



FISHERIES DEPARTMENT, WESTERN AUSTRALIA

MONTHLY SERVICE BULLETIN

Vol. V, No. 1 & 2

January - February, 1956

STAFF NOTES

The Superintendent, Mr. A.J. Fraser, visited Albany on January 9, 10 and 11. He returned there the following week in the company of Mr. W. Matthei (member) and Mr. H.B. Shugg (secretary) to preside at a meeting of the Fishermen's Advisory Committee which took evidence from salmon fishermen in regard to regulation 13 (Priority among Netters). Mr. N.K. Swarbrick, of Albany, another member of the committee, was also present.

The following officers resumed duty after annual leave: Mr. B.R. Saville on December 30; Mr. H.B. Shugg on January 13; Mr. J.S. Simpson on January 18; Technical Officer J. Traynor resumed duty on December 21 after six months' long service leave. Mr. B.K. Bowen returned to Head Office on December 15 after attending the F.A.O. Fish Culture School at Bogor, Indonesia. Mr. T.G. Goodison who had been assisting during Mr. Bowen's absence, resigned from the service on the same day.

Miss Pamela Pegrum will commence annual leave on February 6, and Mr. Bowen on February 27.

Miss Jacqueline Harvey, of Head Office, was transferred to the Police Traffic Branch on December 6. Mr. G.C. Ferguson commenced duty at Head Office as a junior clerk on December 5.

The crew of the research vessel "Lancelin" (Captain H.C.W. Piesse, Assistant Inspector C.R.C.

Haynes, Cadet Inspector D. Wright), with Technical Officer K. Godfrey of C.S.I.R.O., spent a few days in Perth over Christmas and the New Year. They returned to Onslow by air on January 14.

Inspector A.K. Melsom will return to Broome immediately after the annual Inspectors' Conference terminates, and will act as pearling inspector and superintendent until the position has been filled.

PERSONAL PARS

Dr. K. Sheard, Officer-in-Charge, W.A. Regional Laboratories, Division of Fisheries and Oceanography, C.S.I.R.O., returned to Perth on January 4 after visiting Canada, Hawaii, the United States and New Zealand.

Mr. W. Dall, a biologist from the headquarters of the Division of Fisheries and Oceanography, C.S.I.R.O., arrived in Perth on January 10, to study the biology of local prawns. After a day or two in the West Murray district he flew to Onslow and joined the research vessel "Lancelin" for four or five weeks' study of the Exmouth Gulf prawn fishery. It is hoped that he will be available for an intensive study of the prawns in Peel Inlet after completing the Exmouth Gulf assignment.

Mr. Y. Yamamoto, first secretary of the Japanese Embassy, Canberra, called on the Superintendent on January 13 on his way to Broome and Darwin.

A letter has been received by the Chief Warden (Mr. A.J. Fraser) from Dr. D.L. Serventy, Officer-in-Charge of the W.A. Regional Laboratory of the Wildlife Survey Section of C.S.I.R.O. Dr. Serventy has been working with Dr. A.J. Marshall in the laboratory of the Department of Zoology and Comparative Anatomy at St. Bartholomew's Medical College, Charterhouse Square, London, on histological studies concerned with the breeding cycle of the Tasmanian mutton-bird and with out-of-season breeding among W.A. birds.

From time to time, Dr. Serventy says, he has been able to make a few trips in Britain and to the Continent. He has spent a week on Skokholm Island in Wales where investigations are taking place on a series of Puffinus allied to our mutton bird. He has also visited Mr. Thomas Spence, in Scotland. He has a fine collection of Australian wild fowl and is making studies on them. He has also visited Scandinavia, Finland, northern Germany and Paris, and will be bringing back to W.A. a quantity of material, including traps, designs and catching techniques which should be of value to us.

