FISHERIES DEPARTMENT
WESTERN AUSTRALIA
MONTHLY SERVICE BULLETIN

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STAFF NOTES.

On March 7, the Director, Mr. Fraser, will accompany the Minister for Fisheries, Mr. Hutchinson, to Mandurah, to attend the prize-giving ceremony of the Ampol Fishpot Competition. The Minister has been invited to present the major awards. Technical Officer L. G. Smith will also be present, arrangements having been made for him to carry out the tagging for the competition.

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The research officer, Mr. B. K. Bowen, is expected to resume duty on March 8 after long service and study leave.

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Mr. C. R. C. Haynes, mate of the r.v. Lancelin, has been discharged from St. Omer Private Hospital and is now convalescent. He would appreciate it if visitors would call as he is still not able to read. He is staying at the Bridge Hotel, North Fremantle.

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Technical Officer R. J. McKay suffered a knee injury and was absent on sick leave for a week from February 15.

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Technical Officer J. S. Simpson left for Albany, on February 29, for a month's tour of duty aboard m.v. "Bluefin". "Bluefin" is expected to continue the crayfish survey in the vicinity of Bald Rock and in an area generally east of Albany.

Mr. W. K. Cherrington, of Head Office, commenced sick leave on February 29. He is suffering from a virus infection.

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Mr. J. McK. Mitchell, of Head Office, commenced one week's annual leave on February 29.

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Congratulations are extended to Cadet Inspector R. G. Emery on the occasion of his engagement to Flora Van Hunnik, of Doubleview. The engagement was announced on February 8.

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Mr. D. Wright has been notified that he has been promoted to the position of Mate, Research Vessel "Peron," classification G-II-2, from January 28, 1960.

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Mr. Clive Emery Scobie commenced work as a casual hand on February 23. He will be employed for a period of approximately four weeks to assist in preparing the r.v. "Peron" for sea. "Peron" is expected to undergo sea trials about March 10.

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We welcome to the staff Cadet Inspector Valentine G. Martin, who commenced duty on February 15.

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Senior Inspector J. E. Munro carried out a patrol in the Denmark, Irwin and Broke Inlet areas from February 22 to 28.

MOVEMENTS OF DEPARTMENTAL VESSELS.

P.v. "Dampier" will only be available for short sea-going patrols for some time. When she was slipped on February 9, it was found that her propeller shaft was pitted and arrangements had to be made to have the shaft replaced. As suitable material, marine stainless steel, is not available in Australia, the new shaft is being sent from the United Kingdom.

Inspector C. J. Seabrook will bring r.v. "Lancelin" to Fremantle later in the month. "Lancelin" had to be used for patrols in the Abrolhos while the Dampier was unavailable.

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P.v. "Kooruldhoo", under command of Assistant Inspector G. D. Houston, with Cadet Inspector G. Hanley as crew member, will be permanently stationed at Geraldton as from next month. At present she is working in the Lancelin area.

PERSONAL PARS.

Mr. J. Vincent, Managing Director of Ross Group Ltd., of Grimsby, England, arrived in Fremantle on the ss "Strathmore," on February 23. He was met on arrival by the Director and by his Group's Australian representative, Mr. W. Len Johnson, of Sydney, who had arrived in Perth the day before. Mr. Vincent was conducted to various plants where he had a good look at the processing side of the crayfish industry and had business discussions with representatives of the firms concerned. On February 25, Mr. Vincent was taken on p.v. "Dampier" to inspect actual crayfishing operations at first hand.

Before leaving Perth, Mr. Vincent said that he realised Western Australian crayfisheries were becoming crowded, but thought there should still be opportunities for development. Capital would be no problem to his Group, provided the crayfish were there to be caught, he said. After four days in the State, he left to investigate the fisheries of the Eastern States and New Zealand.

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Mr. R. A. Kulenkampff, of Bremen, West Germany, called on the Director on February 29. He arrived in Perth after visiting Broome, where his company has pearling interests, and Carnarvon, where his company is interested in prawns and scallops. He was accompanied by Mr. M. Drinan when he called on the Director, who later introduced him to the Minister, Mr. Hutchinson.

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Another visitor during the month was Mr. G. C. Simpson who, as well as being Wharfinger, is Inspector of Fisheries at Port Samson, via Roebourne. Mr. Simpson met various officers and discussed the administration of the Fisheries and Oyster Fisheries Acts in the North-West. He said that big schools of spanish mackerel were seen at Port Samson this year and, for the first time, large schools of striped tuna had been sighted. North-west salmon and kingfish were also in good supply.

He recorded that licensed oyster fishermen were picking about twenty jars of oysters a day - there are fourteen dozen oysters in a jar. This had resulted in oyster pickers having to travel some miles from Pt. Samson to get oysters of commercial size.

CONCESSION TO CRAYFISHERMEN.

During the whole of the month of March, 1960, the taking of crayfish will be permitted in the one-mile offshore waters south of 30°S which are normally closed at this season. This has been announced by Fisheries Minister Ross Hutchinson, who says that the concession has been granted to allow the taking of the run of large-size crayfish which normally appear in the offshore shallows after spawning. The closure, which applies to all waters within a mile of the coast between the 30th and 33rd parallels of south latitude from January 1 to November 14 in each year, was designed to protect the large numbers of small crayfish usually found there. The Minister emphasised that the relaxation of the closure in no way affected the prohibition against the taking of undersize fish. This prohibition would continue to be rigidly enforced.

FREEZER-BOATS BANNED IN THE ABROLHOS.

