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MONTHLY STAFF BULLETIN

18(3) Mar 1969

DEPARTMENT OF PARKS AND WILDLIFE

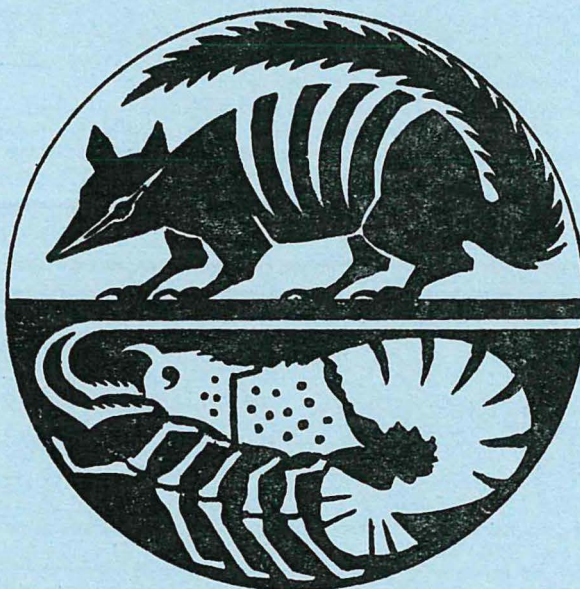
STAFF

BULLETIN

19 MAY 1969

DEPARTMENT OF
FISHERIES AND FAUNA
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MARCH, 1969

VOL. XVIII, No. 3

DEPARTMENT OF FISHERIES AND FAUNA
108 Adelaide Terrace, Perth, Western Australia

APPLICATION
FOR GAZETTED VACANCY

There have been complaints to the Public Service Commissioner from some unsuccessful applicants for gazetted vacancies that notices of recommendations have been received too late for them to have lodged appeals should they have so desired.

This has occurred in the main because Form PSC. 15, "Application for Gazetted Vacancy", does not provide for an officer's complete Departmental address to be indicated. In the next reprint of the form this will be rectified. Meanwhile officers, other than those located in the Head Office of their Department, should state their full departmental address on the application form (in the section "Present Classified Position") - such as Department of Fisheries and Fauna, Geraldton or Crown Law Department, Court House, Albany. This will ensure that their notices of recommendations are promptly received.

THE ANIMALS THAT NOAH FORGOT

The following talk was given by the Chief Warden of Fauna, Mr. H.B. Shugg, recently on A.B.C. radio.

"The title of this talk was one of the best descriptions of Australian fauna that I have heard - it was used a few years ago in Sydney. "The animals that Noah forgot!" Poor old Noah! He didn't really forget them - he had never heard of them. I'm afraid there are too many Noahs in the world today - even among you country folk who live closest to our wildlife.

Did you know that we have something like 850 different kinds of native Western Australian species? About half of them are birds, about 140 odd are mammals - of which 56 are marsupials. There are over 260 kinds of reptiles and frogs. Doesn't it make you wonder where they all live and why we don't see them more often?

Certainly, this diversity makes their conservation difficult. Preservation of habitat, as Dr. Burbidge told you on this session last month, is one of the great keys to wildlife conservation. But this is no easy task when good reserves are so hard to get, and to keep. Not only is the habitat brittle, and easily altered from the native state required by most of our animals, but we are also so anxious to change it for agricultural, industrial and other purposes. I'm also afraid that too many of us just don't care enough about preserving our flora and fauna. We undervalue it, just as our forefathers did.

The early settlers saw the Australian scene as strange, and often as unfriendly. Because it was strange and their technology was based on the European environment they set about changing it. It was so different from what they had known that even the artists among them couldn't reproduce it. Understandably, the newcomers to this land wanted familiar sights and sounds about them and introduced trees and shrubs and grasses and animals from their homelands - often accompanied by their particular pests and diseases. Many exotic animals were turned loose or escaped and we know some of them today as our worst pests. Mr. Tomlinson talked about them last week - rabbits, foxes, snails, goats, feral cats and donkeys and so on. We don't want any more of their kind.

Any exotic animal that survives in our bush can only do so at the expense of one or more native ones. This is my Department's reason for generally prohibiting the import of

exotic fauna. It is almost impossible to predict precisely how an animal is going to react in a new environment. Mostly they fail to survive. A few take hold immediately and with spectacular success. Others need a series of introductions before they suddenly acclimatize and multiply. An example of the latter group is the laughing kookaburra. Although it was native to Eastern Australia, it was very slow in securing its first foothold here, but now it is spread throughout most of the South-West Land Division.

Another exotic bird which is currently going through a period of increase in numbers and extending its range is the feral domestic pigeon. I, myself, in the last 10 years have noted the increase and spread of these birds along the river-fronts, public parks and backyard gardens. I'll even admit to a personal grudge against them as they perch above my parking space and their over generous droppings erode the duco on my car! But this is small beer compared with the damage that they cause by their fouling of roofs and gutters and the grounds below their roosting spots, and to the fire hazards they cause where they nest among the electric light leads into ceilings, and so on. Something effective has to be done to control them before they adapt to our bush and threaten the survival of distinctive local birds - the handsome, harmless and purely Australian bronzewings, for example. Fortunately, local and State authorities have recently recognised the pest potential of feral pigeons and a special committee has been set up to see what should be done.

With all these examples of exotic animals becoming pests, too many people, most of whom should know better, are still campaigning for the introduction of yet more foreign species.