Our congratulations are extended to Mr. Graham Chittleborough, of the Division of Fisheries and Oceanography, C.S.I.R.O., who has gained a doctorate of philosophy of the University of Western Australia for his work on whales. Dr. Chittleborough will leave for England by air on March 7 to attend the annual international whaling conference to be held in London. He will first attend a meeting of the scientific sub-committee, and then visit whaling research centres in England, Holland and Norway. He will return to London in June, and subsequently visit Helsinki to be present at a limnology conference from July 27 to August 3. He expects to return to Australia by air about the middle of August.

BROOME VACANCY

Applications from within the service were called last November but no member of our staff, nor of any other Department for that matter, applied. Applications were then called from outside the service and a number were received. It is expected that the successful applicant will be appointed early in February.

ITEMS RECLASSIFIED

Notification appeared in a recent "Government Gazette" that two positions in the Department have been reclassified. The item at present occupied

by Mr. H.B. Shugg ("senior clerk") has been re-titled "Fauna Protection Officer", and the classification changed from C-II-3, to C-II-3/4. Inspector G.C. Jeffery, has been reclassified from "Inspector - Grade 2", G-II-1, to "Fauna Warden", G-II-1/2.

DR. G.F. HUMPHREY - APPOINTMENT AS CHIEF OF THE
C.S.I.R.O. DIVISION OF FISHERIES AND OCEANOGRAPHY

Dr. G.F. Humphrey has been appointed Chief of C.S.I.R.O.'s Division of Fisheries and Oceanography. He succeeds Dr. H. Thompson, who retired last year because of ill health. The headquarters of the Division are at Cronulla, N.S.W.

Dr. Humphrey is Senior Lecturer in the Department of Biochemistry at the University of Sydney. He has been a member of the University staff since 1941. The bulk of his published research papers are on marine biochemistry, a field in which he has collaborated with the Division of Fisheries.

Dr. Humphrey has undertaken research overseas at the Molteno Institute (University of Cambridge), at the Universities of Glasgow and London, and at the marine laboratories at Plymouth (England) and Roscoff (France). He has just returned to Australia after holding a Nuffield Travelling Fellowship.

C.S.I.R.O. intends to give increasing attention to the physical examination of the ocean as contrasted with the studies in marine biology which have been the major concern of the Division of Fisheries in the past. To reflect this change in emphasis it has been decided to change the name of the Division to Division of Fisheries and Oceanography.

It is clear, says C.S.I.R.O. in a recent press release, that any large-scale development in Australian fisheries will depend on more accurate and complete information being obtained about the factors which lead to fluctuations in the abundance of fish in the surrounding seas. This will involve the Division in more comprehensive studies of ocean currents, temperature distribution, salinity of the sea and its

content of phosphate, which is the fertiliser for natural marine life, and the influence of these on reproduction, growth and distribution of fish populations.

REGULATION 13 - PRIORITY AMONG NETTERS

The judgment of the Chief Justice of the Supreme Court of Western Australia (Sir John Dwyer) is published hereunder for its general interest as a legal interpretation of the wording of Regulation 13 -

V. Mouchemore and Others V Gomme

Thursday 17th November, 1955

CORAM : Dwyer, C.J.

J U D G M E N T

DWYER, C.J. : The plaintiffs' claim for damages and an injunction is based on allegations that the defendant Gomme unlawfully prevented them from exercising their legal rights as licensed fishermen, and, alternatively, that he wrongfully disturbed and interfered with plaintiffs' fishing operations.

The legal rights referred to are alleged to be conferred by Regulations under the Fisheries Act.

The parties were fishing for salmon at Cheyne Beach on 25th February, 1954. The Beach is a favoured place for that purpose. The defendant had been fishing there for several seasons. The plaintiffs were more recent arrivals. Salmon move in schools or shoals and the best time for netting is as they move into clear water. Fishermen wait ashore in readiness for the move to commence and when a favourable moment arrives run out their nets for a haul, which run out is the operation known as the shoot.

On the day mentioned the litigants were in close proximity on the shore and shoots were made at about the same time. The party with whom the defendant was associated were in the more favourable position and secured a haul. The plaintiffs were

unsuccessful. About half the probable haul was lost through the plaintiffs hauling in their net and fouling that of the other party.

