FISHERIES DEPARTMENT, WESTERN AUSTRALIA

MONTHLY SERVICE BULLETIN

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STAFF NOTES

The Clerk-in-Charge (Mr. B.R. Saville) returned to Perth on March 2, after an inspection of crayfish processing works and grounds at Lancelin and Ledge Point.

Inspector N.E. McLaughlan, of Shark Bay, will marry Miss Sylvia Stephen at St. Andrew's Church, Perth, on April 28. Mr. McLaughlan will be on annual leave from April 23 to May 13.

Our congratulations are extended to Mr. Ian Bartholomew, of Head Office, who recently became engaged to be married to Miss Dorothy Morrison, of Highgate. Mr. Bartholomew will commence annual leave on April 16.

Cadet Inspector L.W. Duncan resumed duty after sick leave on March 19. He is stationed at present in the metropolitan area.

Inspector J.L. Gallop commenced three weeks' annual leave on March 26. During his absence Relieving Inspector A.K. Melsom is in charge of the Bunbury district.

Assistant Inspector T.B. Baines resumed duty after annual leave on March 26.

Assistant Inspector M.J. Simpson will commence three weeks' annual leave on April 3.

Technical Officer J.S. Simpson and Fauna Warden G.C. Jeffery visited the Shoalwater Bay fauna sanctuary on March 27 and erected notices on Shag, Seal and Bird Islands. No nesting was taking place at that time. Later they went to Thompson Lake, another fauna sanctuary, and took water samples and temperatures as it was thought that this Lake might be suitable for planting with trout.

Technical Officer J. Traynor visited the Dumbleyung district and Wardering Lake (south-west of Wagin) during the month on duck banding expeditions.

SALE OF WHALING STATION

Considerable space has been devoted by the local press to the proposed sale by the Commonwealth Government of the Australian Whaling Commission's whaling station at Carnarvon. At the time of this issue going to print no decision had been announced, but the Premier (Mr. Hawke) had revealed that the State Government had made an offer to the Commonwealth to purchase the station for £620,000, payable in five annual instalments. Mr. Hawke said that a departmental committee, led by the Under Treasurer (Mr. H.W. Byfield) had furnished a report on which Cabinet's decision was based. The Superintendent (Mr. Fraser) was a member of the Committee. The Premier added that if the offer were accepted, all profits received would be spent on the development of the North-West.

As the whaling season opens on May 1, early advice as to the disposal of the station and its three whale chasers is expected.

FURTHER INTERESTING ARTICLES AVAILABLE

As was forecast in the previous issue of this Bulletin, another list of useful articles appearing in publications received in this office is reproduced below.

Any inspector interested in any of the articles may borrow the periodical provided that he looks after it and returns it reasonably promptly.

(7) "Fish Sticks by Modern Methods" - "Fishing Gazette", New York, December 1955.

(8) "Duck Shooting for Beginners" - "Outdoors and Fishing", Sydney, March 1956.

(9) and (10)
"Trial Grounds for New Ideas" and the "Larsen Wing Trawl" - "Fishing News", London, January 13, 1956.

(11) "Failure of East Anglian Fishery" (Part 2) - "World Fishing", London, February 1956.

CONVICTIONS RECORDED

January 1, to March 31, 1956

Date	Defendant	Court	Charge	Result
8.3.56	Reading, W.	Bunbury	Fishing in closed waters	Fined £5
do.	Reading, L.	do.	do.	" £5
do.	Reading W.	do.	No license	" £2
do.	Reading, L.	do.	do.	" £2
26.1.56	Lombardi, V.	Carnarvon	Obstruction	" £15
do.	Colica, P.	do.	Unlawful Net	" £5
do.	Lombardi, M.	do.	do.	" £5
do.	Lombardi, V.	do.	do.	" £5
6.3.56	Coughlan, Jack	Harvey	Undersize Marron	" £2
do.	Fleece, J.	do.	do.	" £2
do.	Davies, W.	do.	Fishing in closed waters	" £5

Date	Defendant	Court	Charge	Result
6.3.56	Francis, R.J.	Harvey	Undersize Marron	Fined £2
15.2.56	Burrowes, B.	Perth	Undersize Crayfish	" £2
do.	Byllemos, L.P.	do.	do.	" £2
do.	Wilson, R.	do.	do.	" £3
do.	Hugill, D.	do.	do.	" £3
7.3.56	Brown, J.	Pinj'a	Undersize Fish	" £2
do.	Watts, E.L.	do.	do.	" £2
do.	do.	do.	do.	" £2

PROPOSED NATIONAL PARK

The Chief Warden of Fauna (Mr. A.J. Fraser) accompanied by the Chief Vermin Control Officer (Mr. A.R. Tomlinson) and the Fauna Protection Officer (Mr. H.B. Shugg), left Perth on March 20 for an inspection of the country surrounding Lakes Clifton and Preston, and to attend meetings with local authorities to discuss a suggested national park and flora and fauna reserve between Mandurah and Bunbury. Mr. Tomlinson, besides attending as a member of the Fauna Protection Advisory Committee, was also interested in obtaining the reactions of the local vermin boards to the proposal.

