FISHERIES DEPARTMENT
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STAFF NOTES

Inspector H.J. Murray is relieving in the Fremantle District during the absence of Inspector A.K. Melsom on Long Service Leave.

Assistant Inspector C.J. Seabrook is now stationed at Fremantle.

Relieving Inspector G.C. Jeffery is at present in the Bunbury District. He will commence annual leave on May 9.

Proceeding on leave this month will be Miss P. Pegrum and Cadet Inspector G. Hanley.

Cadet Inspector D. Smith, after special duties at Geraldton, has returned to Perth.

Inspector S. Stokoe is temporarily assisting on the p.v. "Kooruldhoo".

Cadet Inspector E. Barker will be stationed at Geraldton for the remainder of the Abrolhos crayfish season.

Deliveries of trout will be made to the Serpentine, Harvey, Blackwood and Gingin Trout Acclimatisation Societies during May. Technical Officer L.G. Smith will be in charge of the transport unit.

After a very successful banding programme in the Woodanilling District, Technical Officer J. Traynor has returned to the metropolitan area.

MOVEMENT OF DEPARTMENTAL VESSEL

During May, the research vessel "Lancelin", under the command of Captain H.C.W. Piesse, will proceed to Shark Bay to continue the prawn and scallop investigational work. The crew will comprise Inspector C.R.C. Haynes and Cadet Inspector R. Emery. Assistant Inspector R. McKay will carry out the duties of Technical Officer.

PERSONAL PARS

Mr. Gilbert P. Whitley, Curator of Fishes, Australian Museum, Sydney, who is well known to departmental officers for his work in Western Australia during the war years, left for the U.S.A. towards the end of March. The purpose of his visit was to attend a symposium on sharks and shark repellents held in New Orleans, Louisiana.

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Mr. E. leG. Troughton, Curator of Mammals, Australian Museum, Sydney, has retired from the N.S.W. public service. Mr. Troughton, who has been a member of the Museum's staff for 50 years, is well known for his writings on Australian mammals. His "Furred Animals of Australia" has passed through several editions.

Dr. J.M. Thomson, of the Division of Fisheries and Oceanography, C.S.I.R.O., has returned to his Cronulla headquarters after attending the international conference on territorial limits in the sea held recently in Geneva. Dr. Thomson is a graduate of the University of Western Australia.

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Dr. R.G. Chittleborough, also of the Division of Fisheries and Oceanography, has returned to Cronulla after attending a meeting in London of the scientific committee of the International Whaling Commission. Dr. Chittleborough gained his doctorate in philosophy at the W.A. University.

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Congratulations and best wishes are extended to Mr. Alan Buchanan, of Head Office, on the occasion of his engagement to Miss Robin Delaney, of Rivervale, on April 16.

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During May, Mr. V.N. Serventy will be proceeding to Shark Bay to visit Pelican Island and other islands in the area. He will be accompanied by Mr. D.G. Bathgate, the local school teacher.

FISHING VESSEL LOSSES

After an intensive air search, the missing fishing boat "Star" and the three crew members were reported to be at Dirk Hartog Island.

While anchored in Turtle Bay for engine repairs, the "Star" dragged her anchor and ran aground on an adjacent reef.

The 29-foot vessel, S.B. 47 "Star" was jointly owned by Mr. and Mrs. L. Johnson.

On Thursday, April 24, the L.F.B. F.268 "Blossom", owned by Mr. D.W. Tickle, broke away from its moorings and was wrecked at Two Rocks. Although the vessel was almost a complete wreck, the motor was salvaged. "Blossom", one of the more recent additions to the crayfishing fleet, had a length of 28 feet and was valued at £1,800.

On Monday, April 28, L.F.B. G.11 "Era" sprang a leak in South Passage, Shark Bay, and while the crew were attempting to beach her she sank in 12 feet of water. The "Era", one of the oldest fishing vessels operating off the coast, was built by the late Sir Anthony Horden in the 1880's as a racing schooner. She was sailed from the eastern States and was for many years skippered by the late Ben Green. The 68-foot vessel, which is owned by Mr. H. Heinsen, was carrying 5,000 pounds of snapper at the time of the disaster. Skipper Bill Spence and his crew were picked up by a passing vessel.