The plaintiffs' claim in substance is that they had under the Regulations an exclusive right at the place and time to shoot and haul in priority to the competing party and that the defendant violated that right and caused them to lose a probable haul of 10 tons of a value of £510.

Unless the plaintiffs have such a right, legal and enforceable, conferred on them under the Fisheries Act and Regulations, they have, in my opinion, no cause of action. I have no doubt that each party was pursuing his lawful vocation without any intention or desire of harm or damage or obstruction to the other.

The evidence has been in the main directed to whether either of the respective parties was in compliance with the Regulations and whether the defendant was the person responsible for the shoot and haul which the plaintiffs assert was the act of interference and obstruction of which they complain.

On this issue, although I am satisfied that such shoot and haul was by and for the benefit of Treasure, another fisherman, the defendant Gomme was an active participant and assisting Treasure, and had knowledge of relevant circumstances to the same extent. If Treasure is a wrong doer, so is Gomme, although a remedy by way of injunction would not, I think, be available as against Gomme in the circumstances. I am also satisfied that some of the evidence given by plaintiffs, particularly that relating to there being only one party other than themselves operating on the Beach, is based on quite mistaken assumptions.

Before proceeding to a detailed consideration of the evidence, there seem to be some preliminary matters which deserve attention and on which I have not had the assistance of counsel, though perhaps other matters suffice to decide the ultimate issue. The first concerns the validity of Regulation 13 which assumes to confer the exclusive right under which plaintiffs claim to benefit. In this regard I refer to Section 39 of the Act which provides that exclusive

licenses are not to be granted as to certain fish (inter alia, salmon). As at present advised I need say no more than that I doubt whether this Regulation, insofar as it purports to grant an exclusive right, is in conformity with the Act; an ancillary question would also arise as to whether such Regulation does confer a private personal right enforceable by individual fishermen, or whether the result of breach of its provisions is no more than subjection to the penalty prescribed. The second matter I desire to mention concerns the interpretation of the Regulation which deals with the question of priority in hauling nets as between fishermen netting in the same ground. This sets out that where netting operations include the use of a beach (as in the case here), ground means any portion of a beach not longer than half a mile, and includes adjacent water to a distance of half a mile measured rectangularly from the beach. To speak of fishing grounds is normally to refer to water and not to land, and it has been contended that to arrive on the ground should include only that part of the beach between high and low water, or at least reasonably close thereto. But it would probably be almost impossible to remain in such a position for 24 hours as might be necessary under the Regulation, and my opinion is that the beach referred to is what is commonly understood as such and extends to its actual depth.

The Regulation goes on to prescribe in regard to priority that the first turn belongs to the fisherman who first arrives on the ground with crew, boat and net ready for shooting and hauling, that he shall have exclusive right to the ground where he remains on portion of the ground in readiness to shoot with one end of his hauling line ashore; and that the turn ends when he has shot and hauled his net, but shall not extend more than 24 hours as against other fishermen on the ground and waiting; and that the next turn belongs to the fisherman who next arrives (similarly qualified) and so on.

It will be noted that although the length of the ground is fixed at half a mile, there is nothing to fix the commencing point or the direction in which the boundary is to run.

Cheyne Beach is several miles long. It seems that the practice there is to bring the boat (needed to take out the net) to the beach on a trailer, motor drawn, to place a spotter who watches for any movement of the fish and to wait until he signals; the wait may be for hours; a good opportunity may even not occur for days; the position of the waiting party may be changed during the watch and normally will be as another position becomes more advantageous. That is perhaps the reason why the half mile length of the ground has been adopted, a length seemingly much greater than necessary for the actual haul itself.