After meeting the Mandurah Road and Vermin Board the party was taken on an inspection of the recently subdivided areas known as Dawesville and Miami beaches.

An inspection was made of the area between the old Fouracre property (in the Drakesbrook district) and Leschenault Inlet. Diversionary trips were made to

Preston and Binninjup Beaches on the coast between Lake Preston and Leschenault Inlet.

A meeting was held with the Harvey Road and Vermin Board. Members expressed interest in the proposed park.

The visitors attended a lively meeting at Waroona called by the Drakesbrook Road Board at which interested farmers were present.

After a discussion with representatives of the Murray Road Board the party returned to Perth on March 23.

The Chief Warden explained to each board concerned that at the present no definite plan had been formulated, but that what the Department had in mind was to amalgamate existing reserves and, as the opportunity arose, to repossess undeveloped contiguous areas so that a national park of a large area could be set up representative of the types of country, flora and fauna to be found in the area, for the enjoyment of future generations and for scientific soil, botanical, zoological and allied research.

The only opposition was expressed at the meeting at Waroona and even then it appeared that most of the objections were raised by a minority group, albeit a vociferous one. The other three boards supported the scheme in principle.

If Governmental approval is obtained, a detailed plan will be drawn up and submitted to each board for its constructive criticism.

AUSTRALIAN FISHERIES PRODUCTION

In response to an invitation by the Australian Broadcasting Commission to comment on a recently broadcast statement by the newly appointed Federal Minister for Primary Industry (Mr. McMahon) the Minister for Fisheries for W.A. (Mr. Kelly) has issued a statement to the A.B.C.

The text of the broadcast attributed to Mr. McMahon is as follows -

"The Minister for Primary Industry, Mr. "McMahon, hopes to see the production of fish in "Australia increased greatly both for home con- "sumption and for export.

"Mr. McMahon was recently appointed to "the new portfolio of Primary Industry, which "covers Fisheries.

"He says Australia's catch is not at "present keeping pace with the growing population. "Normally about half the fish consumed in Austra- "lia is imported, but the recent restrictions on "imports include fish.

"Mr. McMahon says there are trawling grounds "in the Great Australian Bight not now worked which "could yield good hauls."

The following is the full text of Mr. Kelly's rejoinder -

"The Minister for Fisheries for W.A. (Mr. "Kelly) agrees with Mr. McMahon that increased "production of fish in Australia is most desirable. "In Western Australia great strides have been made "in the ten years since the war. Our overall pro- "duction has increased from 3¼ million lb. in the "12 months ended June 30, 1945, to 20¼ million lb. "in the 12 months ended June 30, 1955. During the "year ended June 30, 1945, our production was merely "5.4% of the Commonwealth total. Two years later "it rose to 6.8%, then two years later still to "13.2%. At the end of each subsequent biennial "period it was 18.2%, 17.8% and 21.6% respectively. "Whereas during those ten years the total Common- "wealth production increased by 57.0%, the "fisheries production of Western Australia rose by "528.0%; the fishery is still a stable one, and "there has of course been no difficulty in dispo- "sing of the augmented catch.

"The recent formation of a Japanese "company to exploit the tuna resources of the "Indian Ocean is most perturbing, Mr. Kelly says. "If the Commonwealth Government is as anxious as "Mr. McMahon suggests that our fishery resources "be exploited to the full, it should do something "to ensure that the Japanese fleets are not

"allowed to fish these waters on their own. The "Commonwealth Government has almost unlimited "finance at its disposal, and should assist Aus- "tralian fishermen to provide boats and equipment "to meet the Japanese infiltration.

"By the same token it could find money "to assist in the establishment of a fleet of "trawlers for the waters of the Bight. This area "was tested commercially a few years ago by traw- "lers financed by the State Government and found "to be suitable for trawling with modern vessels.

"Elsewhere in the world national Govern- "ments are doing everything in their power to "develop their fisheries. They make finance "available to fishermen, they establish fishermen's "training schools, they provide cheap insurance "for fishermen, and they maintain fleets of vessels "to prospect new fisheries.

"But Mr. McMahon's Government is evidently "not prepared to do anything of so positive a "nature. The development of industry, it has told "us before, is a State function, and the State must "find the funds for any such undertaking. The "Western Australian Government unfortunately just "has not the funds to spare."