PURCHASE OF NEW RESEARCH VESSEL

The Hon. L.F. Kelly, Minister for Fisheries, recently announced that the Government had purchased the 75-foot motor fishing vessel "Haliman" on behalf of the Fisheries Department, for research and investigational work in coastal waters.

The new vessel will overcome many of the difficulties previously experienced by the 45-foot research vessel "Lancelin" and will enable the research investigational work to be greatly extended. The "Halimah" will be fitted with up to date equipment including heavier trawling gear, a small laboratory and refrigeration with sufficient space to hold all fish specimens taken during the course of investigations.

MARRON FISHING

The taking of marron is totally prohibited from May 1 to November 30 throughout the South West Land Division.

DUCK BAND RECOVERIES

Band No.	BANDING		RECOVERY		Distance Flown
	Date	Place	Date	Place	
		Black Duck			
6719	19/3/57	Bennecke Swamp, Kojonup District	5/4/58	10 miles S.E. of Wagin	25 miles
7492	4/4/58	Murapin Lake	6/4/58	Murapin Lake	--
7535	5/4/58	do.	do.	do.	--
7323	30/3/58	15 mls W. Woodanilling	30/3/58	15 mls W. Woodanilling	--
2716	29/4/58	Queen's Gardens	22/12/57	Fitches Swamp	135 "
7780	12/4/58	Murapin Lake	13/4/58	Beaufort River Bridge	7 "
7219	27/2/58	Karrinyup Lake	unknown	Butlers Swamp	8 "
7527	4/4/58	Near Murapin Lake	20/4/58	Near Beaufort River Bridge	3 "
7560	5/4/58	do.	do.	do.	3 "
6365	16/1/57	Yathroo Station	Late Feb. 1958	Hutt River	195 "
7854	4/3/58	Cape Riche	21/4/58	Mouth of Capel River	200 "
6245	15/12/56	Flagstaff Lake	unknown	Collie River	approx. 70 "

Band No.	BANDING		RECOVERY		Distance Flown
	Date	Place	Date	Place	
		Black Duck (contd)			
7322	30/3/58	15 mls W.of Woodanilling	30/3/58	15 mls W. of Woodanilling	-- miles
		Grey Teal			
4637	15/3/58	Yere Yere Station	22/3/58	18 mls W. of Laverton	410 "
3870	25/3/56	Wardering Lake	28/1/58	Dumbleyung Lake	25 "
3892	25/3/56	Wardering Lake	26/4/58	Dumbleyung Lake	27 "
		Mountain Duck			
6269	17/12/56	Flagstaff Lake	4/4/58	Mouth of Pallinup River	110 "
		White-Eyed Duck			
4248	11/2/57	Karrinyup Lake	18/3/58	Dumbleyung Lake	140 "

On pages 53 and 54 are shown the latest recoveries of duck bands. The total recoveries are now 213 black duck; 125 grey teal and 20 other - in all 359. As 5,646 ducks have been banded to date, this represents a recovery rate of 6.4%.

Advice of two outstanding recoveries of grey teal has come to hand recently. They were bands 3782 and 4637. The first bird was recovered 460 miles away 2 years later, while the second was recovered 410 miles from its banding site but only seven days after it was banded.

We have also recorded the first recovery of a white-eyed duck, banded on 11/2/57 at Lake Karrinyup and recovered at Dumbleyung Lake on 18/3/58, a distance of 140 miles.

Technical Officer J. Traynor had a very successful banding programme in the period March 28 to April 16. Total bandings were 506 black duck, 151 grey teal and 1 mountain duck. Additionally, 163 black duck and 39 grey teal re-entered the traps after having been banded.

TOMMY RUFF SEASON

The season for tommy ruff commenced in the open waters of Rottnest on May 1 with much better results than last year. The run this year has been good from Albany to Fremantle.

TAILOR AT YANCHEP

Senior Inspector J.E. Munro reported some exceptionally good fishing for tailor at Yanchep. Mr. Burnett of Yanchep Park and a companion hooked 46 between them on April 23. The biggest was 11 pounds, with several 8 pounders. Others reported catches of larger fish than usual.