It is evident that there must be great difficulty in defining the ground which the Regulation refers to. It was suggested, but without any support from the parties concerned, that the most convenient solution would be a quarter mile in each direction from the point where a fisherman takes up his position on arrival at the beach as this would give space to move in either direction. But whether rival parties are netting on the same ground would appear to be intended to depend on where the first arrival makes his haul. If the second arrival decided on a different point from which to make his shoot, I find it impossible to determine what is the ground then to which the Regulation would refer in the case of succeeding nettings and which is supposed to be protected for 24 hours, particularly if a major part of the 24 hour period first applicable has elapsed when the second arrival makes his haul. The Regulation appears to be too uncertain in its operation to found a claim of exclusive right.

In this case I have come to the conclusion that there were five fishermen operating on the Beach near what has been called the settlement, and acting independently though members of the different parties were accustomed to assist one another and had worked out a satisfactory sequence of turns; that on 25th February two of them, Gomme and Treasure, were there before plaintiffs; that Gomme made a haul as the first arrival about 6 a.m. and Treasure was then at or about the same spot and was the second arrival but not in readiness to shoot; that plaintiffs' party arrived at a point 300 or 400 yards distant, halted two or three chains back from the water and stationed a spotter at a vantage point further distant; that Treasure and a

companion patrolled the beach up to the neighbourhood of No. 1 Creek also watching for the fish to move; that the salmon towards 8 a.m. showed signs of moving which was about two hours after Gomme's haul, and that then Treasure and his companion (who had been joined by Gomme) and plaintiffs approached the water's edge at their chosen points for a shoot which were not unnaturally close to one another. I have formed the opinion that when the Regulation speaks of "readiness to shoot with one end of the hauling line ashore" that implies that the boat and net are reasonably close to the water's edge at the point chosen for launching; that until their approach, plaintiffs' party, with the exception of the spotter, had remained in their vehicle two or three chains back from the water's edge with the object of moving at the critical time to such point as seemed most advantageous for the shoot and haul and Treasure and his party were on the move along the beach with a similar intention; but that neither was in such circumstances in actual readiness in strict terms of the Regulation; that each party when the operating members moved to their position at the water side from which to launch the boat with the net was so ready and at about the same moment made shoots almost simultaneously, and that their positions then were between 300 and 400 yards from where Gomme had made his haul earlier, and would be properly considered as netting in the same ground as Gomme.

I do not take the view that Gomme's presence in Treasure's boat disqualified the latter from netting. It seems unreasonable to hold that the regulations preclude fishermen from giving voluntary assistance to one another or require more than that the normal number of licensed men to man the boat and take out the net should be available.

In my view of the facts it cannot be said that either party had priority over the other. The onus of establishing their claim to an exclusive right is on the plaintiffs, and apart from questions of the interpretation or validity of the provisions of Regulation 13, the evidence in my opinion is insufficient to prove that they had acquired priority over Treasure and the exclusive right which is the foundation of their claim.

The claim is accordingly dismissed. "

FISHERMEN'S ADVISORY COMMITTEE

A meeting of the full Committee, consisting of the Superintendent (Mr. A.J. Fraser), Chairman, and Messrs N.K. Swarbrick, W. Matthei, F. Camarda and Roland Smith, members, and the Secretary (Mr. H.B. Shugg), held a meeting in Geraldton on December 8. Mr. R.W. George, Research Officer of the Division of Fisheries and Oceanography, and Inspector R.M. Crawford, attended. The Committee took evidence and heard complaints from members of the Geraldton Fishermen's Association with regard to the Geraldton-Abrolhos crayfish fishery. Members agreed to recommend to the Minister that the 1956 Abrolhos season should open and close on the same dates as last year and that the same restrictions as previously (that men who fish at the Abrolhos during the open season there would not be allowed to take crayfish in the Geraldton onshore waters until the Abrolhos season ended) should apply. It was also agreed that an Association proposal, that fishermen at the Abrolhos be allowed a limited number of fish traps, merited further consideration. The Chairman said that the Department would investigate the proposal and, subject to certain safeguards to prevent undersize crays being used as bait, he would forward the Committee's recommendation to the Minister.

