of previous attempts to quantify the level of recreational catch.

King George Whiting is endemic to southern Australian waters, i.e. it is found nowhere else on the planet. KGW belongs to the family Sillaginidae, other related species include Sand Whiting (*Sillago ciliata*) along the east coast of Australia and Trumpeter Whiting (*Sillago maculata*) which is also endemic to Australia and found from Lizard Island (QLD) to Narooma, (NSW). The South Australian Research and Development Institute (SARDI) has established that KGW can live for up to 22 years, reaching 72 cm in length and weighing up to 4.8 kg. KGW first reproduce between the ages of 3 or 4 years, 27-32 cm length for males and 32-36 cm for females. Juvenile whiting feed on small benthic crustaceans (amphipods and small marine shrimp). As they grow, they begin



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feeding on polychaetes (worms) and molluscs (mussels and also shell-less molluscs which attach themselves to seagrasses). Adult KGW feed on larger benthic crustaceans, polychaetes and sipunculid worms. Juvenile KGW reside over muddy, sandy and broken bottoms that have a large coverage of seagrass. These habitats are characteristically found in the gulfs and the more sheltered bays of SA's west coast and Kangaroo Island. When the whiting reach sexual maturity, they move offshore into more exposed and deeper waters up to 100m depth and are often associated with low profile reef habitats.

SARDI scientists have become increasingly concerned about the state of KGW populations in South Australia and through the modelling process, were able to provide advice to managers on the best way to reduce effort by **all** sectors – not only the commercial sector. Primary Industries and Resources SA (PIRSA) and the SA minister of Agriculture, Food and Fisheries, the Hon. Rory McEwen, along with commercial industry, have implemented a number of ways to reduce the commercial fishing pressure in the fishery. However, KGW is also a favourite species for the recreational angler and it is not only overfishing which threatens KGW, other threats to its long-term survival include declining water quality and loss of habitat (seagrasses and low profile reefs).

As KGW is now an iconic species, it is up to each of us to ensure its long-term survival. Ways you can help save the KGW include:

- Catch only fish of legal size: minimum length,
 - 30 cm west of Cape Catastrophe 136°,
 - 31 cm east of Cape Catastrophe 136° including Gulf waters
- Ensure that you catch and take only the legal quantities of KGW (bag limits),
 - 12 fish per person,
 - 36 fish per boat & possession limit,
- Protect our oceans from pollution; and
- Ensure that your activities do not impact on the preferred habitat of the KGW.

It is up to **all** South Australians to protect our latest iconic species, the **mighty** King George Whiting.

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Beer Benefits Health! 100,000 Beer Cans

The mothership *Roper K*, owned by the MG Kailis Group from Fremantle, services the trawlers of the Northern Prawn Fishery. Since 1995, the vessel has been collecting all the aluminium cans from the boats for recycling. On Saturday 4th September they donated \$1200 to the Darwin branch of the St Johns Ambulance.

The fishing industry has long been suspected of causing marine pollution, but for some years now the trawlers have been observing regulations concerning dumping rubbish at sea. The *MV Roper K* retains their waste and takes it ashore for dumping and recycling. Even waste oil is recycled.



The MV "Roper K"

The impetus for recycling aluminium cans started after an incident in the Coburg Marine Park in 1995. Several trawlers were at the anchorage and the ranger, Alan Withers, observed them throwing empty beer cans into the sea. He suggested that they saved them instead, and the first consignments of cans were donated to the small school at Port Essington, which unfortunately however has since closed.

The \$1200 donation, saved since 2000, represents 100,000 beer and soft drink cans that may have otherwise ended up on the seabed. The fishing industry has long recognized that they have a responsibility to keep the oceans clean, and the *Roper K* has provided a free service to remove their waste. Every two weeks they service 30 trawlers between Joseph Bonaparte Gulf and the Gulf of Carpentaria. These vessels come from Western Australia and the Northern Territory, and stay at sea for three months at a time. Without the mothership, they would have no capacity to store their refuse, especially waste oil and packaging, and inevitably it would have ended up over the side and into the ocean.