PEARL STEALING CASE

On April 17, two Chinese, Chan Leung and Tsang tin Sang, were convicted at the Broome Court of Sessions of stealing a pearl, valued at £1,000. They were sentenced to 12 months imprisonment with hard labour, but are to be released to the Immigration Authorities, when arrangements for their deportation are finalised.

JAPANESE PEARLING FLEET

As a result of negotiations between the Hon. Minister for Fisheries, Mr. L.F. Kelly, and the Hon. Minister for Primary Industry, Mr. McMahon, the Commonwealth Government has announced that Japanese Pearling fleets will not be permitted to operate in Western Australian waters in the coming season on the grounds that pearling resources must be conserved. The Commonwealth Government also warned that a strict curtailment of operations in the Northern Territory would be necessary this season.

The State and Commonwealth Governments have agreed to limit the pearling fleet operating in the proclaimed waters off the Western Australian coast to 50 vessels.

SPERM WHALING AT ALBANY

The Cheyne Beach Whaling Company resumed sperm whaling with the chaser "Cheynes" on April 10, when two whales were taken. The take up to May 6 was 21 whales.

The chaser "Kos VII" is undergoing a major overhaul.

FISHING LICENSES

Inspectors are reminded that many fishing boat and fisherman's licenses for the current year are now overdue.

DUCK SHOOTING SEASON

The open season for duck shooting will close on May 31.

ABROLHOS ISLANDS CRAYFISHERY

Hereunder is a table setting out the information on the opening of the crayfish season. Due mainly to the increased intensity of fishing, production for March is a record.

AREA	MARCH 1957			MARCH 1958		
	No. of men	Total Catch	Catch per man	No. of men	Total Catch	Catch per man
		lb.			lb.	
North Island	27	101,449	3,757	25	100,690	4,027
Wallabi Island	49	187,532	3,827	63	257,754	3,091
Easter Group	63	246,283	3,909	61	278,458	4,564
Southern Group	48	150,575	3,137	41	99,158	2,418
Totals	187	685,839	3,667	190	736,060	3,873

BASIC WAGE INCREASE

Instructions have been received from the Public Service Commissioner that, as a result of the recent quarterly increase of the State Basic Wage, an increase of £3 per annum in the South West Land Division and £2 in other districts, will be paid to officers stationed in those districts. For officers in the metropolitan area, the basic wage remains unchanged.

As far as practicable, payments of the higher rate are to be made by May 22, and will back date to the court judgement of April 28.

CRAYFISH - SEIZURES OF CONSIGNMENTS

To assist in the later identification of parcels of crayfish seized and held at the various processing works, inspectors are requested to obtain a docket at the time of seizure stating the total weight of seized crayfish to be processed.

The docket should be forwarded to Head Office with the report and other forms relating to the case.

PROSECUTIONS - PREVIOUS CONVICTIONS

In a recent prosecution, the Magistrate directed that additional information must be given when citing the previous convictions of offenders.

Previously, only the dates of convictions and the amounts of the fines had been quoted. It will now be necessary to state, additionally, the sections of the Fisheries Act, or the particular Regulations which were contravened.

The required information will be sent forward when applicable from this Office to Crown Law with all future requests for prosecution and the inspectors concerned have been advised separately in respect to prosecutions pending. However, if any inspector has other cases pending and has not been advised, he should contact this Office.

ESPERANCE AREA

The Fauna Warden, Mr. S.W. Bowler, in company with Mr. R. Johnson, Pastoral Inspector, Lands and Surveys Department, inspected some of the islands of the Recherche Archipelago, from April 12 to 14. A full report on the islands inspected will be published in the Fauna Bulletin.

THE CLEARING HOUSE

Here's why Antibiotics are not yet Allowed as a Fish Preservative

An aspect of scientific research which has recently attracted special attention in the fish industry is the investigation that has been going on into the use of antibiotics in keeping fish fresher states the Fish Friers' Review of London.