On January 17 and 18, the Committee sat in Albany to take evidence from salmon fishermen. Due to business commitments, two members of the Committee, Mr. Roland Smith and Mr. F. Camarda, were unable to attend. It will be remembered that last November the Chief Justice, Sir John Dwyer, in his judgment in a civil action taken by one group of salmon fishermen against another, said that certain paragraphs of the Regulations were not clear. (The judgment is published elsewhere in this issue). Fishermen were asked by the Committee to express their views as to whether they agreed with the priority established by the regulation, whether they desired departmental control of the beaches, or whether this should remain a matter for individual fishermen as at present. A total of 26 fishermen expressed their views on these points and also raised other matters.

On the evening of January 19, the Committee attended a meeting of the South Coast Professional

Fishermen's Association at which 29 members including the President (Mr. F. Gomme) and Secretary (Mr. N.K. Swarbrick) were present. The Committee was officially introduced by the President and the Superintendent (Mr. A.J. Fraser) explained to the meeting why the Committee had been sitting. He said that three major suggestions had been made to the Committee for the better control of the fishery. The suggestions were :

- (1) that the Government should grant exclusive rights to certain teams to work certain beaches;
- (2) that teams working the same beach should ballot for priority at the commencement of the season and subsequently take turns in the order determined by the ballot, and
- (3) that departmental inspectors should conduct the ballot and use their influence to keep order on the beaches and if necessary, to prosecute.

He said that the Committee would like to obtain the views of the Association as a whole on these three suggestions.

After considerable discussion a resolution was carried unanimously that the Association was not in favour of any one of the three proposals.

CONVICTIONS RECORDED

October 1 to December 31, 1955

Date	Defendant	Court	Charge	Result
13.11.55	Jones, J.	Albany	Dynamiting fish	Fined £10
3.10.55	Melvin, J.R.	Fremantle	U/size C/fish	" £2
28.11.55	Glorioso, C.	do.	do.	" £2
6.12.55	Neville, D.S.	Geraldton	do.	" £5
6.12.55	Scott, Colin	do.	do.	" £2
7.12.55	Watts, E.L.	Pinjarra	Undersize fish	" £2

FISHERIES LICENSES ISSUED DURING 1955

The table below sets out the licenses issued and the value of the boats and gear for 1955. As a comparison the details for 1954 are also shown with the appropriate increase.

Where Issued	Prof. Fisher- man's	Amateur Net Fisher- man's	Fish- ing Boats	Value of Boats £	Value of Gear £
Albany	124	10	79	25,700	33,205
Broome	12	1	-	-	-
Bunbury	80	80	59	30,235	15,540
Carnarvon	8	7	6	-	3,805
Esperance	2	1	-	-	-
Fremantle	493	50	204	773,635	149,061
Geraldton	222	25	147	217,750	46,220
Mandurah	85	103	82	21,585	20,680
Perth	90	258	71	32,972	16,675
Pt. Hedland	7	-	4	790	-
Shark Bay	36	-	35	25,720	Included in boats
TOTAL :	1159	535	687	£1,128,387	£285,186
TOTAL 1954 :	1069	487	616	985,382	260,079
Incr. or Decrease	+90	+48	+71	+143,005	+25,107

TOTAL VALUE OF BOATS AND GEAR 1955 : £1,413,573

TOTAL VALUE OF BOATS AND GEAR 1954 : £1,245,461

INCREASE : £168,112

SPERM WHALES

In Vol. 4, No. 11, the November, 1955, issue of this Bulletin, it was reported that the Cheynes Beach Whaling Company at Albany had been maintaining a skeleton staff in expectation of taking a number of sperm whales which are not subject of quota or seasonal restrictions. One sperm whale had been taken in October and since then, six more of this species have been shot, bringing the total to 7. Five were caught in November, and one in December.

The biggest caught was a male, that measured 54 feet 6 inches, and the smallest a female, which measured 35 feet 3 inches.