The table on page 47 is illuminating. It sets out the overall production of fish in the States and the Commonwealth during each of the years ended June 30, 1945, to June 30, 1955, inclusive. It certainly seems as if Western Australia is playing her part.

ESTUARINE RESEARCH PROGRAMME

The research programme being conducted conjointly by this Department and the Division of Fisheries and Oceanography, C.S.I.R.O., is progressing smoothly, reports Technical Officer L.G. Smith, who is in charge of the field work carried out by this Department.

Fishermen and fishermen's co-operatives are giving every assistance in this work which aims at

finding the growth rates, spawning age, body characteristics and feeding habits of our estuarine stocks. Twenty specimens of each species were forwarded to Cronulla for examination in the early days of the programme and since then regular samples of stomachs, scales and gonads have been secured and railed to C.S.I.R.O. headquarters. The programme is scheduled to be completed in November of this year.

In conjunction with this work, Mr. Smith adds, a certain amount of tagging has been carried out. Last January, for instance, assisted by Inspector J.L. Gallop, he marked 53 black bream, 2 yellow-eye mullet and 7 kingfish with the Department's own internal tags. One of these fish was subsequently recovered about a mile from where it was tagged at the brewery bank, Leschenault Inlet, Bunbury.

A very encouraging feature observed by Mr. Smith during his field work was the number of small black bream now in our estuaries. He says they are particularly noticeable at Bunbury, where they have appeared in thousands and become a pest to net-fishermen. Possibly the very wet season drove them from our eastern rivers, such as the Oldfield, to other estuaries. The floods opened up various rivers to the sea along the south coast that had been closed for years and probably released their stocks. Whatever the cause, the future prospects of our black bream fishery look bright indeed.

A NEW CANNERY

Inspector S.W. Bowler reports that a small fish cannery has commenced operations in the Mandurah district. Operated by two local professional fishermen, Messrs R.L. Dawe and A. Woods, it is at present located at Mr. Dawe's residence in Tuckey Street, Mandurah, but will move to a site on the Harvey Estuary when buildings now being erected there are completed.

Mr. Bowler says that in an interview with Mr. Dawe, he was informed that about 500 twelve-ounce cans of fish have already been processed. The main species to be canned, it is understood, will be mullet, yellow-eye mullet and Perth herring.

AUSTRALIAN FISHERIES PRODUCTION, 1945-1955*

State	Year Ended June 30,										
	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
	'000lb.	'000lb.	'000lb.	'000lb.	'000lb.	'000lb.	'000lb.	'000lb.	'000lb.	'000lb.	'000lb.
N.S.W.	28,050	32,210	34,140	34,000	32,250	31,470	28,935	28,000	33,940	34,400	29,020
Victoria	10,360	12,000	11,400	12,000	13,610	12,100	11,245	10,750	11,550	12,210	11,100
Q'land	6,930	10,550	10,760	10,500	10,400	10,420	9,270	9,960	11,660	10,780	11,750
S.A.	4,600	6,350	5,930	6,000	7,800	9,000	8,350	10,000	10,750	11,200	10,800
W.A.	3,240	4,710	5,100	9,000	12,080	12,600	15,950	15,170	16,600	19,360	20,350
Tasmania	6,710	9,300	7,470	15,000	15,190	11,000	13,600	8,550	8,430	9,070	11,160
C'wealth	59,890	75,120	74,800	86,500	91,330	86,590	87,350	82,430	92,930	97,020	94,180
% of W.A. to Commonwealth	5.4%	6.2%	6.8%	10.4%	13.2%	14.5%	18.2%	18.4%	17.8%	19.9%	21.6%

Commonwealth production over 10 years has risen by 57.0%; Western Australian production has over same period increased by 528.0%

* Sources of information - Fisheries Newsletter; Commonwealth Year Book.

FISHERIES REGULATION 13 (PRIORITY AMONG NETTERS)

In view of the widespread interest created by recent litigation concerning the rights of priority as between net-fishermen working on Cheyne Beach, we published in the January-February, 1956, issue of this Bulletin the full text of the Chief Justice's judgment in the matter. It will be remembered that Sir John Dwyer questioned the validity of certain aspects of regulation 13. At the same time he did not actually hold that the regulation was ultra vires, and in an endeavour to straighten the matter out, an opinion was sought from the Crown Law Department.

The Solicitor General (Mr. S.H. Good, Q.C.) has now gone very thoroughly into the matter, and for the information of the staff we publish a resume of the advising he has given us.

To refresh our memories let us first examine sections 6 and 39 of the Act. The power to make regulation 13 is contained in section 6, which provides that regulations may be made for (inter alia) "the general regulation of net and line fishing ..... as well in regard to modes, places and times of usage as in all other respects." The section in question goes on to say that the regulations "may provide for their enforcement by the imposition of a penalty not exceeding in any case the sum of fifty pounds and the forfeiting of nets, lines, implements, or appliances used and fish taken in breach of such regulations."