Sporting shooters want to acclimatize pheasants and other upland game birds and so-called sporting mammals such as various kinds of deer. Some aviculturists want to introduce cage birds like the Java Sparrow and Weaver Finches whose pest potential is quite enormous. We can't ignore the fact that many species such as these have been acclimatized in different parts of the world through individual animals escaping from captivity. With the best of intentions on their owner's part, cage doors DO get left open - by forgetful friends and by children, and sometimes by thieves or even just for spite. We simply cannot afford to run the risks involved in allowing potential pest species to be rbought in and kept anywhere other than in "A" class Zoos where maximum security operates. We must remember too, that this is a changing world and we can never be sure that any species might not become a pest at some time in the future.

Instead of looking to foreign animals for something new, we must turn to the study of our own native creatures about which so little is known. If we are to keep them we must learn more about them. To do this we must bring them into our lives and not just lock them away in reserves and leave them to a few scientists. This doesn't necessarily mean that we have to allow their exploitation for profit. But it does mean that we have to take an interest in them and learn why we should cherish them and how we can guard them.

If we fail to interest ourselves in them and care for them we will all become modern Noahs and our wild creatures will never make the passenger list in the modern Ark - the s.s. 'Conservation'. And make no mistake my friends - She sails today!"

TRAVELLING, TRANSFER AND RELIEVING ALLOWANCES

Following a review of the above allowances, it has been agreed with the Civil Service Association of Western Australia (Incorp.) that the current rates of re-imbusement should be varied on and from the 1st January, 1969, as follows:

Clause	Item No.	Daily Rate	
		1/7/68	1/1/69
6. Travelling Allowance	1	\$8.20	\$8.70
7. Transfer Allowance	1	8.20	8.70
	2	4.10	4.35
9. Relieving Allowance	1	8.20	8.70
	2	4.10	4.35
	3	2.73	2.90

The rate for item 6 of Clause 6 - Travelling Allowance, will continue at \$10.20 a day.

ANNUAL REPORT 1968 - SPERM WHALING SEASON

by Inspectors Ostle and Williams

The Cheynes Beach Whaling Company commenced operations for the year 1968 on the 5th of March and finished on the 15th of December, although one chaser the "Cheynes II" ceased whaling on the 1st of December. A total of 658 sperm whales were captured and processed.

Production and Value

Oil = 24,143 barrels or 4,026.3 tons at an average price of \$111 per ton	=	\$446,919
Meal = 968 tons at an average price of \$111 per ton	=	\$107,448
Solubles = 1929.07 tons at an average price of \$106 per ton	=	\$204,925
Filtered oil = 94 tons	=	\$16,152
Teeth = 2,673 lbs at \$1.00 per lb.	=	\$2,673
Ambergris = 146½ lbs. at an average price of 43c per oz.	=	\$5,452
Whale meat = 31,498 lb.	=	\$1,100

Statistics

Total number of whales	658			
Total number of females	75			
Total number of males	583			
Total number of size whales	606,	compared with	1967,	583
Total number of undersize whales	52,	"	"	" 3
Percentage of undersize	7.9%	"	"	" .51%
Total number of embryo	14			
Total number of males	10			
Total number of females	4			
Smallest mother = 31'9"				
Largest mother = three at 25'6"				
Smallest embryo = 2' male on 11.5.68				
Largest embryo = 13' male on 27.3.68				

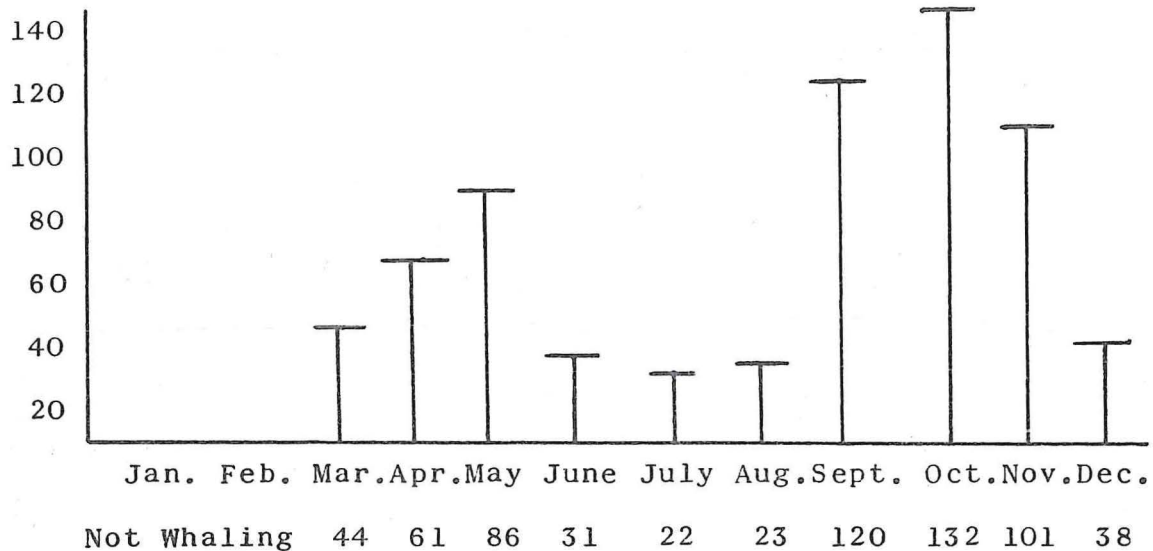
Average number of barrels of oil per whale for:

1968 = 36.71 barrels

1967 = 39.33 barrels

1956 = 43.5 barrels

which infers a decline in the average size of whales taken over the years



Aircraft

The same aircraft was used as for 1967, a Cessna 337 twin engine push pull centre time thrust aircraft. This was piloted by two pilots and flew 1212 hours 30 minutes, including flights to Jandakot for services, and time taken to reach the whaling grounds and return.

Chasers

The company used the same three chasers it has in previous years, the Cheynes II, Cheynes III, and Gascoyne, and a 28' steel boat was again used to tow the buoyed whales into the station. Sonar is to be fitted to the Cheynes III this year and this should assist in the tracking of whales particularly deep divers.