The *Roper K* has been operating in the top end waters for 23 years. The skipper, Richard Rees of Albany, has been the master for nine of them. Kell Elborough of Darwin, has been the mate for seven years and has been in charge of recycling. Together with the engineer, Leonard Vanderaa of Darwin, they and the crew are holders of St John's Senior First Aid Certificates, and recognize the importance of St John's in their good work in both their support and training for industry.



Cans collected on the "Roper K"

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Seafood Industry Leading the Way!

The fourth *Advance in Seafood Leadership Development Program* for the Australian Seafood Industry concluded in September with the graduation of 15 new industry leaders, after a six month training program which has taken the participants around the country with three in-house sessions.

Sponsored by the Fisheries Research and Development Corporation (FRDC), the program has been designed specifically for the seafood industry and has several features which make it unique in comparison to other leadership programs. Participants are selected from all industry sectors to encourage a "whole of industry" approach and the development of networks across traditional boundaries.

During the course, a project of 'national significance' is undertaken by each participant involving mentoring and teamwork components, culminating in a presentation to industry leaders at the final session in Canberra.



Elton Robinson (SeaNet Officer ETBF) at the completion of the Leadership Course.

Other sponsors of the program include the Australian Fisheries Management Authority, Queensland Department of Primary Industries and Fisheries, Victorian Department of Primary Industries, New South Wales Department of Fisheries, the Sydney Fish Markets and the Seafood Council (SA) Ltd.

“Participation is encouraged from all sectors of the industry and all levels of the market and service delivery chains. The benefits from this being the alliances formed within the industry from production to service delivery.... a “whole of industry approach” said Barty McFarlane, Chair of the Seafood Council (SA) Ltd.

The course continually encourages participants to review and improve skills and perceptions in an environment of teamwork and self development. By periodically recording and reflecting on learnings during the course, participants develop a personal profile that assists in ongoing personal and leadership development. The diversity of participants’ backgrounds ensures that discussions and activities are stimulating with contributions from a broad range of opinions and perspectives.



Jim Newman (SeaNet Victoria) receiving his certificate of achievement.

“Attending the course allowed participants from various sectors of the seafood industry to work together as a team whilst developing valuable skills. This opportunity has allowed me to make some great contacts within the course and through the networking process at the dinners” said one of the program participant’s, Jim Newman (SeaNet Victoria).

The program equips graduates with the skills, knowledge and contacts required to operate effectively at an enterprise, organisation and industry level. The program also includes a component where participants design an industry related project and implement it with the support of a mentor.

Projects completed this year include educating the seafood industry on Introduced Marine Pests and their relationships with fishing activities, and the development of a training program for Farm Managers in the Black Pearl Industry in Western Australia.

Leading Industries’ Training Manager Cheryl Phillips, who facilitates the program, says leadership is not about a single decision maker in today’s climate. *“My belief is that everyone has a valuable contribution to make,”* she says. *“If we can form diverse groups of people, then the outcome is going to be much better than if one person is left with the sole responsibility of bringing about change in such a dynamic industry as the Seafood Industry.”*

This program demonstrates the strategic approach of the Seafood Industry to build its leadership capacity and to ensure it has a profitable and professional future.

For more information on the Leading Industry training courses contact Kelly Tape on 0408850110 or kelly.tape@corvel.com.au

SA Oyster Growers - Tackling the Issue of Oyster Basket Waste

South Australian Oyster Growers Association (SAOGA) in conjunction with SeaNet are addressing the growing volume of old oyster baskets produced from ~20 years of oyster farming in the State. SA oyster growers have some of the most productive oyster leases in Australia, including Coffin Bay. But with this ever-increasing oyster production comes the inevitable industry waste.