Section 39 provides that the Governor may, subject to certain conditions, grant to any person a license "to the exclusion of all other persons" to take from any waters any "marine animal life or product of the sea" not being a fish mentioned in the Second Schedule (Minimum Legal Lengths).

Regulation 13 says, among other things, that during his turn a fisherman shall have exclusive right to the ground where he remains for a period not exceeding 24 hours, and that any fisherman suffering loss from a breach of the regulation may, with the Minister's authority, take legal proceedings at his own expense.

It was these two provisions in regulation 13 to which the Chief Justice took exception. The Solicitor General advises to the following effect.

(a) On beaches where difficulties have arisen the fishermen concerned are principally taking salmon, a fish mentioned in the Second Schedule. Only the Governor, says Mr. Good, may grant an exclusive license, and then not for salmon. It seems to be doubtful, on a proper interpretation of sections 6 and 39, whether power exists to grant an exclusive right to take scheduled fish on any fishing ground. At the same time Mr. Good thinks it may be possible to recast the regulation to impose obligations which may go some distance towards achieving the desired result.

(b) In regard to His Honour's question whether the present regulation can confer a "private personal right enforceable by an individual fisherman, or whether the result of a breach of its provisions is no more than subjection to the penalty prescribed," the Solicitor General says that the general rule of law is that where an Act creates an obligation and enforces its performance in a specified manner, then performance cannot be enforced in any other manner. But this is subject to exceptions. For example, if an Act creates a duty and is for the benefit of particular persons or a particular class of persons, then it is usually inferred that such persons may sue civilly for a breach of the statutory obligation. If, therefore, regulation 13 had been a section of an Act, he thinks the private right would have been conferred. However, the obligation created by regulation 13 is not an obligation created by an Act, and the only sanctions which can be imposed are those indicated by Parliament, i.e., the penalty and forfeitures already mentioned. If therefore it is desired to confer civil rights, amending legislation will be necessary.

In all the circumstances, seeing Parliament is not expected to re-assemble for some months, further consideration of the desirability or otherwise of amending the regulation, and the Act itself, is being held over for the time being.

STORM DRIVEN BIRDS

For the first time since 1917, a white-winged black tern (Chlidonias leucoptera) was recently recovered in the South-West.

Following a report that rare birds had, after the cyclone in March, been observed at Mandurah, the Director of the W.A. Museum (Mr. L. Glauert) despatched Messrs A.M. Douglas and W.H. Butler to investigate. The party obtained the specimen of the tern referred to and also recovered another less-rare visitor, a fork-tailed swift (Mycrocus pacificus).

Mr. Glauert said that the white-winged black tern was found in southern Europe and Asia and that it normally migrated to Africa and to the islands north of Australia. It had only rarely been recorded in our State. The last previous report of its occurrence had been from Broome in 1945. Last month, however, the cyclone must have brought them far south of their normal range, and an unconfirmed report from Honorary Warden W.C. Ford mentioned 200 of them on Bibra Lake in the Spearwood district.

The fork-tailed swift was usually seen on the Western Australian coast once or twice a year, Mr. Glauert added, but now this species was being reported in thousands.

MULLET AND PRAWNS AT MANDURAH

Production of mullet in the Mandurah district this season has been exceptionally good, reports Inspector S.W. Bowler.

Following excellent catches in December and February, when the landings totalled 31,660 and 31,014 lb. respectively, production in March reached 41,699 lb. The previous highest monthly total was in November, 1951, when 23,722 lb. was recorded.

Although not a record, the prawn season just concluded was one of the best since the war, Mr. Bowler added. The total take by professional fishermen

of 30,517 lb. over an eleven-week period was very satisfactory, and Mr. Bowler considers that, by the large number of amateur net fishermen operating, the total catch of greasy back prawns must have exceeded 70,000 lb.

King prawns, he says, are becoming more evident and should, on present indications, lead to a good season during April and May.

PEARLING

The tables on page 52 show the production of pearlshell in the Broome area for the last four years, together with other statistics associated with the industry. Although production today is only about half what it was 50 years ago, when 300 boats were operating, the 1955 production figure is a record for the post-war period.

From 1947 to 1952, the take of shell fluctuated between 264 and 334 tons per annum, and the industry appeared to be waning mainly because of the lack of experienced divers. In 1953, however, the first contingent of Japanese pearl fishers arrived in Broome, coincidentally with an increase in the number of Chinese and Malays in the industry. A rapid rise in production resulted. The number of employees continued to rise during the next two years, and in 1955 was almost twice the 1952 total. One hundred and seventy-three additional men had come in. One hundred and four of these, or 60%, were Japanese, of whom 52 were experienced divers. The induction of these additional competent operatives gave the pearling industry a much needed shot in the arm. Production of shell in 1955 more than doubled the 1952 take, and as the price is expected to be about the same as last year, when it averaged £635 a ton, the value of last year's output is expected to exceed that of 1952 by more than double.