In a press release dated February 24, the Minister for Fisheries said that freezer-boats would not be allowed to operate anywhere within what is known as the Abrolhos Islands area. Mr. Hutchinson said he was re-affirming long-standing policy as there appeared to be some doubt that his Government had intended to enforce the restrictions. These were based on sound conservational and economic grounds, the Minister said, and he was convinced that it was essential for the well-being of the industry and economy of Geraldton that freezer-boats be prohibited from processing at the Islands.

The area closed to freezer-boats is described as follows:- "Abrolhos area" means that portion of Western Australian waters bounded by lines starting from the intersection of 28 degrees South Latitude and 113 degrees 50 minutes East Longitude and extending southeasterly to the intersection of 30 degrees South Latitude and 114 degrees 40 minutes East Longitude, thence west to 113 degrees East Longitude, thence north to 28 degrees South Latitude aforesaid, and thence east to the starting point."

SOUTH AUSTRALIAN BOAT HERE TO CRAYFISH.

The "Alma May", a 39 ft. vessel skippered by Mr. Ron Daniels, with Mr. Frank Kennie as crew member, arrived in Fremantle on Sunday, February 28. The Alma May has a beam of 14 ft and a draft of 5 ft 3 in.

She is an auxiliary craft equipped with a 3-cylinder, 66 H.P. G.M. diesel, an echo sounder and a radio transceiver. Her well has a capacity of 30 bags of crayfish.

Mr. Daniels told Senior Inspector A. K. Melsom, of Fremantle, from whom this report was received, that the Alma May left Beachport, South Australia, sixty miles from the Victorian border, on February 10. She called at Port Pirie and Streaky Bay in S.A., and at Esperance and Albany in this State, spending two days at each port. Mr. Daniels said that the worst part of the voyage of approximately 2,000 miles was off Kangaroo Island when they were caught in a blow which took off 6 feet of their bulwarks on the starboard side.

Mr. Daniels said that it was his intention to commence crayfishing in Geraldton and Abrolhos waters, whither he is expected to sail on March 3. Mr. Daniels also commented to Mr. Melsom on what he described as the decline of the South Australian crayfish fishery. He reported having seen a large number of tuna between South Australia and Fremantle.

CRAYFISH SUPPLIES LIMITED.

Senior Inspector J. E. Munro reported that during February comparatively few crayfish were landed at beaches north of Fremantle. Crayfish were very scarce during the last week of the month, he said, although better catches were recorded from Yanchep and Two Rocks. Fish shops had difficulty in maintaining supplies and those purchased were dear. Crayfish are normally scarce at this time of the year.

Assistant Inspector E. Barker, writing from Geraldton, said that in January, after the "whites" had disappeared, the best catches were taken in deep waters and were of a very large size. Mediums to jumbos, he said, were taken in all the area from Murchison River to Dongara, large quantities being in roe and many carrying spawn.

AMERICAN RESEARCH SHIP AT FREMANTLE.

The Vema, a 200 ft. three-masted schooner owned by New York's Columbia University, berthed at Fremantle on February 22. Her master was Captain H. C. Kohler, of Nova Scotia, and she has been engaged on an oceanographic survey in the Indian Ocean. Her chief scientist, Mr. Charles T. Fray, said that his team had plotted extinct volcanoes, mountain peaks and a trench which shelved sharply from 575 to 3,580 fathoms in the Indian Ocean, about 680 miles off the Western Australian coast. He thought it was part of a trench discovered earlier by H.M.A.S. Diamantina. The Vema sailed from Fremantle on February 26 to survey a sedimentary basin in the Geographe Bay area in conjunction with Diamentina.

PEARLSHELL PROMOTION CAMPAIGN.

The First Assistant Secretary of the Department of Trade, Mr. E. P. McClintock, has forwarded to the Director a copy of a report on this campaign for the first four months of the current financial year. According to the report, the campaign has been successful in increasing the demand for mother-of-pearl shell in the United States, the United Kingdom, Germany and France. The market for better grades of pearlshell appeared to have been stabilised and competition from plastics was a little less serious, the report said. On the other hand, a view expressed by one of our local pearl dealers ran contrary to the report at least to some extent. Our informant considered that the pearlshell promotion campaign had acted to the benefit of the plastics industry in much the same manner as the advertising of South African spiny lobster tails benefits the Australian product on the American market.

CULTURE PEARLS IN QUEENSLAND.

According to a press report, a Torres Strait pearl farmer will seek permission from immigration authorities to bring out a team of Japanese pearl culture specialists. He is Mr. Denis George, who was described in the report as a pioneer in the pearling industry. He forecast the conversion of pearling luggers to pleasure boats within ten years, and anticipated that a £5,000,000 culture pearl industry would develop around the Torres Strait islands. Mr. George produced four small cultured pearls which he said were a result of two years' work on an experimental pearl farm at Packe Island, 15 miles south-west of Thursday Island.

The Queensland Government late last year leased Crab, Friday, Possession, Turtle Head and Wednesday islands for pearl cultivation. It is said that wealthy Japanese pearling companies are believed to be interested in all the leases.

SET-LINE BAN EXTENDED.

The Minister for Fisheries has accepted a departmental recommendation that the ban on the use of set-lines be extended. Previously, long-lines or set-lines were prohibited between Fremantle and Trigg Island, but the northern limit has now been extended to Wreck Point. The extension was considered to be warranted as a result of roads having been constructed into almost all the sand beaches between Trigg Island and Yanchep. Their improved accessibility has resulted in a great increase in the number of swimmers using these beaches. The ban on set-lines is designed to protect swimmers from sharks which are attracted into areas where such lines are set.