DUCK BAND RECOVERIES

Since the last publication of the duck banding recoveries the following have been returned to this office -

No.	Date Banded	Place Where Banded	Date of Recovery	Place Where Recovered	Distance Travelled
1560	15.3.53	Queen's Gardens	<u>Black Duck</u> 10.3.55	Queen's Gardens	Leg badly mutilated. Duck caught and killed
2601	24.3.54	do.	about 7.3.55	Dumbleyung	About 140 miles
2301	27.1.54	do.	Jan. '55	Salt Lakes, Augusta	165 "
2557	21.3.54	do.	16.4.55	Between Upper Swan & Bulls- brook, 3 m. S. of Bullsbrook	20 "
2948	26.10.54	Cockleshell Gully	4.5.55	Found dead on Bank Murchison nr. Carnarvon Road	160 "

No.	Date Banded	Place Where Banded	Date of Recovery	Place Where Recovered	Distance Travelled
1679	25.3.53	Beermullah near Gingin	21.12.54	Gingin Rd, 15 m.W. of Gingin	about 10 miles
1202	22.1.53	Queen's Gardens	26.3.55	Lake Ibis E. Narrogin	125 "
2221	19.1.54	Lake Karrinyup	24.8.55	Lake Gwelup	3 "
2234	20.1.54	Lake Karrinyup	16.2.55	Found dead Hyde Park	3 "
2490	7.3.54	Wardering Lake	18.12.55	Mimegarra via Dandaragan	210 "
3230	3.2.55	Cape Riche	24.12.55	Beelup, 6 m. sth Capel	195 "
2494	8.3.54	Wardering Lake	27.12.55	Benger Swamp	84 "
1520	4.3.53	Queen's Gardens	21.11.55	river fore-shore, near Swan Brewery	leg dama- ged, duck released Mt. Hawthorn
<u>Grey Teal</u>					
2797	20.5.54	Cape Riche	31.1.55	Penebup River, 10 m. from Borden	35 miles
3047	24.11.54	Lake Mears	Apr. '55	Kanowna	275 "
3063	24.11.54	Lake Mears	1.1.55	Benger	110 "
2046	17.12.53	Dawson's Lake	Jan. '55	Dawson's Lake	nil "
3071	26.11.54	Lake Mears	Apr. '55	Lukens Swamp, Beverley	25 "

No.	Date Banded	Place Where Banded	Date of Recovery	Place Where Recovered	Distance Travelled
1664	22.3.53	Big Bootine Swamp, Beer-mullah	18.12.55	Ewlyamartup east of Katanning	205 miles
1398	15.2.53	Wardering Lake	18.12.55	Pepper's Swamp, Nth Aldersyde, Brookton District	approximately 85 miles
1391	14.2.53	Wardering Lake	19.12.55	Kulikup	40 "
2672	15.4.54	Lake Karrinyup	Jan. '56	"Larloona Station" River Darling Menindee, NSW	upwards of 1600 miles
3345	5.2.55	near Cape Riche	1.1.56	Gundaring Lake	150 "
3373	6.2.55	near Cape Riche	25.12.55	Dinninup Pool, 4m.S.W. Kulikup	130 "
<u>Mountain Duck</u>					
2967	27.10.54	Cockleshell Gully	21.1.56	Lake View 2m.W. of Moora	65 "

The band no. 2672 is the first to be returned from outside the State's boundaries. It is a particularly important recovery as, taking it in conjunction with the Victorian banded teal which was shot at Rowle's Lagoon out of Kalgoorlie last season, it provides definite proof that eastern and western duck populations do mingle to some extent. Possibly they may only do so when conditions on the Nullarbor are suitable. They might work around the southern

coast or through the well-watered northern areas, but between the time that our teal was banded and when it was shot in N.S.W., good rains had been recorded in Central Australia and it is possible that a direct route was taken by the bird.