The percentage rise in production has largely kept pace with the percentage rise in the number of men employed, but there is nothing to indicate that this increased fishing intensity has had any damaging effect on the fishery. Of course statistics do not, and cannot, indicate any intangibles which may seriously affect production, such as weather conditions and the efficiency of men and equipment. It was probably due

NATIONALITIES ENGAGED

Asiatics :	1952	1953	1954	1955
Chinese	20	46	72	57
Malays	61	66	78	76
Filipinos	2	2	1	1
Indonesians	44	37	28	32
Japanese	-	38	39	104
Total ...	127	189	218	270
Other :				
Whites	5	14	11	19
Aborigines	43	58	72	59
Total ...	48	72	83	78
GRAND TOTAL ..	175	261	301	348
% of Japanese	-	14.6	13	29.9

	1952	1953	1954	1955
Average Catch per Boat (tons)	15.37	17.44	19.46	19.25
Average Catch per Man (tons)	1.67	1.67	1.81	1.77

Year	Pearl Shell			Men		Boats
	Production					
	tons	incr. or decrease	Value	No.	increase or decrease	No.
			£			
1952	292	-5.2%	170,382	175	-12.9%	19
1953	436	+49.3%	276,310	261	+49.2%	25
1954	545	+ 25%	346,065	301	+15.3%	28
1955	616	+ 13%	*392,717	348	+15.6%	32

* Estimate Only

to causes of this nature that the catch per man and the catch per boat fell away slightly in 1955 compared with 1954.

According to a press release early last month, a complete lugger crew of Greek sponge fishermen arrived in Broome and will join the pearling fleet. Co-operating with the Commonwealth Government, which brought the Greeks to Australia, the Broome Shellers' Association has agreed to absorb the Greeks into the industry for a trial, although a similar experiment at Darwin in 1954 was a failure.

The Association intends to give these ex-sponge divers every assistance and has made a fully equipped lugger available to them for the current season, which they will work for themselves on a co-operative basis. As the men had been specially selected for the work ahead of them, and are said to be experienced dress divers, it is hoped that they will quickly adjust themselves to the different conditions encountered in shell diving in our northern waters. However, whether they will be able to attain, or increase, the present average production will be an important and interesting point to watch.

THE AFTERMATH

The cyclonic depression, which early last month moved down the coast from the north, left an emotional depression in the hearts of many people in Geraldton. In four hectic hours of tearing winds and tumultuous seas, damage estimated at £100,000 was suffered, reports Inspector B.A. Carmichael.

While the overall damage to property was severe, the fishing fleet fortunately escaped or weathered the worst of the blow, says Mr. Carmichael. He estimates that if the fleet had been in Geraldton harbour instead of at the Abrolhos, about one-third of the fishing fleet would have been lost. The harbour actually offered little shelter to the craft moored within it, as may be realised from the fact that two heavy ships, the "Charon" (10,000 tons) and the "Cape St. David" (15,000 tons), were extensively damaged, despite all possible preventive measures, by being buffeted against the wharf.

Fishing vessels suffered damage to the extent of approximately £1,700 only. The individual losses were :-

In Geraldton Harbour -

G. 126, L.F.B. "Shirley, skippered by r. W. Bradley, £600. She was pounded by a drifting piledriver onto the rocks and smashed to pieces - the engine was recovered.

G. 38, L.F.B. "Islander", skippered by Mr. R. Sweett, £50 to £60. This boat was riding on the rocks for some time before it could be secured and dragged to higher ground.

G. 101, L.F.B. "Roma", skippered by Mr. A. Valenti, £80. A pleasure launch smashed in the ribs of this craft, causing her to sink. She was towed ashore and repairs have since been completed.

G. 111, L.F.B. "Wild Rose", skippered by Mr. R. Worthington, £200. She sank in shallow water and was a complete loss except that her engine was salvaged.

At Rat Island -

A 16' scooter boat, owned by Mr. L. Kannikoski, sank at her moorings but was recovered and no loss incurred.

At the Wallabi Group -

G. 97, L.F.B. "Lesley", skippered by Peter Landon, £750. It is believed that this craft sank in deep water and was a complete loss.

The fury of the storm can be imagined, Mr. Carmichael points out, by the fact that the breakwater at Geraldton was awash and completely submerged from view, therefore providing very little protection to the boats anchored inside. From the beach (or, as he says, from the area that <u>was</u> the beach) several attempts by

worried and harassed fishermen and private boat owners to launch dinghies proved completely unsuccessful, and men had to swim out to their drifting launches and boats in the attempt to secure or beach them.