EXPORT OF FAUNA.

The Acting Collector of Customs for Western Australia has advised of two decisions reached by his Department in relation to the export of native fauna. The first was that the export of fauna for scientific purposes may be allowed if approved by the State authority, but each case will be treated on its merits. The second was that overseas bound passengers may take with them only those pets to which they have become attached. They would not be allowed to take fauna purchased immediately prior to their departure. It will be remembered that the Commonwealth Government recently placed an almost total ban on the export of native fauna regardless of the views of the States.

The Minister for Fisheries, Mr. Hutchinson, recently received from his counterpart in New South Wales (the Chief Secretary and Minister for Tourist Activities in that State, Mr. C. A. Kelly) a request that Western Australia should allow only certain fauna to be exported to New South Wales. On behalf of the Fauna Protection Panel of his State, Mr. Kelly said that it had been decided to discontinue issuing licenses for the import from other States of birds which are protected in New South Wales.

In reply, Mr. Hutchinson said that the action of the Commonwealth Government in prohibiting the overseas export of fauna had already reacted to the detriment of trappers and dealers in this State and implied that this new move would further adversely affect the livelihood of established dealers. In view of the likely effect of the Panel's policy, and because of certain constitutional issues involved, Mr. Hutchinson requested that the matter be deferred until all States had the opportunity of discussing its wider implications at the forthcoming interstate conference of fauna authorities to be held in Brisbane in September.

SEAWEED AT MANDURAH.

During the visit of the Minister and Director to Mandurah last month, representatives of the Mandurah Chamber of Commerce and the Mandurah Licensed Fishermen's Association asked that something be done to counteract the spread of an algal organism which became entangled with fishing nets, causing them to roll up and to lose their efficiency. Subsequently, the advice of Dr. J. M. Thomson, Acting Chief of the Division of Fisheries and Oceanography, C.S.I.R.O., was sought. Dr. Thomson has suggested that an exact identification of the organism seemed desirable and in pursuance of that suggestion arrangements have now been made for Mr. G. G. Smith of the Botany Department of the University of Western Australia to give us a report.

Dr. Thomson pointed out that the weed was probably one of the filamentous algae usually referred to by fishermen as slime. While it could be killed by certain weedicides, or towed ashore, its removal would reduce the food values in the estuary and affect its carrying capacity. Dr. Thomson likened the process of removing the algae to mowing a paddock and removing the cropped grass which reduced the amount of food available to the stock in the paddock. He suggested that nature should be allowed to take its course. With the onset of late summer and autumn, he said, the weed would die off and would help replenish the estuarine nutrients which were essential, indirectly, to all the plant and animal life of the estuary.

CRAY-BAIT PROBLEMS.

Although large quantities of crayfish bait are held in cold storage in Sydney, Melbourne and Adelaide, refrigerated shipping space has been difficult to obtain for the transport of the bait to Fremantle. Notwithstanding the assistance of the Western Australian representatives in Melbourne and Sydney, shipping space cannot be booked and the position regarding bait supplies in this State is becoming desperate. Arrangements are in hand to freight some hocks from Melbourne overland by refrigerated truck. Also, an appeal sent to the Director of Fisheries and Game, Adelaide (Mr. A. C. Bogg) has met with an immediate response. Seven tons of tuna heads, part of an order of thirty tons which has been awaiting shipment from Port Lincoln, will be carried by the Commonwealth Railways to Kalgoorlie, from whence it will be brought by refrigerated truck. At the time of going to press, however, the bait situation remains critical.

WESTERN AUSTRALIAN EELS.

Inspectors are invited to keep a particular watch out for fresh water eels in the South-West. Two such eels have been recorded in this State - Anguilla bicolor and Anguilla australis. A. bicolor is the northern species and is quite commonly found in the creeks in the North-West and Kimberley Divisions. A. australis is found on the eastern coast and the south coast west to South Australia. In our State, however, its ecological position appears to have been taken over by the lamprey. A. australis nevertheless has been recorded in Western Australia. One was taken many years ago at Busselton and one just recently was caught in a drain at Carlisle. This species was recorded by both McCullough and Whitley as having been introduced into Western Australia, but this now appears to be open to question. It may occur here naturally.

A. australis may be readily distinguished from its near relative, A. bicolor, by the position of the dorsal fin. In the former, it commences immediately above the vent, while in A. bicolor it commences well forward of the vent. The latter is also spotted, while A. australis is more uniformly dark.

INSTRUCTIONS FOR SKIPPERS OF DEPARTMENTAL VESSELS.

For the benefit of more recently appointed staff and to further delineate the responsibilities of the Fleet Maintenance Officer and skippers, the instructions published in the April, 1959, issue of this bulletin have been re-cast.

The Fleet Maintenance Officer's responsibility extends to the organisation and supervision of maintenance and repair work. His responsibility ceases when, after re-fit, he hands the vessel over to the skipper. It is the latter's responsibility to undertake minor repairs while away from port.

In addition to his other responsibilities outlined in the General Orders for Skippers (which are also republished) the officer in charge of a vessel is responsible for -

(a) the work and discipline of the crew;

(b) the safety of the vessel while at sea, in anchorages and on moorings at the home port;

(c) maintenance of all gear and equipment in good order and condition;

(d) running repairs to engine and general boat maintenance while absent from Fremantle. Atomisers, injectors, fuel pumps and governor controls must be serviced by a qualified diesel mechanic only, and no officer should interfere with them;

(e) preparation and keeping boat's inventory and handing over statements;

(f) submitting reports concerning the condition of the vessel, running gear, necessary engine repairs, slipping requirements and gear replacements;

(g) advising the Fleet Maintenance Officer of the time of departure from an outstation and E.T.A. Fremantle.