High grade polyethylene oyster basket

The quality of oyster baskets has improved as the industry has developed. The current baskets used in the fishery have a life span of approximately 10 years. The plastic used in oyster baskets is a high-grade polyethylene, which makes it ideal for recycling into other plastic products, potentially including poles to be used in oyster leases.

SAOGA has established estimates of the current tonnage of waste and the ongoing waste produced by the industry. With this information, a plastic recycling company has been contacted and are keen to take the plastic from the industry. The only hurdle left to clear is the collection and transport of the waste back to Adelaide.

A mobile baler seems to be the most cost effective way to collect the waste, which is spread across Eyre Peninsula (approx. 900 km²) and will soon also include Yorke Peninsula. The mobile baler is equipped with a 20hp motor to bale all plastics, 240lt oil drums, paper, cardboard and other regional waste.

The versatility of the baler will allow it to be used for a variety of regional groups and will assist the regional communities of SA to transport their waste to recycling centres in Adelaide. This will reduce the volume of waste, including that of the oyster industry, which currently ends up in regional landfill sites.

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Trials of the Popeye Fish Excluder or Fishbox BRD (Extract from the QLD Trawl Fisheries Newsletter)

The Popeye fish excluder was developed by Popeye netmaking of Cairns and is a variation of the "Fishbox" trialed in the United States. The BRD consists of an aluminium frame designed to create an area of low water flow within the cod-end. Fish are attracted to the low water flow area and swim out through the adjacent escape hole. Prawn loss is eliminated through the use of an accelerator funnel under the escape hole.

The Popeye fish excluder was tested onboard the *FV Roden Lee* in July between Cairns and Cooktown. Thirty trawl shots were completed with the BRD over a period of eight nights trawling. The target species were Tiger and Endeavour prawns, with small quantities of King prawns.



The results were very encouraging with an average reduction of 29% in bycatch over the period.

In one particular trawl shot - the daylight shot on the second night (full moon), the BRD net had 32kg of bycatch and the standard net - 93kg, this represents over 60% reduction when the volume of bycatch fish is at a maximum. This indicates that the BRD works most efficiently when large volumes of fish are present. The net with the BRD had a slightly higher prawn catch, indicating that the net was not distorted by dragging heavy codends of bycatch fish. A permit has been obtained to trial the Popeye fish excluder in the NPF and the "FV Beachlands" is already using the BRD in the prawn fishery.

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New Longline Deep Setting Technique for Bycatch Mitigation

SeaNet Extension Officer for the Eastern Tuna and Billfish Fishery (ETBF) Elton Robinson, has been working with Steve Beverly, Fisheries Development Officer of the Secretariat of the Pacific Community (SPC), New Caledonia and operators of the ETBF on the project: *New deep setting longline technique for bycatch mitigation*. The project aims to increase effective targeting of deep-swimming market species while reducing the likelihood of taking shallow water bycatch.

A study conducted in Hawaii on turtle dive-depth distribution revealed that Loggerhead turtles spend most of their time in waters less than 100 m. The incidental catch of turtles occurs in pelagic longline fishing when turtles encounter baited hooks or when they become entangled in mainlines or floatlines.