The m.v. "Trimmerwheel", skippered by ex-inspector Fred Connell, was caught in unprotected waters at North Island and had to keep her engines running half the night to keep some of the strain off her anchors. The next day, while returning to Geraldton, she ran out of fuel, and had to anchor until Mr. G. Travia brought emergency fuel supplies on the "Lady Joyous."

An 18' fishing boat, G.118, with two men on board - Michael Kijenna and Adolf Nowochoki - suffered a fuel blockage while being escorted with other boats, by the "Dawn" to Rat Island and had to drop out of the little convoy. When the straggler did not arrive at Rat Island some time later, the "Dawn" commenced a return journey on the same route but found no trace of her. The next day a message was received from the Southern Group (approximately 20 miles south) that she had arrived there during the afternoon after having had a night out in the open sea. The two men on board had estimated their position when the sun came up and decided that with a limited fuel supply it would be safer to make for the Southern Group, towards which they had apparently drifted during the night.

MOVEMENTS OF THE "LANCELIN"

Prewarned of the approach of the cyclone our research vessel was anchored in comparative safety in Wapet Creek, Exmouth Gulf, when the storm hit. Reporting to the Superintendent on damage suffered, Captain H.C.W. Piesse advised that the vessel escaped serious harm and that he and his crew were safe and well, although losses of personal gear and stores were not inconsiderable.

The "Lancelin" subsequently departed from Onslow on March 29 to resume the prawn survey in waters northward beyond the Montebello Islands. It is anticipated that she will return to Onslow about April 4, and after refuelling continue research investigations on her way to Fremantle where she is expected to arrive in May.

DUCK BANDING

Duck banding continued apace during March, reports Technical Officer J. Traynor, who is in charge of the field work of this research programme. Two hundred and fiftythree ducks were trapped and marked, bringing the total number of ducks banded since the inception of the scheme (in June, 1952) to 2959. Of the birds banded in March, 27 (all black duck) were trapped at Queen's Gardens, 26 (8 black duck and 18 grey teal) were trapped in the Dumbleyung district and 200 (of which only 5 were black duck and the remainder grey teal) at Wardering Lake in the Woodanilling district.

Recoveries : Only 5 bands were returned during the month and, as shown below, 4 were from black ducks and one from a pink-eared duck. The latter was the first band to be recovered from this species, which is not surprising as only 4 have been banded. Two of the rings recovered from black ducks were from recently banded birds - one had only been released 11 days prior to its recovery a few miles away. It had died from the effects of a body shot, but where this had happened it was impossible to say.

Band No.	Date Banded	Place Where Banded	Date of Recovery	Place Where Recovered	Distance Travelled
			Black Duck		
3762	2.3.56	Queen's Gardens	13.3.56	Como	3 miles
2629	9.4.54	Lake Karrinyup	13.3.56	Monger's Lake	5 "
3569	21.2.56	Kewdale	11.3.56	Gundaring Lake	130 "
2472	5.3.54	Wardering Lake	25.2.56	Wellesley River	90 "
			Pink-eared Duck		
2307	10.2.54	Cook's Farm Moora	25.2.56	Cook's Farm Moora	---

THE CLEARING HOUSE

Phosphorescence in Water Explained by Scientists

American oceanographic scientists recently cleared up the mystery of what causes phosphorescence in sea-water.

It is due, they say, to the manufacture of light by animals and microscopic organisms. For a long time the problem of phosphorescence remained unsolved, and was merely a matter of speculation.

The generation of the light involved a complicated chemical reaction. Light is produced as a result of the slow burning of a substance called luciferin present in minute marine animals. When this compound combines with oxygen, light is produced. The reaction can be compared to the burning of a candle, but the energy produced takes the form of light only. This type of light is unusual, since it is a cold light with no heat at all.

The phosphorescence in the water is probably due to bacteria and single-celled microscopic organisms. However, the production of "cold" light in some form is not restricted to these forms. It is also known in sponges, jellyfish, corals, marine worms, clams, snails, squids, insects, starfish, sea squirts and other small fishes.

("Western Fisheries" Vancouver B.C. January, 1956)

Why Seaweed is Not a Weed

The weeds in your garden are of no commercial use, but seaweed has many uses, other than something that fouls up your net, trawl, seine and your disposition.

Cosmetics or the shaving cream you use on your face may have been made from a byproduct of seaweed. In the cream or cheese you eat to improve its texture and better able to withstand temperature changes. It has long been used to make candies, jellies,

soups, sauces: a substitute for egg white; for sausage casings, soap, hand lotions, curling fluids and sunburn lotions.