(h) to report on arrival at Fremantle to the Fleet Maintenance Officer and at an outport to the District Inspector;

(i) to put the vessel in shipshape order as soon after arrival as possible;

(j) to check his inventory with the Fleet Maintenance Officer before handing his vessel over;

(k) to hand to the Fleet Maintenance Officer any damaged or other item requiring repair or replacement;

All reports concerning patrol vessels must be forwarded to the Fleet Maintenance Officer prior to the departure of the vessel from an outport. (N.B. If business reply envelopes are used, the address on them must not be altered. They must be forwarded to Head Office and reports for the Fleet Maintenance Officer may be enclosed with other mail and will be forwarded by Head Office.)

The Fleet Maintenance Officer is responsible solely for maintenance, engine repairs, slipping, etc., and during a refit, the skipper and his crew and all other officers made available by the Supervising Inspector are subject to the direction of the Fleet Maintenance Officer. All available equipment, instruments, binoculars and the like must be stored in the Fremantle or the Geraldton Office (as the case requires) but, otherwise, no equipment whatsoever is to be transferred from one vessel to another or removed for any purpose without the prior approval of the Fleet Maintenance Officer.

Boat crews when in Fremantle or Geraldton because of bad weather or for any other reason, must, unless they are actually engaged on maintenance work on their boats, place themselves under the orders of the inspector in charge of the district.

In respect of a refit, any differences of opinion as between the Fleet Maintenance Officer and the skipper concerning items of refit, shall be referred to the Director, who shall decide the matter.

General Orders for Skippers of Patrol Vessels.

1. Each vessel while in active commission shall be manned at the discretion of the skipper, with the exception of when heavy weather is imminent or on receipt of a storm warning. Then each vessel shall be continuously manned by a full crew until such heavy weather has abated.

2. When anchored in heavy weather both anchors are to be let go to the fullest extent of each of their cables.

3. Skippers of each vessel before proceeding to sea, must obtain from the National Broadcasting Station, a schedule of weather reports. This schedule must be listened to at all times. In the event of a storm warning being issued from the above station, a continuous radio watch is to be kept.

4. Each vessel when patrolling, shall fly the Department's ensign.

5. The skippers of each patrol vessel shall be responsible for the general appearance of his vessel, the sufficiency and efficiency of deck stores, gear, fittings, signal flags, flares, first aid kits, etc., for the safe handling of the vessel. He shall keep an inventory of all such stores, fittings, etc., and shall hold himself responsible for their safe keeping.

6. The skipper of each patrol vessel shall cause all life belts, flags, sails, flares and mattresses to be examined and aired at least once each month to ensure that they are in good order, and all lockers to be opened up, aired and dried out periodically, especially during winter months. A record of each such inspection and attention shall be entered in his weekly diary.

7. Skippers shall be responsible that their vessels are kept clean and always ready for sea when in commission, that the regulation lights, such as navigating and mast head lights are kept clean and in good repair, and that at least six red flares are on board.

8. Each skipper shall be responsible for the discipline of his crew and must report immediately to the Supervising Inspector, any irregularity or breach of discipline. Insobriety or other misbehaviour must be regarded most seriously and may become a reason for strict disciplinary action or dismissal from the service.

9. A skipper shall record and report to the Fleet Maintenance Officer at his earliest convenience any accident to his vessel or its fittings, also to his engine, shafts, propellor, sails and running gear.

10. Skippers are to use every care in the navigation of their vessels and must comply with the rules of the road prescribed under the Merchants Shipping Act and with local Harbour regulations.

11. Skippers shall take care that their vessels, when berthed at a wharf, are securely moored and when away from Fremantle Fish-market Jetty, at least one member of the crew is in attendance.

12. When under way, the skipper of each patrol vessel shall see that his navigating lights and mast head light are burning and in no way obstructed. When at anchor, his vessel shall exhibit at all times, lights and markings as laid down under Article 11 of the rules of the road.

13. All skippers are to make themselves conversant with Harbour Trust regulations, also harbour bouying and markings.

14. Skippers of each patrol vessel shall report all accidents, even though considered of a minor nature, occurring to himself or to any member of his crew and must report immediately to the Chief Clerk.

15. All skippers are to ensure that their vessels have been surveyed and passed by the Surveying Officer of the Harbour and Light Department each year. The survey arrangements will be made by the Fleet Maintenance Officer.

16. All skippers are to have their compasses checked at least once a year and all navigating aids on board are to be kept in good order at all times.

17. Patrol vessels must not be made fast alongside any fishing or processing vessels at sea or in anchorages other than in their home port, but must anchor off and board the fishing or processing vessel by dinghy.

REQUISITIONS AND SUPPLIES.

(a) Departmental Vessels.

All requisitions for supplies and for the maintenance and functioning of departmental vessels must be submitted to the Fleet Maintenance Officer. Where possible, these should be forwarded direct but where business reply envelopes are used, the address on them is not to be amended. Such re-direction of their contents as is required will be arranged by Head Office.