ORDERS FOR SKIPPERS OF PATROL VESSELS

The following orders have been approved for the safeguarding of departmental launches at sea or at anchor. They are promulgated for general information, and must be adhered to strictly by all personnel concerned.

1. While in active commission each vessel shall be manned as decided by the skipper. In case heavy weather is imminent, or on receipt of a storm warning, each vessel shall be manned by a full crew until the weather has abated or the storm passed.
2. When a vessel is anchored in heavy weather both anchors are to be let go to the fullest extent of their cables.
3. Before proceeding to sea, skippers must obtain from the national broadcasting service a schedule of weather reports. The schedule must be listened to at all times. In the event of the broadcast of a storm warning a continuous radio watch shall be kept.
4. Each vessel when under way shall fly the Department's ensign.
5. A skipper shall at all times be responsible for the general appearance and cleanliness of his vessel, for the sufficiency and efficiency of deck stores, gear, fittings, signal flags, flares, first-aid kit, etc. He shall keep an inventory of all such stores and equipment, and be held responsible for their safe keeping.
6. A skipper shall cause all life belts, flags, sails, flares and mattresses to be aired and

examined at least once a month, and all lockers shall be opened up, aired and dried out periodically, particularly during winter. A note of such examination and attention shall be entered in ship's log or weekly diary.

7. When in commission a skipper shall be responsible for keeping his vessel ready for sea at all times, and that regulation lights, such as navigating and masthead lights, are at all times clean and in good repair. Not less than six red flares shall be kept on each vessel.
8. A skipper shall be responsible for the discipline of each member of his crew. Any insubordination, breach of discipline or other irregularity in behaviour (particularly insobriety) must be reported forthwith to Head Office.
9. A skipper shall record and report forthwith to Head Office any accident to his vessel or any of its fittings, including engine, shafts, propeller, sails, rigging and running gear.
10. A skipper shall use every care in the navigation of his vessel and shall comply strictly with the rules of the road and with any local port regulations.
11. A skipper shall take care, when berthed at a wharf or jetty, that his vessel is securely moored and locked. If there is any likelihood of trespass by the public at least one member of the crew must remain in attendance.
12. A skipper shall ensure, while his vessel is under way at night, that his masthead and navigating lights are burning and in no way obscured. While his vessel is at anchor, he shall exhibit the lights prescribed under Article 11. ("Rules of the Road").
13. A skipper shall make himself familiar with all local harbour or port regulations, as well as buoys and markings.

14. A skipper shall report forthwith to Head Office all injuries incurred on duty by him or his crew, notwithstanding they may be regarded as of a minor character only.
15. A skipper shall arrange to have his vessel surveyed annually by the surveyor of the Harbour and Light Department.
16. A skipper shall have his compass checked when considered necessary but at least once a year.



SUPERINTENDENT.

INSPECTORS' ANNUAL LEAVE - 1956

Some alteration to the following programme to suit an officer's personal convenience may be permitted provided departmental requirements are satisfied.

<u>Name of Officer</u>	<u>Commencing Date of Leave</u>
Senior Ins. J.E. Munro	September 3.
Inspector W. Davidson	September 23.
" H.J. Murray	July 9.
" S.W. Bowler	Taken.
" A.K. Melsom	December 24.
Fauna Warden G.C. Jeffery	November 1.
Inspector J.L. Gallop	March 26.
" A.J. Bateman	When convenient.
" A.V. Green	August 6.
Ass. Ins. R.J. Baird	November 5.
Inspector N.E. McLaughlan	April 23.
Ass. Ins. T.B. Baines	September 3.
Ass. Ins. G.H. Lyon	September 10.
Inspector B.A. Carmichael	May 7.
Ass. Ins. M.J. Simpson	April 2.
Cadet Ins. D. Wright	When convenient.
Inspector R.M. Crawford	October 8.
Cadet Ins. K. Kunzli	When convenient
Cadet Ins. L.W. Duncan	When convenient.