Staff

The company employs 88 staff and these are distributed as such:

10 flensers on contract
47 on chasers
22 on station
1 pilot
6 salaried staff at station
2 mess contractors

One member of staff also second pilot.

Weather

The weather conditions during the year were the worst yet experienced by the company and 125 days which include half days were lost owing to this factor. There were 159 days which include half days when whaling was possible, giving an average of approximately 4 whales per whaling day.

Markets

Oil was sold in the United Kingdom and the U.S.A., while filtered sperm oil was sold on the Australian market.

Solubles were sold to Japan and on the Australian market and every effort is being made to promote the sale of this product. Whales' teeth were sold in Seattle, for scrimshaw work.

Improvements

A pilot filtering plant was successfully operated during the year and this used a cloud point temperature of 72^oF. The lower the temperature used to filter the wax from the oil the lower the cloud point becomes and the greater the amount of wax residues that is able to be removed through the filters. The full scale plant which is to be built and operated this year will incorporate a freezer and work on a cloud point of 40^oF, thus producing an even purer product than the pilot plant. The plant will have a capacity of 1800 tons per year, but the probable output will be approximately 1000 tons per year.

The wax residue which has been subject to laboratory experiment by the company's chemist during the past year has an infinite number of uses from barrier cream to degreasing oil and wine fish lure.

Small quantities of hand lotion and fish lure were marketed locally as a trial and the future is unlimited for the advancement of products derived from this wax.

A new office extension is being constructed at present and new timber on the top flensing deck, to replace the old boards which were warped and loose.

In conclusion, it could be said that although the company made a profit of \$34,000 this was fully paid by the fifty-two undersize whales, and this fact is very disheartening and shows little promise for the future of the sperm whale.

A Note About the Words FISH and FISHES

(Taken from American Fisheries Society Newsletter
Nov.-Dec. 1968, Vol. 12, No. 58)

The singular of fish is fish. Dead fish in the market is always fish, whether speaking of one or many. However, few people know the correct plurals for live fishes. When speaking of more than one fish of the same kind, the plural is fish. When speaking of several fishes of more than one kind (species), the plural is fishes. Therefore, ten guppies are ten fish. Five guppies and five goldfish are ten fishes. Since a common guppy, a vieltail guppy, and a swordtail guppy are merely varieties of one kind (one species), collectively they would be three fish. The author has tried in this book to be correct and consistent about the usage of these plurals. Where fishes is used, the reader may assume that more than one species is being referred to (from: A.M. Fletcher, 1968, Unusual Aquarium Fishes, J.B. Lippincott Co.).

LICENSES CANCELLED

The Acting Minister for Fisheries and Fauna, the Hon. Ross Hutchinson, M.L.A., has cancelled the license of the fishing boat "Shrimp", registered number G.347, for using more than its legal quota of crayfish pots.

The professional fisherman's license of the skipper, Mr. M.C. Horn, has also been cancelled by the authority of the powers conferred on the Minister by section 17(3a) of the Fisheries Act, 1905-1967.

These cancellations will be strictly enforced and the boat will not be permitted to leave its normal moorings or anchorage.

REGULATIONS

FISHERIES ACT, 1905.

Crayfish Pot License.

3B. (1) A person who uses one or more crayfish pots for taking or attempting to take crayfish for sale or for other disposal for gain or reward shall hold a crayfish pot license

Penalty.—One hundred dollars.

(2) A person being the holder of a crayfish pot license under this regulation shall not use any crayfish pot in excess of the number specified in that license as being the number he is entitled to use.

Penalty.—One hundred dollars.

(3) The fee payable for and on the issue of a crayfish pot license shall be twenty cents for every crayfish pot that by the terms of the license the holder is entitled to use, but no such fee shall in any case be less than four dollars.

* **Except amateurs: See regulation 3A.**

Processing of Crayfish at Sea.

14A. (1) No person shall remove the crayfish tail from any crayfish, or cut up or otherwise process any crayfish, except in an export establishment registered in pursuance of the Exports (Fish) Regulations (Statutory Rules, 1949, No. 54 and amendments thereto) made under the provisions of the Customs Act, 1901, and its amendments and the Commerce (Trade Descriptions) Act, 1905, and its amendments, of the Parliament of the Commonwealth.

(2) No person shall bring ashore from any boat any crayfish tail or any severed portion of any crayfish unless that boat is an export establishment registered as mentioned in subregulation (1) of this regulation and such tail was removed from the carapace of the crayfish, or the crayfish was cut up or otherwise processed in that boat.

(3) (a) No person shall bring into Western Australian waters, or on to land, any portion of any crayfish that has been taken in the Abrolhos Islands area.

(b) For the purposes of this subregulation the term, "Abrolhos Islands area" means all that area bounded by lines starting at the intersection of 27 degrees 30 minutes south latitude and 113 degrees 37 minutes east longitude and extending south-easterly to the intersection of 29 degrees 30 minutes south latitude and 114 degrees 30 minutes east longitude; thence west to 113 degrees east longitude; thence north to 27 degrees 30 minutes south latitude aforesaid; and thence east to the starting point.

(4) No person in charge of an export establishment registered as mentioned in subregulation (1) of this regulation shall receive any crayfish tail or any severed portion of any crayfish.

(5) No person shall in any vehicle or boat or otherwise carry any crayfish tail or any severed portion of any crayfish unless such tail was removed from the carapace of the crayfish, or the crayfish was cut up or otherwise processed, in an export establishment registered as mentioned in subregulation (1) of this regulation.