The Fleet Maintenance Officer is authorised to issue from stock any goods which are requisitioned for departmental vessels and the supply of which he approves. He should cross out such items on the requisition as are supplied in this manner and mark

against them the date the goods were forwarded. Items should be marked N.R. (not recommended), if he does not approve their issue. Other items which cannot be supplied from stock should be marked with an R (recommended), or a query if the need for supply appears doubtful. The skipper's requisition when thus marked should be forwarded to Head Office with as little delay as possible. Any items not approved by the Fleet Maintenance Officer will be reviewed by the Director or the section leader responsible. The skipper will be advised on a roneoed form what items have been refused and why, and the number and date of the Head Office requisition on which those items approved have been ordered. Further correspondence with regard to any of the latter items should be prefixed with the Head Office requisition number.

When items requested have been refused, the skipper should, if he considers the supply of any particular item desirable, address a memorandum to the Supervising Inspector advising why the item is required. He will be advised without undue delay of the result of the review.

When goods are being supplied from stock, by either the Fleet Maintenance Officer or by Head office, they will be accompanied by a Goods Received Docket on which the items will be listed and the skipper's requisition number quoted. These dockets should be signed by the skipper and returned in due course. At least every three months the stores officer at Head Office will check the Goods Received Docket book held by the Fleet Maintenance Officer at Fremantle to ensure that goods forwarded have been received and the particular inventories are amended accordingly.

These instructions will apply to research as well as patrol vessels, except that masters and crews of the former will not be responsible to district inspectors and will requisition, maintain and care for research gear and equipment as the Research Officer directs.

(b) Outstation Supplies.

All requisitions for supplies other than those for departmental vessels shall be completed or initialled by the officer in charge of the outstation and forwarded to Head Office. On receipt they will be checked by the Administration Branch and any items, the supply of which appears unnecessary, will be referred to the appropriate section leader concerned. The requisitioning officer will then be advised on a roneoed form -

(a) of the items refused and the reasons why, and

(b) the Head Office requisition number of goods which have been ordered.

The Head Office requisition number should be quoted on any future correspondence. Where goods are supplied from stock, the Goods Received Docket will be forwarded and must be receipted and returned by the officer receiving supply.

NEW COMMONWEALTH DIRECTOR OF FISHERIES APPOINTED.

Our congratulations are extended to Mr. Cedric G. Setter, who has recently been appointed Commonwealth Director of Fisheries, following the retirement of Mr. F. F. Anderson. Mr. Setter was educated in Victoria and obtained a Bachelor of Science degree at the Melbourne University, majoring in chemistry, bacteriology, and bio-chemistry. During the war years, he was a colleague of the Director (Mr. Fraser) in the Fisheries Division of the Department of War Organisation of Industry, which later became the Department of Post-war Reconstruction. Until his recent promotion, Mr. Setter had been Assistant Director of Fisheries since 1946.

BUSINESS REPLY ENVELOPES.

Staff are requested not to amend the address on business reply envelopes. As printed they are addressed to the Chief Warden of Fauna, etc., Perth. It is an offence under the Post Office regulations to amend that address in any fashion. Skippers and other officers who use these envelopes because they do not have a stamp advance, should send all their mail to Head Office where it will be readdressed as necessary.

ATTEMPT TO SINK L.F.B. "LINDA" AT GERALDTON.

The skipper of the "Linda", Mr. John Roberts, discovered on Sunday, February 21, that the engine room of the vessel was flooded with water to a depth of 8 inches. A brass plug had been removed from the bilge pump distributor and the seacocks had been turned on. The incident was investigated, we understand, by Water Police Constable L. Smith, whose appointment to Geraldton followed a number of similar incidents some time ago.

GERALDTON OFFICE POSTAL ADDRESS.

Mail posted to the Geraldton office of this Department should now be addressed to Inspector R. M. Crawford, Box N107, Post Office, Geraldton. The box number should not be quoted if the mail is being forwarded through the Correspondence Despatch Office.

CLEARING HOUSE.

How Transistors Can Help Fishermen.

What are transistors, and what will they do ? What are their advantages, limitations, and above all, what changes will their use bring about in electronic equipment for fishing craft? This feature, by R. W. Woodgate, has been written specifically to answer these questions.

The transistor has swept into modern electronics with amazing speed. In a few years it has changed from an expensive laboratory device to a mass produced article capable of replacing the valve in much radio and electronic equipment. We are offered transistor radio receivers, portable record players, tape recorders and a multitude of gadgets which are proudly claimed to be "fully transistorised".

So far this has not affected the fisherman in his every-day work, but the transistor is now beginning to enter the marine field. Small portable echo-sounders, operating from self-contained dry batteries have been in use by yachtsmen and other small craft users for more than a year and one firm is putting on to the market a full-sized paper recorder for seine-net fishermen which uses transistors.

What is a transistor?

The transistor is an amazing device and has called for the greatest skill to produce in quantity. Tiny sections of metals of extreme purity are carefully alloyed together, under conditions of cleanliness which exceed anything found in hospital operating theatres, and then hermetically sealed in tiny containers. Because of their size most of this work can only be done under a microscope or by the aid of automatic machines. As they are so small, light in weight, and have no fragile filaments, transistors will stand up to any amount of shock and vibration; indeed it is almost impossible to damage them accidentally. Also, as a result of having no filament, they do not need to "warm up". Just switch on and they work immediately.

The greatest advantages for marine use are that transistors operate at a very low voltage and are very efficient; this immediately gets rid of motor generators and vibrator power supplies. For example, completely transistorised equipment will run directly off a ship's low voltage supply and use very much less current than similar equipment using valves.

So let us sum up the advantages; small, light, strong, efficient and operating from low voltages. Obviously there must be something on the adverse side or there would be no valves in any of our radio gear.

What it Can't Do.

