Australian Southern Rocklobster clean. green.

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Interesting facts about
Australian Southern Rock Lobster

The Southern Rock Lobster is an amazing marine animal that supports a very successful commercial fishery creating important employment and income for rural coastal communities in south east Australia. There is a total supply chain industry based on this species that generates significant export income for Australia.

The following are some interesting facts about this wonderful species of crustacean, including breeding cycle, the industry it sustainably supports, management of the fishery, research and the excellent cuisine it is so highly regarded for.

1 Southern Rock Lobster (*Jasus edwardsii*) is only found in the waters of southern Australia and New Zealand.

2 Southern Rock Lobsters are large crustaceans and belong to the group that do not have claws, instead they have strong front legs with spines that they use in the same way.

3 Lobsters reproduce from tiny eggs that are carried by females under their tails for around 5 months until they hatch. **Female lobsters carrying eggs are referred to as "in berry" or "berried" and cannot be harvested**.

4 A large female Southern Rock Lobster **can carry up to 1 million eggs**. When the eggs hatch the larvae (called phyllosoma, which is Greek for 'leaf-like') swim upwards and then drift in the ocean for up to 24 months going through 11 different stages of development making Southern Rock Lobster one of the longest larval developments known for any marine creature.

5 The drift of Southern Rock Lobster larvae in the ocean has been well studied and tends to be **mainly from east to west across southern Australia** and also circulates in two large current systems off the eastern coast of New Zealand.

6 Environmental processes like **current strength and water temperature only explain a small part of the success of larvae in surviving their ocean journey** and returning to the coast. It seems that biological processes like algal blooms may be more important.

7 From the millions of larvae annually produced by each adult lobster, **only two on average survive** to become adult lobsters.

8 The final larval stage is referred to as a puerulus and looks like a juvenile lobster except that it's completely transparent. This stage doesn't feed and swims towards shore searching for reef where it will live the rest of its life.

9 If the puerulus successfully finds reef it stops swimming and begins life where movement is mainly by walking. **It moults (up to 20 times in first year of life) and turns into a pigmented (coloured) juvenile lobster**.

10 Adult lobsters continue to **moult at least once a year** and this is the way they grow.

11 Southern Rock Lobsters generally only move small distances once they settle onto reef although this varies between areas. In South Australia they often move into deeper water as they grow larger. In North Eastern Tasmania the females move northwards to release their larvae upstream of main currents. **They move less than one km per year in most areas.**

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12 A Southern Rock Lobster is usually at least 5-6 years of age before it reaches the minimum size and can be legally harvested. They **can live beyond 20-years of age and grow in excess of five kg** although size is not always good indicator of age (many of the oldest lobsters are also very small).

13 Commercial Rock Lobster fisheries have operated **sustainably in Tasmanian, South Australia and Victoria for over 150 years**.

14 Australian Rock Lobster fisheries were one of the first in the world to adopt 'limited entry' that limit the number of commercial rock lobster fishers, the number of boats and also the total number of pots in the fishery.

15 There are Fisheries Acts, Regulations and Managements Plans that govern the fishing activities of Australian Rock Lobster fisheries making them the **most highly managed fisheries in the world**.

16 The catch in all commercial **Australian Rock Lobster fisheries is controlled by quota management** (also called output controls). Each quota owner has a set amount of catch each year, based on scientific research, and they cannot harvest more than they are allocated.

17 Catch in Southern Rock Lobster fisheries in Australia are currently set at conservative levels to promote stock rebuilding and increase profitability. This is very different to farming operations where producers normally increase profits by increasing production.

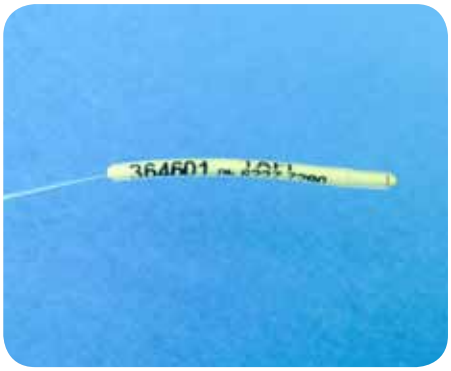
18 Management of lobster fisheries is assisted by detailed data collected by commercial fishers who record information about **each day's catch such as the location, number of lobsters caught, and the weight**.