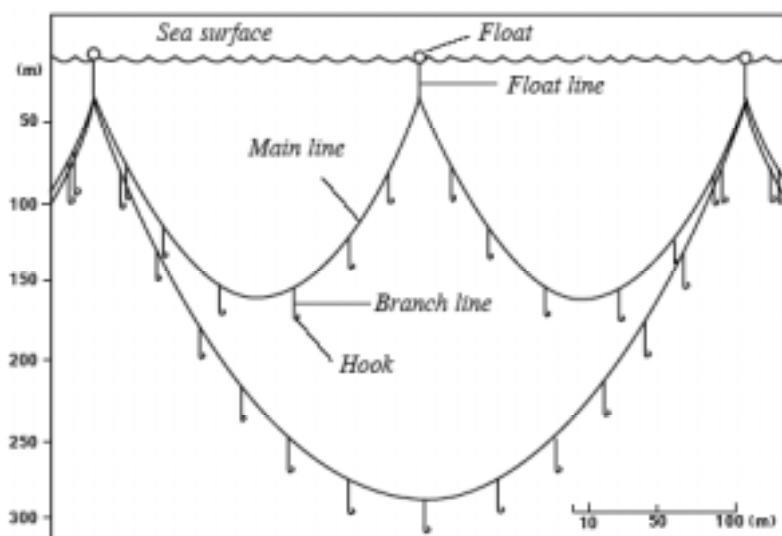


Figure 1: Catenary curves of regular longline gear both shallow and deep-set.

Longline gear is normally set so the gear 'sags' in a catenary curve from float to float (see Figure 1), fishing a variety of depths ranging from 50 to approximately 300m. Both the 'normal' shallow and deep set gear illustrated, leaves some hooks (those near the floats) above 100m, where bycatch species occur.

This project tested a new method for setting monofilament longlines that sets all baited hooks at a prescribed range of depths below 100m, from the intermediate layer to the thermocline depth. This prevents baited hooks in the mixed layer (the top 50 to 100m)

where they are more likely to be encountered by turtles and other unwanted bycatch species (Figure 2). This method also aims to increase the catch rate of target species such as Bigeye tuna and Broadbill swordfish during the day. Generally, longline gear fishing deeper in the water column is more effective at targeting Bigeye tuna, probably due to the preference of the species for depth of 350-500m and 10 – 15°C during the day.

In order to set the entire line deep without using very long floatlines, normal floatlines were used in pairs separated by a blank section of mainline with no baited branchlines for a distance of 50m. The section of mainline that holds the baited branchlines was suspended directly under these floats and weighted down at each end by a 3kg lead weight attached by a snap to the mainline.

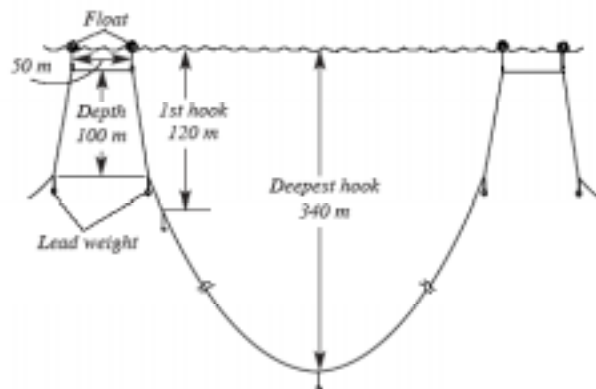


Figure 2: Experimental set configuration with 20 hooks per basket and target depth for shallowest hook of 100m.

The experimental gear was set in conjunction with normal gear. The experimental gear was successfully set at the target depth so that all hooks fished below the mixed layer where bycatch encounters normally occur. As expected, no turtles were caught, as encounters in the ETBF are infrequent. However what was discovered, was that all hooks in a longline can be set in the zone outside that in which turtles normally occur. By observation, fish caught on the deeper weighted gear were generally bigger than fish caught on the shallower gear. In any case, the project gear out-fished the normal gear by about 17% overall, although more work is needed to prove the efficacy of this new technique and to show that it can significantly increase the nominal CPUE of deep water target species, especially Bigeye tuna.

This project was funded by AFMA and two Mooloolaba longline companies offered their vessels for the trials. This is another example of proactive cooperation between fishers and other stakeholders to reduce their impact on the ecosystem and ensure the sustainability of the fishery.

Elton Robinson is hosted by Maloolah River Fishers. Contact Elton on: elton@oceanwatch.org.au, (07) 5478 3564 or 0413 437 292.