There are disadvantages. Most of them are being overcome, but it will take some years yet before transistors replace valves completely. First of all transistors will not operate at high power at the higher frequencies. For example: while it is quite possible to obtain 50 watts of power to drive a loud-speaker, as yet no transistor is commercially available which would give 50 watts of power in a radio transmitter working on the fishing bands. For this application we still have to use valves.

Second, transistors are not so flexible in use as valves. This means that a small portable radio using four valves would need six to eight transistors to give the same performance; with a subsequent increase in cost. Against this increase in cost must of course be set the absence of any high voltage power supply. Even so, the transistor radio tends to be more expensive.

The Main Applications.

It seems likely therefore that in the marine market, transistors will first be used in such things as echo-sounders, intercommunication units, and in the low frequency amplifier sections of receivers and transmitters where the high-frequency limitation on high power transistors do not effect their performance. There is one brand new and very important use for transistors. This is in the supply of high voltages for valve-operated equipment (for example in a radio transmitter). All fishermen know the motor generator and vibrator which supply power to the radio equipment. It is often difficult to find a suitable dry place to mount them and brush and contact wear make efficient maintenance absolutely necessary. By using transistors very efficient power supply packs are now being manufactured which will replace these older systems in many cases. The transistor convertors, as they are called, have no moving parts and consequently require no maintenance. They can be hermetically sealed and, being small, are usually built into the equipment. This gives a neater, more compact unit without trailing cables from the set to the power unit and helps also to reduce the drain on the usually overloaded batteries.

As they will operate efficiently from small dry batteries, transistors are the ideal solution to most of the problems encountered in designing portable electronic equipment of all types. Small emergency transmitters for life-rafts are one example and will almost certainly be on the market in the near future. Trawl depth measurement is another problem which has been solved by using these devices, which have been built and used for experimental purposes without any trailing cables from the set. By using a small transistorised device sealed into a pressure container and fastened to the head-rope, almost any information can be transmitted up to the ship: depth, temperature, the pull on the warps, and so on. Transistors have also helped to make it possible to produce radar equipment which is within the power capabilities of the batteries on a small vessel.

It is obvious therefore that transistors will improve the electronics on our fishing vessels and make it possible to use equipment which could not previously be fitted because of power supply problems or lack of space. A transistorised equipment is not necessarily a better equipment but if the design is good, it will give the user the considerable advantages already mentioned.

That about sums up transistors from the fishermen's viewpoint in a general way. Now let us take a closer look at one piece of transistorised equipment, the paper-recording echo-sounder Type S102 manufactured by Woodsons of Aberdeen. Outwardly it appears very similar to any other recorder but a closer look shows that the only connections to it are the mains from the ship's 24v. batteries and the cable to the hull fitting. Everything is in one box; there are no external motors or other bits and pieces, and there is no "warming up" period.

Nothing to Break.

There are no valves: the transistors are wired into the set with the other components. They are no more likely to fail than the resistances or condensers which have always been soldered directly into the circuit, there is nothing in them to wear out, there is also nothing to break.

A flash tube operates the transmitter and the 450 volts needed for this is generated in a small box that you can hold in the palm of your hand. Again, there are no moving parts, and it requires no maintenance: it is all done with one transistor.

(World Fishing. London January, 1960.)

High Tea.

To the scientist he is called Homarus gammarus, but to you or me the lobster is just a very delectable shellfish that goes delightfully with a crisp fresh salad. He is a very old member of our society going back many millions of years, and in this modern age he is big business: some 2,000,000 of his ilk grace our tables yearly, with a figure of ten times this amount being caught in Canada and U.S.A.

However, even in this day of electronics and giant brains, nobody has yet devised any new ways of catching the lobster. The old fashioned and still most common methods used are the lobster pot, creels, or hoops covered with netting and having funnel shaped openings where once in there is no way out.

On our own east coast, mainly between Lowestoft and the River Thames, another method is employed and has been for many decades. It is a cross between line fishing and the netting covered hoops mentioned above.

The lobster craft, small open boats some twenty feet long, each carry about three dozen hoops. These hoops are iron rings, 18 inches across, forming the top of a shallow net. Tied across the hoop is the baiting string usually carrying a very defunct fish head, for our friend is no squeamish eater. His taste - the higher the better!

Attached to each hoop is a forty-foot line with corks spaced at twelve inch intervals and terminating in a large marker float. The first and last hoops to be fished carry a marker buoy. The technique is to rise long before the lark in order to be on the fishing grounds at the turn of the tide. This slack water fishing is necessary since the lobster tends to stay in his comfortable rocky holes when the water is rushing hither and thither, preferring, sensible beast, to have his food brought to him. However, as the tide-race slacks off he is forced to forage about and with luck will come across the fisherman's bait.

So on reaching a likely spot, which your local man will know by having it passed down from father to son, the fishing commences. The hoops and lines are cast overboard one at a time spaced roughly twice the length of the line apart and forming a large circle. This is followed by a half-hour's respite when breakfast is partaken with relish. Always provided that you can stand the random pitching of a boat that has lost way, combined with the smells of rotten fish heads and diesel oil.

After this break comes the really hard work. The boat is brought up alongside each line in turn when the drill is to reach down, grasp the line and strike hard, followed by a steady haul until the hoop surfaces and can be drawn aboard. This method is essential to prevent the fish swimming out of the net. Once on board the lobsters are placed about the boat and as long as they are not in reach of each other remain remarkably supine.

This procedure can only be repeated three or four times during the short period of the turning tide. For the statistically minded it means hauling up approximately a mile of wet, heavy line in two hours. This, in an open boat on the cold North Sea during the winter months, can be classed as very hard work.