(6) Any person who contravenes any of the provisions of this regulation commits an offence against these regulations and is liable upon conviction to a penalty not exceeding two hundred dollars and all crayfish tails or severed portions of crayfish received or carried in breach of this regulation shall be forfeited to the use of Her Majesty and any inspector may seize the same.

(7) For the purposes of section 24A of the Act, the weight of a crayfish tail shall be not less than five ounces.

Conveyance of Live Crayfish.

14B. No person shall convey live crayfish in any bag which measures when empty more than thirty-nine inches in depth and twenty-three and one-half inches in width.

Taking of Crayfish in the Waters Surrounding Rottneest Island.

14C.

See Jan. '69 Bulletin.

Possession of Crayfish Flesh.

14D. (1) A person shall not, whether as principal or agent, have in his possession or on his premises or in any cold store, or give, consign, sell, attempt to sell, or offer or expose for sale, any flesh or other portion of a crayfish, except where that flesh or portion is a crayfish tail of not less than the prescribed weight.

(2) Where a person is convicted of an offence against this regulation, the flesh or other portion of the crayfish shall be forfeited to the use of Her Majesty.

Identification of Crayfish Pots.

14E. (1) Every person who uses any crayfish pot for the taking or attempted taking of crayfish shall legibly mark and keep marked, either by branding or otherwise stamping on every float attached to such crayfish pot, whether on or below the surface of the water—

(a) if the person holds a professional fisherman's license, the letter of the port at which the license was issued followed by the distinguishing number of the boat used in the setting of such crayfish pot; or

(b) if the person holds an amateur fisherman's license, the number of that license.

Penalty.—One hundred dollars.

(2) Any inspector may seize any crayfish pot to which a float attached is not marked as required by subregulation (1) of this regulation, and all floats and ropes attached to that crayfish pot.

Ova-bearing Crayfish.

15. No person shall at any period of the year remove or attempt to remove from the abdominal appendages of the fish known as or called the "crayfish" any ova or "spawn" attached thereto.

CRAYFISH RESTRICTIONS

[Extract from Government Gazette (No. 45) of
8th June, 1962.]

FISHERIES ACT, 1905-1961.

Fisheries Department,
Perth, 1st June, 1962.

F.D. 167/53.

IT is hereby notified for general information that the Minister for Fisheries, acting pursuant to the provisions of section 17 of the Fisheries Act, 1905-1961, has imposed the following conditions in respect of fishing licenses:—

- (1) Fishermen and boats engaged in the taking of crayfish between the 30th and 33rd parallels of South Latitude may not during the same calendar year be so engaged anywhere between the 28th and 30th parallels.
- (2) Fishermen and boats so engaged between the 28th and 30th parallels may not during the same calendar year be so engaged anywhere between the 30th and 33rd parallels.
- (3) Save as mentioned in clauses (4), (5) and (6) hereunder, no restrictions in regard to the operations of fishermen or boats engaged in taking crayfish anywhere between the 28th and 33rd parallels shall be applied in relation to waters north of the 28th parallel or south of the 33rd parallel.
- (4) Fishermen and boats engaged in the taking of crayfish in the Abrolhos Islands area, as defined in clause (5) hereunder, shall not be permitted during the whole of the Abrolhos Islands season to engage in the taking of crayfish elsewhere.
- (5) No freezer-boat shall engage in the taking of crayfish in the Abrolhos Islands area, or in the Abrolhos Islands area process, store, cut up, handle, preserve or treat crayfish or portions of crayfish. The Abrolhos Islands area comprises the whole of the Western Australian waters bounded by lines starting from the intersection of 27 degrees 30 minutes South Latitude and 113 degrees 37 minutes East Longitude and extending south-easterly to the intersection of 29 degrees 30 minutes South Latitude and 114 degrees 30 minutes East Longitude; thence west to 113 degrees East Longitude; thence north to 27 degrees 30 minutes South Latitude aforesaid; and thence east to the starting point.
- (6) Freezer-boats shall be permitted to catch crayfish north of the 28th or south of the 33rd parallel and to process their own catch, but shall not be permitted to process crayfish caught by any other boat or person.
- (7) North of the 27th parallel of South Latitude, freezer-boats shall be permitted to process crayfish caught by other boats or persons.

The notice appearing in the *Government Gazette* (No. 63) of the 22nd July, 1960, is hereby cancelled.

CRAYFISH SEASON

[Extract from Government Gazette (No. 60) of
9th August, 1963.]

Fisheries Act, 1905-1962.**PROCLAMATION**

WESTERN AUSTRALIA, TO WIT, JOHN PATRICK DWYER, Lieutenant-Governor and Administrator. [L.S.]	} By His Excellency The Honourable Sir John } Patrick Dwyer, Knight Commander of the Most } Distinguished Order of Saint Michael and Saint } George, Lieutenant-Governor and Administrator } in and over the State of Western Australia } and its Dependencies in the Commonwealth of } Australia.
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F.D. 184/51, Ex. Co. No. 1550.

IN pursuance of the provisions of section 9 of the Fisheries Act, 1905-1962, I, the Lieutenant-Governor and Administrator of the State of Western Australia, by and with the advice and consent of the Executive Council, do hereby prohibit all persons from taking by any means of capture whatsoever, the fish known as or called "crayfish" in all Western Australian waters lying between the 24th and 34th parallels of South Latitude for the period from and including the 15th day of August to and including the 14th day of November in each and every year, the first of which periods shall commence on the 15th day of August, 1963.

The Proclamation dated 26th November, 1958, and published in the *Government Gazette* (No. 101) of 5th December, 1958, and the Proclamation dated 28th January, 1960, and published in the *Government Gazette* (No. 10) of 5th February, 1960, are hereby revoked.

[Extract from Government Gazette (No. 60) of
9th August, 1963.]