Dental compounds and high-grade adhesives; electroplating of lead, and the sizing of paper; manufacture of batteries, paints, photographic materials, tobacco, emulsion stabilizer, thickening agent, and from a seaweed base comes many products in the drug, pharmaceutical, textile, printing, rubber, metal, cold water paints, agricultural spray, food and paper industries.

From medicinal agar come pill excipients, oilment bases, glyserol substitutes and laxatives.

Down through the centuries agar-agar has been used as foods in the Orient.

So after this you will have more respect for our humble seaweeds, which are not useless weeds.

("Western Fisheries" Vancouver B.C. January, 1956)

Fish is Not a Brain Food

Fish is not a brain food but we hasten to add that it is a good food to keep you nourished and in good health so that what brains you have will work better.

To suggest that fish is a brain food would be selling you a line of goods under false pretences. No form of food known to man will give him more brains or build up a deficiency in this respect. In the matter of brains, you have to accept what God gave you and do the very best with what you have.

In many other respects sea foods will perform miracles.

Sea foods on the average are the most digestible of foods and ideally adapted for bodily assimulation by man. No poor fish ever gets so tough as some of those range steers you run into.

We will let you in on another secret. Did you know that man cannot exist for three months in perfect health without the essentials contained in sea foods. Without charging you any more per pound our fishes assimulate these essential chemicals from the sea, all for free and you know what you have to pay in the drugstore for substitute drugs. Fish extract iodine from the sea to prevent you contracting goitre: oysters extract copper from the sea to enrich your blood stream. Also calcium, phosphorous and iron to keep your bones and flesh intact, even fluorine and ansenic for your fingernails, as well as vitamins you require from A to D. We cannot divulge all the other benefits you derive or fishermen would require more for their fish and the government would impose a tax on food with such high drug content.

You had better rush out right now and buy yourself some fish. Brother! You need it!

("Western Fisheries" Vancouver B.C. January, 1956)

Antibiotics Used to Preserve Whales

Following successful experiments in the use of aureomycin in retarding spoilage of fish and oysters, Canadian fishery scientists have turned their attention to applying the modern antibiotic to the preservation of whale carcasses.

Dr. H.L.A. Tarr, acting director of the Pacific Fisheries Experimental Station, Vancouver, B.C., reported to the annual meeting in Ottawa of the Fisheries Research Board of Canada that a major problem in whaling operations off the British Columbia coast is the length of time between the killing off of the whales and their processing.

Minute quantities of the antibiotic chlortetracycline, commonly known as aureomycin, have added considerably to the keeping time of fish, and scientists are experimenting with the same principle on whale carcasses.

Due to their size some difficulty was encountered at first in getting the antibiotic into

the whale carcasses. It was found, however, that it could be introduced into the whale during the inflation of the carcass for towing purposes.

Dr. Tarr reported that during the past whaling season two sperm whales, one humpback and one fin whale were treated. The whale oil and the meat from these whales were of better quality than that from whales not treated with the antibiotic. In North America whale meat is presently used almost entirely in animal feeding; hence introduction of this antibiotic would presumably be permitted.

Although the results of the use of aureomycin show considerably promise in the preservation of fish and other marine life it cannot as yet be used by the industry in foods intended for human consumption. At present the Canadian Food and Drugs Act prohibits the use of aureomycin for this purpose, and further tests are being conducted before application is made for its use commercially.

("Western Fisheries" Vancouver B.C. January, 1956)

Mysteries of Albacore Gradually are Clearing

The elusive albacore or the white meat tuna has causedmore biological headaches and interest than scores of other commercially important fish. Sporadic disappearances from certain areas has led to many hypotheses as to its migratory habits and its high demand as a commercial product has helped to initiate many scientific investigations. All three Pacific Coast states, Hawaii, Canada, and Japan have and are playing a part in the study of this species.

The mystery of the albacore is far from unravelled; however, certain facts are helping to solve the puzzle. The albacore has a world-wide distribution and is generally considered a temperate water fish. It is however, taken in the sub-surface waters of the tropics. The northern range of albacore in the Pacific seems to lie between 48°50°N. although it is probably dependent on water conditions during any particular year. Many biologists feel that the solution to many of the habits of this fish could be solved through an understanding of factors within the

fishes environment which influence its distribution. Surface water temperatures have been helpful in noting the apparent (approximately 57°F.) northern boundary of the fish, but cannot account for long term absences such as have occurred off of California, Oregon and Washington.

Biologists have had considerably trouble in attempting to age all species of tuna, because of the poorly defined growth rings appearing on bone structures. A Canadian biologist, J. M. Partlo, studied marks on the centra of albacore vertebrae, found four groups in the fishery which appeared to be three, four, five and six year olds. Partlo also studied the reproductive organs of albacore landed in British Columbia and concluded that fishery was dependent on 100% immature fish. No fully ripe fish were observed.