During the trip back the lobsters are collected up and their large front claws are tied together. This must be done to prevent them destroying each other during storage. For on return to the quiet backwaters there will be found a large wooden box, anchored and almost completely submerged, wherein the day's catch is put. This enables a respectable number to be collected and offered to the market in large batches, cutting down transport costs. The added chore of feeding the creatures with rotten fish three or four times a week is well worth it, since the losses are surprisingly small, of the order of 1%.

For all this effort the fisherman receives an average figure of 6s. per pound live weight from which must be deducted his running costs and occasional tackle replacements. It is in this latter respect that the local men claim to score over the more usual methods of fishing. Since the gear is brought back each time after only an hour or two in the water corrosion is far less. Damage is quickly spotted and put to rights, while the equipment is never subjected to being torn adrift in heavy weather.

One could be forgiven for thinking that here, at any rate, is a life governed only by the winds and tide. But, oh no! Even in this blameless existence the long arm of Whitehall has reached out. All fish under nine inches long, and in season, "berry-fish" or egg-carrying females, must be returned to the sea. Both orders, of course, are very sensible, in reality guarding the fishermen and ensuring continued good fishing. But please, please, do not tell this to a tired, hungry man, frozen to the marrow, on one of those days when the fish will not feed, and his only full hoops are Government sponsored.

(The Fishing Gazette Kent, Eng. 23 January, 1960.

Fish Eating combats suspected cause of Heart Trouble.

Important Discovery by U.S. Nutritionists.

Eating fish and shellfish reduces the cholesterol in the blood, suspected as responsible for the hardening of the arteries and heart trouble. This discovery follows extensive nutritional research by American scientists at the University of Minnesota, working for the U.S. Bureau of Commercial Fisheries. The Fishing Gazette describes the discovery as "the greatest to hit the industry in many a year and its possibilities are tremendous."

Mr. Ross Leffler, Assistant Secretary of the U.S. Department of the Interior, announced the results of the research in a broadcast. He said the scientists had found that fish body oils reduced the amount of cholesterol in the blood stream to safe levels. "This, of course, refers to all the fish and shellfish we eat - whether lean or fat, as long as they are cooked in a low-cholesterol fat."

He went on to explain that what nutritionists and chemists call "saturated" or "hard" fats in many diets result in a fatty acid imbalance and may produce conditions which lead to excessive deposit of cholesterol on artery walls.

A "saturated" fat, such as lard, congeals at low temperatures. An "unsaturated" or "soft" fat does not congeal readily. This is the property which permits fish to move freely in waters of low temperatures, Mr. Leffler explained. Diets containing a favourable balance between saturated and unsaturated fats would reduce the tendency to deposit cholesterol within the arteries.

After exhaustive studies the scientists have found that oils derived from fish constitute one of the richest sources of the most highly unsaturated oils known to science, said Mr. Leffler. "Fish and shellfish build good health," he went on. "They supply most of the vitamins your body needs. Proteins in fish and shellfish are nutritionally complete, are vitally needed by the body for proper functioning, growth and repair of tissue. Let's all eat more fish and shellfish in order that we may not only live better but also live longer," he added.

Describing the discovery to the Fisheries Council of Canada, Mr. C. Gordon O'Brien, Manager, Fisheries Council of Canada, said, "Small amounts of fish oils included in the diets of test animals brought about the most rapid and greatest total reduction in blood cholesterol of all substances tested."

Technicians state that there is still considerable research needed to explore fully the properties of fish oils. Research has shown that the potential of fish oil in reducing the cholesterol level is approximately three times that of vegetable oils. A method has been developed to separate the highly unsaturated 10 per cent from the rest of the oil, making it possible to utilise only the essential part of fish oil in reducing cholesterol levels. Thus the patient would take only one-tenth of the calories contained in the whole oil. Among the fish which have liberal amounts of body oils are salmon, mackerel and herring.

The Maine Sardine Council has undertaken to supply sardines necessary for a controlled diet study on 10,000 Americans, says Fishing Gazette. The Council's chairman, Mr. Calvin Stinson, says that studies indicate that herring are an excellent nutritive source of unsaturated fats.

It is too early to predict what this discovery will mean to the fisheries but it is a foregone conclusion that it will result in raising the per capita consumption of fishery products and open new markets for fish oils," adds Mr. Stinson. "The entire industry will watch these developments with great interest."

(The Fishing News London 8 January, 1960.)

Fairtry III Launched on Clyde.

Described as World's Premier Fishing Vessel.

Last Thursday, December 17, the latest addition to the Fairtry fleet, Fairtry III was launched by Wm. Simons & Co. Ltd., of Renfrew. The naming ceremony was performed by Mrs. P. W. Turcan, wife of a director of the South Georgia Co. Ltd., an associated company of the owners, Chr. Salvesen & Co. of Leith. Fairtry III is a sister ship to Fairtry II, also built by Simons, which was launched earlier this year.

Speaking after the launch, Mr. David Crawford, managing director of Simons, said that the new ship, while identical in hull and dimensions with Fairtry II, embodied a number of improvements which would make her the premier fishing vessel of the world.

Three-Month Voyages.

Like her sister ship, Fairtry III will fish by the stern trawling method and will operate on the northern distant water grounds particularly off West Greenland and Newfoundland. The vessel's endurance and her storing and victualling arrangements are designed to enable voyages of over three months to be carried out.