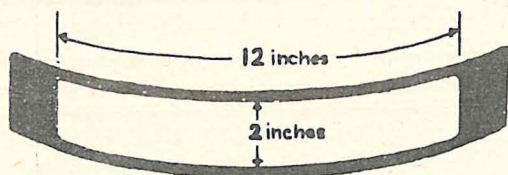
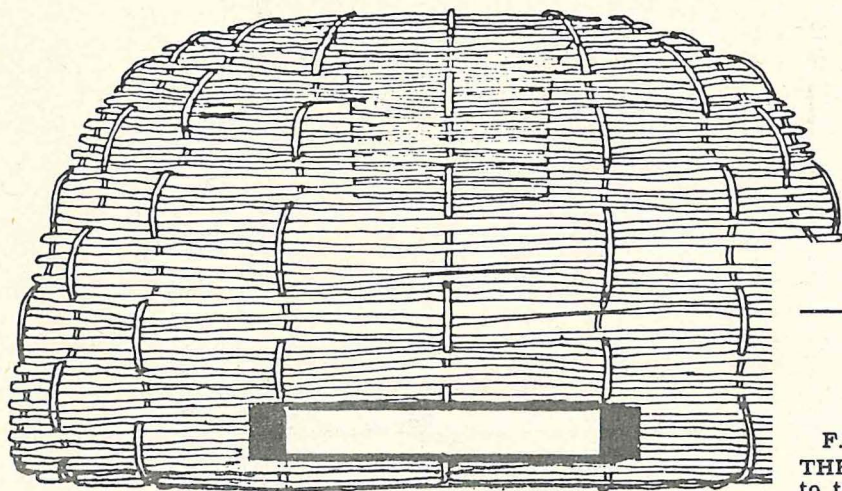
Fisheries Act, 1905-1962.**PROCLAMATION**

WESTERN AUSTRALIA, TO WIT, JOHN PATRICK DWYER, Lieutenant-Governor and Administrator. [L.S.]	} By His Excellency The Honourable Sir John } Patrick Dwyer, Knight Commander of the Most } Distinguished Order of Saint Michael and Saint } George, Lieutenant-Governor and Administrator } in and over the State of Western Australia } and its Dependencies in the Commonwealth of } Australia.
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F.D. 192/21, Ex. Co. No. 1549.

IN pursuance of the provisions of section 9 of the Fisheries Act, 1905-1962, I, the Lieutenant-Governor and Administrator of the State of Western Australia, by and with the advice and consent of the Executive Council, do hereby prohibit all persons from taking by any means of capture whatsoever, the fish known as or called "crayfish" in that portion of Western Australian waters bounded by lines starting from the intersection of 27 degrees 30 minutes South Latitude and 113 degrees 37 minutes East Longitude, and extending south-easterly to the intersection of 29 degrees 30 minutes South Latitude and 114 degrees 30 minutes East Longitude; thence west to 113 degrees East Longitude; thence north to 27 degrees 30 minutes South Latitude aforesaid; and thence east to the starting point; for the period from and including the 15th day of August 1963, to and including the 31st day of December, 1963; and thereafter in each and every year for periods from and including the 1st day of January to and including the 14th day of March, and from and including the 15th day of August to and including the 31st day of December, respectively.

CRAYPOT FITTED WITH ESCAPE GAP



(Extract from Government Gazette (No.63)
of 28th July, 1967)

FISHERIES ACT, 1905-1966.

Department of Fisheries and Fauna,
Perth, 14th July, 1967.

F.D 396/65.

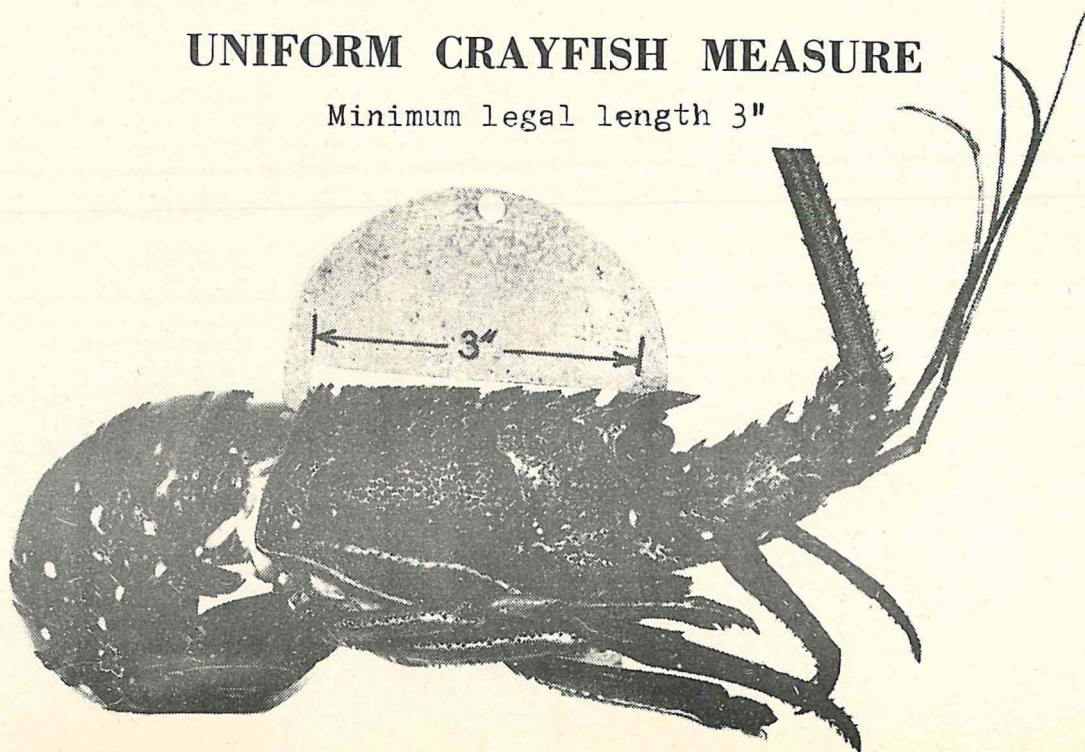
THE Minister for Fisheries and Fauna, pursuant to the powers conferred by subsection (1) of section 23A of the Fisheries Act, 1905-1966, doth hereby declare that in every crayfish pot, on the side, or on the end, or on the upper surface of the pot, there shall be an unobstructed escape gap as nearly as practicable rectangular in shape, measuring not less than 12 inches in length and not less than 2 inches in width, so positioned that the longer sides of the gap are generally parallel to the base of the pot.