The only successful tagging of albacore has been accomplished by the California Department of Fish and Game. The most spectacular recoveries are those which have shown a transpacific movement of fish from the California waters to those off Japan. The albacore problem is still being actively investigated by the P.O.F.I. organisation and West Coast States. These studies should gradually reveal more of the fish's life history.

("Pacific Fisherman" Portland, Ore. February, 1956)

New Fish Washing Machine Undergoing Trials in Newfoundland

Designed to eliminate hand labour in the washing of salt fish, the Andrews fish washing machine is now undergoing tests at a fisheries plant in Newfoundland, Canada. It was briefly reported in a recent issue of this journal (Fishing News December 16, 1955).

The fisheries research department of the Canadian Government has sponsored this machine, which was designed in collaboration with the manufacturers, Richard-Wilcox Canadian Co. A prototype was demonstrated at a fish processing plant in Lunenburg, Nova Scotia, during the annual Fisheries Products Convention last year.

The tests now in progress should soon be completed and the finished design will depend on them.

The machine is made mostly of aluminium proofed against salt corrosion. It is 13 ft. long with width and height each 6 ft. Powered by four motors, it is easily transportable on its swivel ball-bearing casters. Cleaning the machine is essentially simple: it need only be hosed down.

A continuous supply of water - either fresh or salt - under pressure is required for feeding the cleansing sprays.

In action, stainless steel cables convey the fish through four large-diameter brushes which clean both sides of the fish without any risk of damage. The water is constantly sprayed on to both brushes and fish as it passed through the machine. Capacity is 140 lb. of fish per minute. Apart from the placing of the fish on the inlet conveyor, the whole operation is automatic.

When tests are completed and final design determined, sales agents for Britain and Europe will be appointed.

("The Fishing News" London January 27, 1956)

Jurists Approve Right of Countries to Fix Own Limits

The Inter-American Jurists Council has approved, over United States objections, a resolution recognising the right of each nation to set its own limits on territorial waters.

The Council heard arguments for territorial limits ranging from three to 200 miles and then accepted the compromise resolution presented by Mexico on behalf of Uruguay, Chile, Argentina, Guatemala, Ecuador, Peru and El Salvador.

The United States alone voted against the resolution, with five nations abstaining.

("The Fishing News" London February 20, 1956)

Scotland's Seaweed Harvest

Scotland's long sea coast, with villages often at the head of the sea lochs, offers a profitable harvest of seaweed.

Just how profitable it is can be seen from the fact that a new industry, Alginate Industries Ltd., has been built up in Scotland on this sea harvest, which is worth more than £1 million a year. In twelve months more than 40,000 tons of this hitherto valueless material is used.

The alginate industry existed to some extent before the war but emergency needs of alginate textile forced a rapid expansion and since then research, headed by the Government-sponsored Institute of Seaweed Research, has found uses in food industries and cosmetics, in rubber, textiles and dentistry.

Some ten million tons of seaweed have been located in the west, where much of it is concentrated and can be harvested at three-year intervals. Gathering it gives work to crofters who could not undertake full-time employment because of their own crops and cattle.

The seaweed is dried at drying stations dotted throughout the area and then processed at a number of small factories, often the only industry within many miles. As a result, the British alginate industry, which ten years ago used only foreign seaweed and not much of that, now produces over a quarter of the total world production.

("The South African Shipping News and Fishing Industry Review Cape Town S.Af. February, 1956)

Fish Game

It has been estimated that Frenchmen consume no more than 16 lb. of fish per head per year, and the industry is now preparing a propaganda campaign to increase consumption. It has been decided to use unusual methods, and a dice game similar to horse racing

games played with dice has been invented. Instead of horses, however, the players have trawlers and rocks, and the winner is the one whose throws produce the biggest catch. The board is very instructive as each fish is shown and described.

("World Fishing" London February, 1956)

East Coast of Ceylon

Subsequent to the visit of Mr. A.H. MacDonald, the expert on co-operative fishing, to the Baticaloa district, on the east coast of Ceylon, the opening of two schools of fisheries, one at Kalmunai and the other at Kalkudah, is under consideration. The development of a series of fishing harbours along the eastern coast, modelled on Japanese lines and the mechanisation of fishing boats is also said to be a vital need of the industry in this area.

A campaign has already been launched by the Fisheries Department to bring to book the numerous fishing boats which ply on the Batticaloa lagoon without the payment of registration fees.

("World Fishing" London February, 1956)

Houses for Fishermen

Ceylon's Department of Fisheries, in consultation with the Fisheries Advisory Board, has prepared a scheme to provide 3,000 houses for fishermen who now live under most difficult conditions along the coast from Jaffna to Matara. The Department has already started work on the first group of houses and will build between 500 and 1,000 during the present financial year.

("World Fishing" London February, 1956.)