The dimensions of the new vessel are: length, 235ft. between perpendiculars; 48ft. moulded breadth; and 25ft moulded depth with 34ft with 34ft to the upper deck. She will be powered by diesel electric machinery, the three main generators providing current for the double armature propulsion motors of 2,000 s.h.p. at 130 r.p.m. The General Electric Co. Ltd. are sub-contractors for the electrical installation and Ruston & Hornsby Ltd. for the diesel engines.

Fairtry II is fitted with the latest fish filleting and processing machines which incorporate improvements and additions on the Fairtry II installations. These include the "Baader 38" for filleting round fish measuring between 12in. and 24 in. Using three operators this machine processes 30/40 fish per minute. Other machines installed are the Baader 99, Baader 338 and the Redfish Unit Baader 150, all supplied by the Nordischer Maschinenbau Rud. Baader, Luebeck.

Freezing equipment from L. Sterne & Co. Ltd. will handle 30 tons of cod fillets in 24 hours. It comprises three 6VQ Compound Arcton 6 compressors with 145 h.p. motors, shell and tube condensers and brine coolers. The catch is to be completely processed without waste, a valuable by-product being the extraction of oil from livers. All offal is converted to fish meal. Cold chambers and holds are insulated generally with Rocksil but on the lower parts Onazote has been used due to its excellent resistance to water. The main insulation was carried out by Miller Insulation & Engineering Ltd.

Accommodation is provided for 96 people including a certain number of specialists in addition to the normal ship and factory crews. Catering arrangements and recreational facilities are of a high standard.

Fairtry II's Success.

Salvesen were the first firm in the world to develop this type of fish factory trawler which has been extensively copied by Russia and other countries. Speaking after the launch Mr. Harper Gow, a partner in Salvesens, announced that Fairtry II had now completed two successful voyages and was proving a fine ship. Already she had produced a record of catches against hours fished which was the second finest in the world and she would do even better.

Present at the launch was Captain Norman Cheater who will command the new vessel. Captain Cheater was first mate and subsequently skipper of the original Fairtry on which he sailed for five years.

Navigational Equipment.

Installed in Fairtry II are navigational and fish detecting instruments supplied by Kelvin Hughes.

These include a Type MS 26B recording echo sounder for navigational purposes and two Type MS 29 recording echo sounders for fish detection. C.R.T. scale expanders are also included for closer study of visual fish indications. Both MS29 equipments employ the "white line" recording technique designed to facilitate the examination of echoes from fish on, or very near, the sea bed. An entirely automatic Sal 24 marine log has been fitted. This is the latest type of pressure-operated marine log and has been designed to operate with the minimum amount of servicing and upkeep. It does not use any rotating submerged parts and the regulating motors included in the main apparatus are brushless and without collectors - an important consideration for all ships which are at sea for long periods and away from normal servicing facilities.

Other Kelvin Hughes instruments on Fairtry III include a non-resonant-suspension liquid type Standard compass, clocks, barometers and other nautical sundries.

(The Fishing News London December 24, 1959)

Where do South African Pilchards go in Summer?

Where do the pilchard shoals go to in the summertime in South African waters? This is the problem which the Union's scientists are trying to solve, and the results of some of their investigations in recent years are presented in a report by Mr. M. E. L. Buys, senior professional officer, to the Division of Fisheries, and just published at Capetown.

The report deals with the annual and seasonal variations in temperature and salinity in the 0-50 metres layer of the sea over the continental shelf in the St. Helena Bay area during the seven-year period from September, 1950, to August, 1957.

It points out that the pilchard catches made in the autumn not only constituted the major part of the annual catch but also showed a variation which corresponded exactly with that in the annual pilchard catch. The annual pilchard catch was exceptionally high in 1951-52, declined in 1952/53; fell still further in 1953/54, increased again in 1954/55, and then decreased in 1955/56. In 1956/57 it was more or less the same as in 1955/56. In the last-mentioned two years the catch amounted to less than 100,000 short tons, whereas in the previous years it had always exceeded this figure.

Temperature Changes.

On a number of occasions at sea it was observed that large shoals of fish - unfortunately of unknown species but suspected to have been either pilchards or maasbankers - were present in the vicinity when the thermograph on board the Africana II registered a sharp rise or fall in temperature in the upper 10 fathoms of the sea.

The occurrence of these shoals was sometimes noticed with the aid of the records of the echo-sounding apparatus or by the presence of large numbers of diving predatory sea birds (gannets), says Mr. Buys.

"Since many of the world's largest fisheries are situated in areas where there is a confluence of warm and cold waters in the sea, with considerable differences in temperature occurring over relatively short distances, the thought occurred that the presence of such differences in and around the research area may possibly have important effects on the pilchard/maasbanker fishery.

"The formation and existence of zones in which rapid temperature changes occur may possibly serve as a barrier against which the migratory movement of the fish may be checked. The fish will then accumulate as it were in the transition area unless a stronger urge should cause them to break through the barrier."

Among Mr. Buy's conclusions from the research are that during the 7-year period the years 1954/55 and 1955/56 were relatively colder than any of the other years in so far as the temperature of the 0-50 metres layer in the routine area is concerned, The annual averages of the temperature and salinity do not show any considerable deviations from year to year. It would appear that the temperature of the upper 50 metres completed a cycle in the 7-year period.

In the outer area it appears that waters encountered in summer-autumn correspond and that they differ from those found in winter-spring. The average annual temperature variation in the upper 50 metres of the outer area is almost identically duplicated in the total pilchard catch after the lapse of one year. The autumn catch is also related to the temperature of the upper 50 metres recorded during autumn of the previous year. Mr. Buys adds that further work is necessary in order to verify these correlations over a longer period.

(The Fishing News London. January 15,1960)