The notice dated 8th December, 1965 and published in the *Government Gazette* of 17th December, 1965, is hereby cancelled.

G. C. MacKINNON,
Minister for Fisheries and Fauna.

UNIFORM CRAYFISH MEASURE

Minimum legal length 3"



[Extract from Government Gazette (No. 55) of
26th July, 1963.]

FISHERIES ACT, 1905-1962.

Fisheries Department,
Perth, 23rd July, 1963.

F.D. 167/53.

IT is hereby notified for general information that the Minister for Fisheries, acting pursuant to the provisions of section 17 of the Fisheries Act, 1905-1962, has imposed in respect of fishing licenses, in addition to the conditions so imposed and notified in the *Government Gazette* published on the 8th June, 1962, the following conditions:—

- (9) No fishing boat licensed on or after the 1st day of March, 1963, shall be used and no person shall permit or suffer such boat to be used for the purpose of taking crayfish in any portion of the waters of the Indian Ocean lying between the 24th and 34th parallels of south latitude.
- (10) Licensed fishing boats engaged in the taking of crayfish shall not carry or use at any one time, and no person shall permit or suffer such boat to carry or use at any one time, more than three crayfish pots for each foot of the registered licensed length of the boat, provided that no boat which exceeds 66 feet in length, when so engaged, shall carry or use at any one time more than two hundred such pots.

FISHING NET RESTRICTIONS

[Extract from Government Gazette (No. 103) of
2nd December, 1966.]

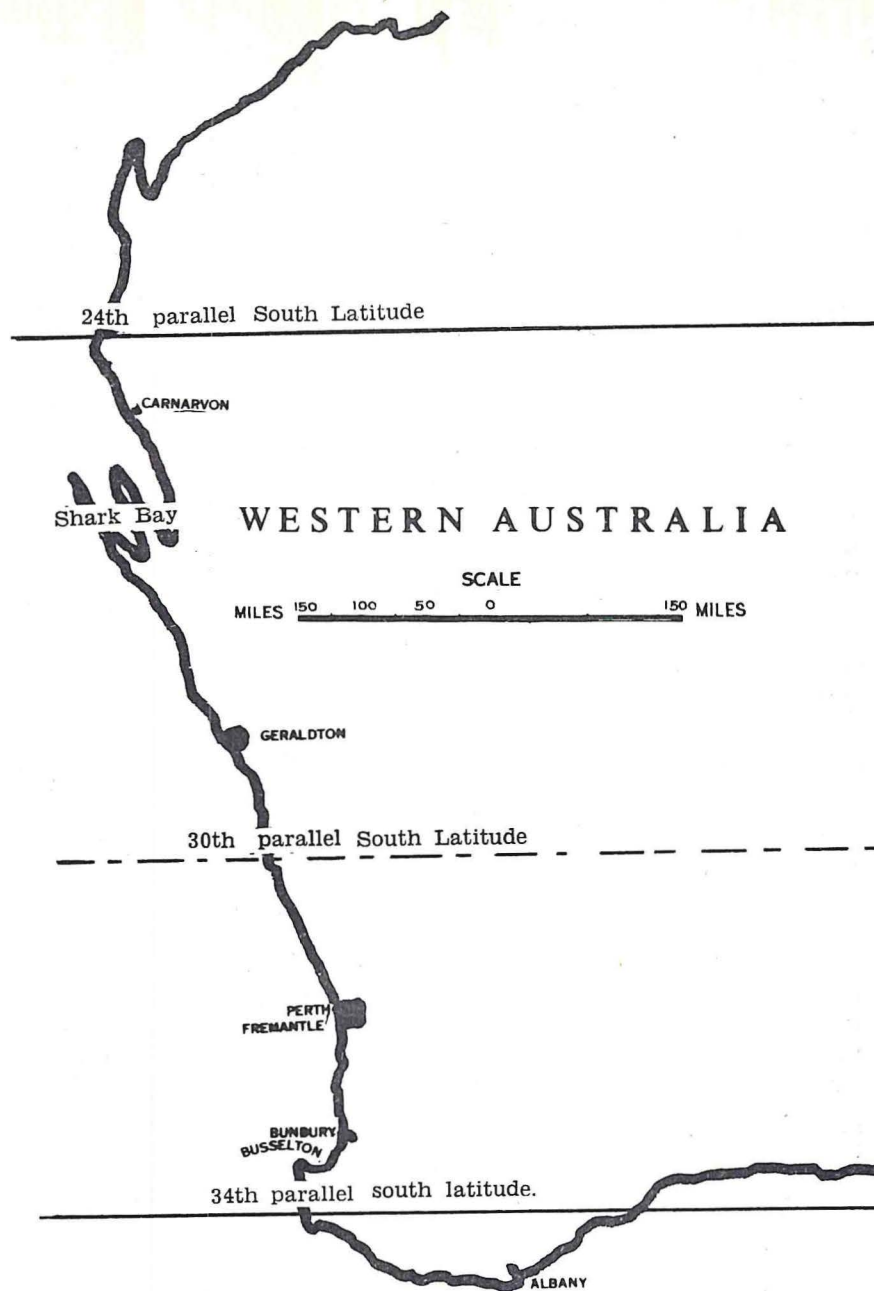
FISHERIES ACT, 1905-1966.