There have, in fact, been calls from many in the industry, including some friers, for the Government to permit the use of antibiotics on board trawlers without any further delay, so that the industry can have immediately the benefit of this new method of fish preservation.

Risks Involved

However, although no one will deny the great advantages that would accrue if by very simple treatment fish could be kept fresh longer, there may be certain risks involved, and Government caution in matters such as this is understandable.

We have become familiar with the names of a number of the substances known as antibiotics through the spectacular success achieved by them of recent years in the treatment of illness.

Penicillin, streptomycin, aureomycin and terramycin are well known as wonder-working medicines.

Real Importance

Experiments have been carried on with these and many other antibiotics, and it has been found that two of them - aureomycin and terramycin - have the ability to slow down the rate of decay in certain foods.

The main experiments on fish preservation have been with aureomycin, which has been tested in many ways and with many varieties, and it has been found that fish kept in ice containing only five parts per million of aureomycin (that is, one ounce of aureomycin to over five and a half tons of ice) can be kept for as much as ten days longer than similar fish kept in untreated ice.

The commercial possibilities are obviously of real importance.

Unlike some other preservatives, aureomycin does not affect the appearance or texture of the fish, nor does it add any taste or colour.

With these very small concentrations of the preservative, the fish exposed to it absorbs only extremely minute quantities.

Some methods of cooking destroy the aureomycin altogether (although with deep frying there are still traces of the antibiotic left after cooking.)

Even without cooking, however, it would need several tons of treated fish to provide sufficient of the antibiotic to make up the equivalent of a normal dose administered by a doctor!

Not on Big Sale

Research has been going on in many parts of the world - particularly since in many areas there is much more urgent need than here (because of climate and malnutrition) for more effective fish preservation.

Some countries have given permission for aureomycin to be used in fish preservation, but permission has not been given on quite the wide scale that many people believe.

Canada, which allowed the use of aureomycin for the first time in the preservation of fish only a few months ago, is the first major fishing country to do so.

Previously, only some small fishing countries such as Greece, Mexico and the Philippines had given their fish industries that authority. (A number of countries have sanctioned the use of aureomycin for treating pountry and meat, but this does not necessarily mean they consider aureomycin safe as a preservative for fish.)

What are the risks?

The main one is the direct risk to people's health.

Contact with the antibiotics by the workers using them, or absorption of antibiotics remaining in food after cooking, might make people sensitive to antibiotic poisoning - or might cause such poisoning in people already sensitive to it.

Strains of disease-producing bacteria resistant to antibiotics might develop, making the antibiotics less useful as medicines.

Risk to Health

Absorption of antibiotics into the body might remove certain bacteria normally present and allow others to develop with risk to health.

These considerations are obviously well outside the province of the layman and must be left to the specialist medical scientist.

There are other risks as well.

One is that antibiotics might retard the growth of the bacteria that cause food to spoil, but at the same time allow the development of food-poisoning bacteria.

Other Risks Too

This would increase the risk of food being in a highly dangerous state while still appearing fresh.

Another risk is that after the antibiotics had been in use for a time, resistant bacteria might come to the fore (in a trawler's fish room for instance) and result in even more rapid decay than before the antibiotics were used.

With these risks, a quick decision by Government departments cannot be expected, and there is no early prospect of antibiotics being allowed for fish preservation in Britain.

The problem would be greatly simplified if the scientists could find an antibiotic that will do the job of fish preservation, but which is not used as a medicine and which has no risk of poisoning attached to it.

Britain's fish scientists, and no doubt those of other countries, are working on these lines.

For the moment, it seems as though the frying trade can do little about antibiotics beyond saying: "Yes, we are all in favour of fresher fish and we hope the Government and the scientists will do all they can to test this new method of preservation and put it into commercial use if it is really practicable and safe."

("Fish Trades Review" Sydney April, 1958.)

The Japs Have It - A Fish Sausage

Latest fish by-product is the fish sausage. A Japanese firm produces 40,000 packages a day, according to a press report, and it intends to increase the daily capacity to 100,000 packages. The composition of the fish sausage is not revealed, but it is said to have a fish content of 86 per cent.

("The Fishing News" London April 4, 1958.)