Australian Women Unite for Industry

The Women In Industry – Seafood Community (WINSOC) held its annual conference in Harndorf (SA) during September. The conference was held in conjunction with the Australian Women in Agriculture. Women from across the country came to share experiences and gain insights from one another. Many seafood women were present from all aspects of the industry, including wild harvest, processing, management, research and those women who work behind the scenes to keep the *fella's* out working. It was fantastic to be a part of the conference. I am sure that we all

gained a better understanding of the complexity of the fishing industry and have many new and wonderful friends, women and men who like ourselves, continue to strive for excellence in the seafood industry. *Claire van der Geest (SeaNet SA) (08) 8272 7766, seanet@corvel.com.au.*

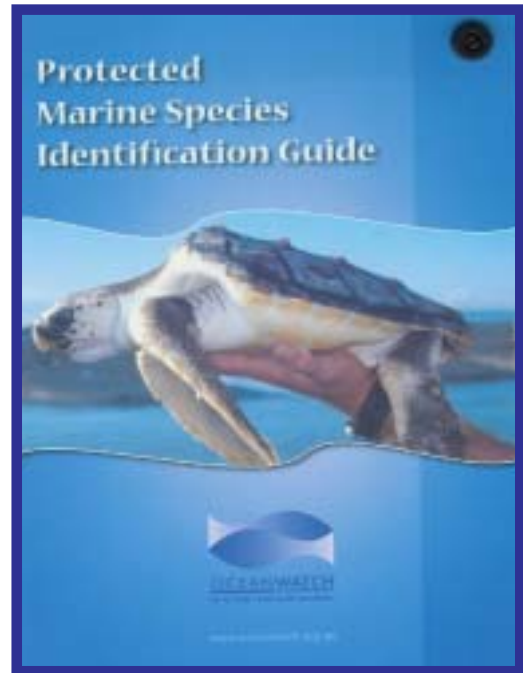
Protected Marine Species Identification Guide

SeaNet has recently completed the Protected Marine Species Identification Guide, for use by fishers to identify marine species listed under the EPBC Act with which they may come in contact.

The Guide includes national contact details to report an accidental interaction in a Commonwealth area and the details required including time and date, species name, number of animals, location, incident type and gear and bait used if the species was caught.

The project was funded by the National Heritage Trust and launched in Darwin by Senator the Hon Ian Campbell, Minister for the Environment and Heritage on the 24th of August 2004, at the Charles Darwin University Facility, The Mooring Basin in Darwin.

SeaNet officers will be distributing the guides to fishers in their respective industry/State. For copies of the Guide contact Emma Bradshaw (SeaNet Program Manager) on: emradshaw@oceanwatch.org.au, (07) 5514 6021 or 0416 031 402. The Guide can also be downloaded from the DEH website at: <http://www.deh.gov.au/coasts/publications/identification-guide>.



SeaNet Recognised for Community Event

Denis Ballam (SeaNet QLD) hosted a SeaNet display as part of the Ecofish TNQ stand at the three day Cairns show. The event was a great success, with the Ecofish stand attracting thousands of visitors and being awarded "best decorated – private business stand".

The 3 days were a major "plus" for industry, proving to be an excellent opportunity for SeaNet and Ecofish to demonstrate to the public the "reality" of the commercial fishing sector, as opposed to the common perception of irresponsible and environmentally uncaring fishers. It is through events such as these that SeaNet promotes a more positive public attitude towards the industry, and helps to develop support for the industry which supplies Australians with what is arguably the best seafood in the world.

Denis also assisted with the organisation of the Ecofish Hoof, Wine and Seafood Ladies Day at the Cannon Park Race Course in early August, with SeaNet merchandise donated as prizes for the tug of war between the local fishermen and the Cannon Park staff (the fishermen won of course). The day proved to be another fun and community spirited way of spreading the good word. For more information contact Denis Ballam (SeaNet QLD) on: 0403 065 723 or burbrook@bigpond.com