Department of Fisheries and Fauna,
Perth, 21st November, 1966.

F.D. 460/66.

THE Minister for Fisheries and Fauna, pursuant to the powers conferred by section 9 of the Fisheries Act, 1905-1966, doth hereby prohibit all persons from taking any crayfish whatsoever in any Western Australian waters by means of fishing nets which are comprised wholly or partly of natural or synthetic fibres.

G. C. MacKINNON,
Minister for Fisheries and Fauna.



MATTHEW GOODLAD

The Department has received the sad news of the passing of former fisheries inspector and pearling superintendent Matthew Goodlad.

Mr. Goodlad was born on the island of Burra in the Shetlands and commenced duties with this Department in 1938 as a whaling inspector. He went to Shark Bay with the American Whaling Fleet and later held the positions of fisheries inspector at Bunbury, Mandurah and Perth.

Mr. Goodlad was a fearless and well respected inspector and was the pearling superintendent at Broome when he retired.

THANKS TO THE STAFF

Mr. Joe Traynor and family would like to convey their appreciation to all members of the Department who sent their condolences when they heard that Mrs. Traynor had passed away.

In a card to Mr. Bowler, Joe explained that he would have liked to thank everyone individually but many addresses were not available.

FISH IS GOOD FOR YOU

Nutritionally speaking, fish has a lot in its favour as the health food of the nation.

Most fish are 18-20 per cent protein, about the same as meat.

Most varieties are low in fat - less than 1 per cent - thus being moderately low in calories. Fish such as cod, haddock, ocean perch, flounder, and sole supply only about 80 calories (1 gram of fat and 18 grams of protein) for every 3-3½ ounce serving.

Varieties with more fat in them have an important characteristic. Fish oil is a highly unsaturated oil and compares favourably with some vegetable oils in its ability, under certain conditions, to lower the level of cholesterol in the blood.

Moderately fat fish (2-5 per cent), such as trout, pickerel catfish, bluefish, halibut, swordfish, supply about 125 calories per serving. The so-called high fat fish (8-15 per cent) are still modest in calories. Mackerel, salmon, sardines, pompano, herring, average from 180 to 200 calories for each serving. These "fat" fish also have a considerable amount of vitamen A.

Shellfish - oysters and clams in particular - are good sources of iron.

Fish with soft bones which you can eat such as sardines and cannod salmon are high in calcium and fluorine, the tooth-decay preventing mineral nutrient.

Staff Notes

Warden Dear was admitted to Royal Perth Hospital quite suddenly while in Perth on Annual Leave on the 7th of March. He has now fully recovered and is back on the job.

* * * * *

Les Moss, who has recently been promoted and transferred to the fauna branch, has also had a bout in Hospital. Les underwent a minor operation in the Mount Hospital but is now back on duty.

NEW VEHICLES

Senior Warden Bowler's Land Rover Station Sedan will be replaced by a Toyota Land Cruiser Station Sedan.

Fauna Warden Pearce's Land Rover will be replaced by a Toyota 4-wheel drive Land Cruiser Hard Top.

The Research Branch Nissan will be replaced by a 6-cylinder Land Rover.

Inspector Hammond's mobile patrol vehicle will be replaced by a 6-cylinder Land Rover with a roof rack for carrying a boat. This is thought to be superior to using a boat trailer in this instance.

Research Officer Morrissy will be provided with a 6-cylinder Land Rover.

Marron Inspector D. Blackman is being supplied with a short wheel base Land Rover.

Geraldton District Office is being supplied with a short wheel base Land Rover.

The new position of Fauna Warden, Carnarvon is being supplied with a 6-cylinder Land Rover equipped with two-way radio.

The newly appointed Fauna Research Officer who will be working on marsupials is being supplied with a 6-cylinder Land Rover fitted with a shooting hatch.

New Radios for Fisheries Craft

To comply with Harbour and Light requirements seagoing vessels are to be fitted with new radios. It is anticipated that the radios removed from the vessels will be fitted to mobile patrol vehicles so that they will be able to contact patrol vessels.

P.V. Pelsart is to be fitted with radar.

Fauna wardens at Wittenoom and Wyndham are having their vehicles fitted with two-way radios.

Fish Survey

Dr. D.E. Rosen and Dr. G.J. Nelson, two research workers, with the Ichthyological Department, American Museum of Natural History are on a study tour in Western Australia.

They called at this Department early in February, after being introduced by the well known Perth naturalist, Mr. Harry Butler, to obtain the necessary licenses to enable them to collect specimens of fauna to be used in their research work.

Their main interest lies with freshwater fish in the Kimberley and South West Land Divisions but in addition to fish they will be taking herpetological specimens, frogs, mammals and may also take a few bats.

Licenses have been issued subject to quite a number of stringent conditions that are necessary for the conservation of our fauna. All conditions will be strictly enforced by this Department.

NEW BOAT SHED FOR MANDURAH

On the 25th of February this year approval was given for the construction of a new boat shed for this Department at Mandurah.

Tenders were called and the winning contractors were Kemp and Tilatti of 74 Bondi Street. Mount Hawthorn.

The cost of the new shed will be just over \$9,500.

NEW HONORARY FISHERIES INSPECTOR

Mr. Lyell Henry Donohue of 20 Brain Street, Manjimup, was nominated by the Shire of Manjimup as an Honorary Inspector of Fisheries, to police the Window Harbour Closure.