Russians Fish with Pumps

Attracting fish by underwater light into dense shoals, then sucking them up by a fish pump has been successfully carried out by Russian fishermen in the Caspian Sea.

This development was started in 1951. In that year, 170 commercial fishing vessels were engaged in underwater light fishing, with a total catch of 170,000 cwt. By 1956 the fleet had grown to 450 and the total catch was 1,500,000 cwt. Eleven ships equipped with pumps caught a total of 100,000 cwt.

Before 1954 the fish - kilka, including its anchovy form which is the most abundant fish of the Caspian Sea - were caught with a cone-shaped net.

The reason why kilka and many other fish are attracted by underwater light has not been established, and there is some controversy on the question. One view is that the attraction by light is a feeding reflex.

Daylight acts as a stimulus for an unconditional feeding reflex. In the dark an artificial light will produce the same effect - stimulating a feeding reaction and inducing the fish to swim toward the source of light.

This is confirmed by a marked increase of the catch before dawn, when the feeding reaction becomes stronger and the approach of the fish to the source of light more intense.

Kilka will not approach a source of light placed above or beneath the level of optimum temperature, and all attempts to induce them were unsuccessful.

The electric lamps are enclosed in watertight fittings, and emit a flow in all directions. The size of the lamp is very small in relation to its range of action.

There is some evidence that the density of kilka tends to decrease near a lamp with too great a brilliancy.

Fish enter the field of light some seconds after the underwater light is turned on. They approach close to the light, even brushing against the lamp. Commercial quantities are formed in two to five minutes.

"Kilka approaching the critical zone try to get away. If the shoals are sparse some fish do escape, but when the concentrations are dense the foremost fish are prevented from swimming away by new arrivals who push them into the critical zone."

A nozzle with a sloping shear, which increases the area of the intake aperture has been devised for the suction pump.

("The Fishing News" London March 14, 1958.)

Wealth in the Sea

There is fabulous wealth in the sea apart from the fish which fishermen hope to catch.

Did you know that the whole surface of the globe comprises about 197,000,000 square miles. Of this, the land contains about 52,000,000 square miles, leaving the water, or sea, to take up about 145,000,000 square miles. So the proportion of water to land is 36 to 13, or approximately 3 to 1.

Every gallon of sea water contains 5.3 ounces of dissolved solids, of which all but half an ounce is common table salt, including of course tinctures of many known and unknown chemicals.

Waters of the seven seas have a content of 1500 tons of radium worth billions! A cubic mile

of sea water contains more than $93,000,000 in gold, $8,500,000 in silver, and $60,000,000 in iodine. We all know that such is in the sea but no one knows how to take it out!

("Western Fisheries" Vancouver, B.C. March, 1958)

New Norwegian Plastic Floats Claimed Toughest Most Buoyant Ever Made

A new type of fishing float, made in Norway of a specially-developed plastic material, is being introduced in Canada by Canor Plarex Industries Ltd., Vancouver and Montreal.

The complain claims that "Plarex" floats are tougher and more buoyant than any other type of float on the market, cork or plastic. They can withstand pressures of depths to 500 feet without distortion, and can stand great mechanical stress. They are said to be unbreakable.

The floats are presently sold in all commercial sizes, both egg-shaped and cylindrical. Two types are offered, one for deep-sea fishing, where the ability to withstand great pressures is of major importance, and one for surface fishing, where buoyancy and toughness are the most notable attributes.

"Plarex" floats are able to fish at depths of 500 feet, where formerly only glass or aluminium floats could be used. They have been used for three years in the Norwegian fishing fleets, and are exported to a number of the larger fishing countries of Europe. They resist chemical action of such agents as lubricating oils, acids, solvents, etc.; they can withstand great extremes of temperature, and they cannot be broken by mechanical means.

The "Plarex" Deep Sea floats are recommended to depths of 480 feet with no loss of buoyancy. At 570 feet the loss of buoyancy is approximately 10%. After being used at such depths, water

absorption of the floats amounts to 1 to 2%, which is water attached to the surface of the float only. This dries up rapidly.