19 Volunteer programs are also run with **over 20% of fishers participating in measuring a portion of the lobsters they catch each day**. This includes the undersize lobsters that are then released. This data enables scientists to track the health of lobster stocks, including checking that the number of undersize is adequate to support future catches.

20 Observer programs are run across the fisheries. These involve staff from **research organisations going to sea with commercial fishers to record details of their catch**, such as any by-catch of fish or other species to enable monitoring and management of interactions with the ecosystem.

21 Research organisations also monitor the health of the fishery by having many set locations around the coast where they set pots each year to monitor change. **One of the benefits from these programs is that it will enable scientists to detect any change in the biology of lobsters through time**, such as whether they are growing faster or slower than they did in the past.

22 Tagging programs have been run in Southern Rock Lobster fisheries since **the late 1980s with almost 1 million lobsters tagged and released**. This rich data set provides scientists with detailed information on growth, movement and stock size and is used to help set annual quotas.



23 With so many lobsters tagged you may well encounter one. The tag is usually yellow and is inserted under the tail. It has contact details listed so you can send details of your lobster to the fishery scientists. There are also usually some good prizes involved!

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24 Southern Rock Lobster fisheries occasionally interact with threatened, endangered and protected species. This includes any seabird, turtles, and marine mammals. Examples include whales becoming entangled with ropes or seals taking bait from pots. Although entanglements are very rare at around one per decade, plans are in place to manage and respond to this. Fishers use sealion exclusion devices to mitigate risks to Australian Sealions. **All fishers are obliged to report any interactions, this is monitored by observers, and there's also an effective voluntary system through the Clean Green program**.

25 The key to the **successful management of Southern Rock Lobster in Australia as a sustainable and renewable resource is applying the principles and guidelines for Ecologically Sustainable Development** (ESD). ESD is defined as *'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'.*

26 Most fishermen use domed (known as beehive) shaped pots to harvest Southern Rock Lobster and these are made with metal frames and covered in wood or wire. The pots have a neck at the top to allow the animals to crawl in and out of and have gaps in the bottom to let juveniles and by-catch species escape.

27 Once on-board the fishing vessel **lobsters are measured and undersized are returned to the water.** Those being kept are stored out of the sun in tanks designed to circulate aerated sea water to ensure a live, healthy premium product.

28 Rock Lobster fishermen have invested tens of $ millions in research to understand the biology of rock lobster and the impacts of fishing operations so-as-to manage this valuable resource sustainably.

29 Australian Southern Rock Lobster Fishermen were the first in the world to implement a third party audited certification system for their fishery. **The Clean Green Program sets minimum standards for environmental management, work health & safety, food safety and quality, animal welfare and sustainability**.

30 The taste and texture makes **Southern Rock Lobster a feature of many of the World's outstanding cuisines**. This was not always the case as in the first half of the twentieth century many families depended upon the hunting and fishing skills of a family member to supply food for the table, this would include Southern Rock Lobster for those who lived in coastal areas.

31 To avoid stress and achieve best eating qualities Southern Rock Lobster should always be humanely killed before cooking and this can be done by freezer chilling the lobster in air freeze temperatures of -13°C (5° F) for approximately 30 minutes.

32 Highly regarded for its light, sweet and rich taste with firm flesh, Southern Rock Lobster can be prepared by chefs in many creative ways. However, **in Australia we often tend to enjoy our lobster "*au naturel*"** by cooking in boiling salted water and then serving cold with a bit of lemon juice and some seasoning or a little favorite seafood sauce.

33 Australia's **National Heart Foundation has given its tick of approval** to fresh lobster as it contains valuable nutrients and is low in fat. Just 100 g of Southern Rock Lobster tail meat contains more essential Omega-3 than seven chicken fillets and it is also a good source of phosphorus and the anti-oxidant, Vitamin-E.

34 Southern Rock Lobster has become **regarded internationally as one of, if not the, premium fine dining seafood experience, deserving its title as the '*the Finest in the World*'**. In China, where Southern Rock Lobster is described as 'having much fame', it is paid the highest compliment by being called the 'Dragon Shrimp'.

35 The Australian Southern Rock Lobster underscores, what is by any standard, a highly successful fishery, it is in fact, a fantastic good news story based on a sustainable and renewable resource.

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More details information on Australian Southern Rock Lobster can be found in the series of (6) Fact Sheets that can be downloaded from the Education "tab" on **www.southernrocklobster.com.au**