Mr. Donohue's appointment was recommended by the Director and he was officially appointed as an Honorary Inspector under the Fisheries Act 1905-67, with a notice appearing in the Government Gazette on February 28, 1969.

OFFENCES UNDER FISHERIES ACT AND FAUNA CONSERVATION ACT

OFFENDER	D.O.O.	D.O.H.	COURT	OFFENCE	FINE
BARKER P.J.	1.12.68	12.3.69	Perth	Taking F.C/S	\$40
CALDERA A.	7.12.68	12.3.69	Perth	U/S Crays	\$100+ \$116 A/P
COBBY N.J.	23.11.68	19.2.69	Perth	U/S Crays	\$124
CRABB V.H.	23.11.68	19.2.69	Perth	U/S Crays	\$124
CRACKNELL E.M.	24.12.68	12.3.69	Perth	U/S Crays	\$100+ \$42 A/P
DAVIS W.H.	26.1.69	21.2.69	Gldton	1. Obs. 2. Refusing to give N. & A.	1. \$200 2. \$50
FARDIG B.M.	12.11.68	19.2.69	Perth	Obs.	\$40
FERRO V.	18.7.68	7.3.69	Perth	U/S Crays	\$400+ \$172 S/C
FOGGON W.R.	12.11.68	19.2.69	Perth	Obs.	\$40
FRANCESCHI N.	5.1.69	12.3.69	Perth	U/S Crays	\$100+ \$46 A/P
GLASKIN D.C.	6.12.68	12.3.69	Perth	U/L Pro- cessing	\$30
HOUSE K.G.	2.1.69	12.3.69	Perth	U/S Crays	\$100+ \$40 A/P
LAVERCOMBE T.	17.12.68	12.3.69	Perth	U/S Crays	\$100+ \$40 A/P
MARGARITIS J.	19.12.68	12.3.69	Perth	U/S Crays	\$40+ \$20 A/P
MATHEWS T.F.	14.10.68	26.2.69	Bridge- town	U/Sale Fauna	\$25
McLELLAND R.	15.12.68	12.3.69	Perth	U/S Crays	\$100+ \$14 A/P
NATIONAL FISHERIES (1957) PTY.LTD.	9.12.68	10.3.69	Ftle.	U/W Tails	\$40+ \$5074 A/P
NEVIN R.J.	1.12.68	12.3.69	Perth	Taking F. C/S	\$40

OFFENDER	D.O.O.	D.O.H.	COURT	OFFENCE	FINE
OKAMOTO A.	28.7.68	25.2.69	Pinjarra	Taking P/F	\$40
SLEGTENHORST P.	15.12.68	12.3.69	Perth	U/S Crays	\$100+ \$14 A/P
SOUTH COAST ICE AND TRADING CO.	10.12.68	28.2.69	Perth	N/L of Returns	\$20

U/S = Undersize
 U/Sale = Unlicensed Sale
 Obs. = Obstruction
 P/F = Protected Fauna
 N/L = Non Lodgement
 N. & A. = Name and Address
 U/W Tails = Underweight Craytails
 Taking F.C/S = Taking Fauna during Closed Season
 A/P = Additional Penalty
 S/C = Special Costs
 U/L = Unlicensed

NEW RESERVES

Lake Grace

Three Roe locations, numbers 2486, 2767 and 2768, have been set aside for the purpose of "Conservation of Flora and Fauna".

Notice to this effect was published in the Government Gazette dated 31st January, 1969.

This area which is situated in the Lake Grace Shire will be known as Reserve No. 29617.

LIBRARY ACCESSIONS

- DEMPSTER, Keith. ed.: Wildlife in South-eastern Australia. A series of 12 A.B.C. Radio talks, prepared in co-operation with Victoria's Department of Fisheries and Wildlife; edited by Keith Dempster, devised and produced by Ken Taylor in Melbourne Studios of A.B.C. Fisheries and Wildlife Department of Victoria Wildlife Circular No. 25, published by A.B.C., Sydney, 84p. Ills. refs.
- GERKING, Shelby D. ed.: The Biological Basis of Freshwater Fish Production. A Symposium sponsored by Sectional Committee on Productivity of Freshwater Communities of the International Biological Programme, The University of Reading, England. 1-6 September 1966. Oxford and Edinburgh. Blackwell Scientific Publications. 1967, 495p. figs. refs. tabs.
- GREEN, Jack Your aquarium. Coldwater: Tropical: Marine Fish including Australian Freshwater Fish. Sydney. Angus and Robertson 1968, 58p. diags. ill.
- SERVENTY, Vincent: Australian Wildlife Conservation, Sydney. Angus and Robertson 1968, 75p. booklist. glossary. ill.
- WEBB, Leonard Impressions of Nature Protection in Europe. Brisbane. Wildlife Preservation Society of Australia, 50p. Further reading list.

Staff Note

Belated congratulations to three members of the staff who have had recent additions to their families. Ron Smith, Andrew Burbidge and Kevin Morrison can now look forward to a few sleepless nights.

FISHERIES RESTRICTIONS

WATERMAN

The first restriction on the taking of marine algal life has been imposed for that area of ocean near the Waterman Marine Research Laboratory.

All persons are prohibited from taking any fish by any means of capture and taking any marine algal life in that portion of the ocean within a radius of a quarter of a mile from a point on the foreshore which is the western prolongation of the centre of Elvire Street, Waterman.

MURCHISON RIVER

All persons are now prohibited from taking any fish by means of fishing nets in the Murchison River between sunset and sunrise.

POINT MAUD

A total ban on fishing has been placed on an area near Pt. Maud.

The area is defined by the coastline and lines starting at Pt. Maud and extending west 60 chains; then south 130 chains; then east to the shore.



"I hate to be a kill-joy but I think you have a bite."

Australian OUTDOORS, November, 1968 79