The "Plarex" surface float is recommended down to approximately 200 feet. The float has very good properties down to 300 feet, but at this point it suddenly loses about 40% of its buoyancy, and sinks.

Prices of the "Plarex" surface floats are competitive with other plastic floats. The Deep-Sea Floats, which are unique in their field, are only slightly higher in price than the surface floats.

("Western Fisheries" Vancouver, B.C. February, 1958.)

Canned Shellfish Discoloration

The discoloration of canned shellfish appears as a faint grey or brownish tint. In very bad cases, blue or nearly black colors may be found. Off-flavors are seldom found in connection with discoloration.

The fact that discoloration is most common in canned lobster indicates that the copper content is the agent responsible for the change of color. Copper combines with amines present in the shellfish meat forming a blue compound. The major part of the copper content can be removed by shelling and rinsing the shellfish. This provides some security against discoloration. The most important measure, however, is the addition of sufficient acid to the brine. Excessive amounts of acid, however, may damage the can. The can material may cause discoloration through blackenin. It is therefore, advisable to use parchment linings in the case of tin plate cans, even when these are treated with sulphur-resistant lacquers. Linings are unnecessary in aluminium cans.

("Western Fisheries" Vancouver, B.C. February, 1958.)

Bucketed Scientists Peek at Tuna in Their Feeding

Feeding behaviour of tuna is studied under water by scientists of Pacific Oceanic Fishery Investigations, working in the safety of a submerged "bucket" with an underwater breathing device.

This equipment, currently being used in studies from the research vessel C.H. Gilbert, appears to offer great promise as a research tool in studying the feeding behaviour of tuna and their reaction to various baits and lures.

POFI scientists designed an observation "bucket" which is suspended about 8' below the surface of the sea near the stern of the vessel. A scientist climbs into the bucket, using an underwater breathing device, and sits in safety, if not comfort, while tuna are being chummed to the vessel. The present apparatus permits the investigator to remain underwater in the observation post at speeds up to about six knots. Underwater vision is good. In clear offshore water the observer can see for about 180' on a vertical and horizontal plane.

Numerous tuna schools were observed during preliminary trials with the apparatus, and the men were able to make comparative observations on the behaviour of tuna tagged by POFI dart tags and the type G tags developed at California. Almost invariably tuna tagged with the dart tag return to the school and in most instances recommence feeding on the chum thrown from the vessel. In contrast to this, skipjack tagged with "spaghetti" tags usually appear somewhat distressed and have not been seen to rejoin the parent school. Very likely this is related to the additional handling required and to the somewhat more severe wound caused by the spaghetti tag.

Observations have dispelled one of the hoariest myths in the Hawaiian tuna fishery, that the local anchovy is a successful tuna bait because when thrown in the water it returns to the stern of the

vessel, drawing the skipjack within fishing range. Quite the contrary, the Hawaiian anchovy or "neuh", leave the vessel with all possible haste. This behaviour pattern is followed when there are no skipjack in view and when there are skipjack actively feeding on them.

("Pacific Fisherman" Portland, Ore. October, 1957)

First Marine Transistor Radiophone Introduced

The first marine transistor radio-telephone has been introduced by Aerosonic Corp. of Clearwater, Fla. The major feature of the new type phones is their negligible battery consumption.

The Aerosonic set will receive continuously, 24 hours a day, for a year on a standard 12-volt battery. Conventional sets would give less than a week of reception on the same battery.

Transmission uses from 20 to 50 percent of the power of conventional sets. Transistors and tubes are used in transmitting; receiving is all transistor.

The four-channel 20-watt model, expected to be the most popular, transmits 50 to 70 miles. It offers one ship-to-shore, two ship-to-ship channels and one for calling and distress.

Double Rigged Shrimpers in Gulf of Mexico

The double rig, known as the "Texas" rig, has produced good fishing results. The double rig shrimper tow two smaller nets instead of one large trawl. In order to accomplish this, the outriggers are lengthened and a large towing block is placed on the end of each outrigger. Many Gulf fishermen feel the double rig produces more shrimp and cuts down the cost of net loss.

("Pacific Fisherman" Portland, Ore. March, 1958.)