THE CLEARING HOUSE

Technique of Snag-Line Fishing

Snag-line fishing throughout the south is patterned somewhat after the Russian method. The gear is not quite as heavy as that used in the Russian sturgeon fisheries, because the fish caught in American waters are not as large as the Caspian Sea sturgeon. A snag-line tackle consists of the small rig of two thousand hooks, up to ten thousand. Spear point hooks in Limerick or Kirby style, from 6/0 to 9/0 are threaded with No. 12 to 20 Nylon filament twine, twenty inches in length, doubled. The staking is looped onto the main line, ten inches apart. The main line may be anything from 24 to 36 Nylon. The lines in five hundred hook sections are then reefed on an iron rail which is mounted aft with the clear end extending slightly beyond the stern so as to allow the hooks to clear the boat when running out, with oars or motor. Each rail will hold a thousand hooks. The lines are staked at each end and the depth fished depends upon the length of the buoy cords which are placed at intervals along the line.

In river fishing, anchors are used on the outer end instead of stakes, because of the greater depths. Snag-line fishing originated on Reelfoot Lake in West Tennessee, along in 1912 or 1913. The writer fished the first snag-line tackle in the state of Alabama in 1918. To the novice, the catching qualities of this tackle is quite amazing, because no bait is used. While spoonbill and sturgeon are mostly snagged, it is true that the smaller fish such as catfish, buffalo, redfish, speckled trout (Weakfish) and other varieties really bite the naked hook.

For the past forty years snag-lines have been fished in southern waters and the local residents still look upon them as something miraculous. The bulk of spoonbill caught in this area are produced with snag-lines. The writer has at different times caught as many as a thousand pounds of spoonbill on a thousand hooks.

Old timers still scratch their heads and remark "Who ever heard of catching fish in such quantities with naked hooks."

("Fishing Gazette" New York September, 1955)

F.A.O.'s Ten Years of Solid Achievement

The promotion of international understanding and agreement about world fisheries has been one of the most important functions of the Food and Agriculture Organisation of U.N., said Dr. D.B. Finn, director of the Fisheries Division, in a review of the work of F.A.O. which reaches its tenth anniversary this month. The organisation was founded at the Quebec Conference in 1945.

Dr. Finn, who has been engaged in fisheries all his working life and was Deputy Minister of Fisheries for Canada before being released by the Canadian Government to F.A.O., told the Fishing News special correspondent that the world fisheries 10 years ago were in the stage that agriculture was in about 1,000 years ago.

"F.A.O. provided the first instance of man forming an organisation to think about world fisheries as such, with the object of bringing about wise development of fisheries generally."

World Landings up 5 Million Tons

Pointing out that world production of fish, crustaceans and molluscs was now about 27 million metric tons a year - about five million m.t. more than was landed annually before the war - Dr. Finn said: "Fishery biologists and other experts believe that we can probably double that production if we conserve, develop, husband and generally co-operate internationally in the management of world fisheries."

That envisaged far reaching changes and development of the fishing industries of the world, particularly in those countries with under-developed fisheries. "There we need to introduce mechanisation of boats, improved gear and equipment, teach the fishermen better techniques, help to organise distribution,

transport, storage, processing, marketing and so on. The task is of enormous proportions and it may take a generation or more before we shall see satisfactory results."

10 Years' Activity

F.A.O. had made quite a lot of progress in the 10 years, but it was only a beginning. "Funds and skills available to us are limiting factors. Qualified fisheries people who can take up our missionary work in technology or biology or economics are scarce. We are constantly drawing attention to this need for personnel and we find the situation is improving.

"There is no doubt that fish production will go up," Dr. Finn added. "The better boats, gear, equipment and techniques now coming into use will ensure that. The discovery of new resources will help increase the yield, so will such new developments as transplantation. Factors such as these, allied to the interest nations are now showing in the spoils of the sea and in the need to control their exploitation, all favour a great increase in fish production and consumption in the years ahead."

The British Government will continue to give full support to the work of F.A.O., says Mr. Heathcoat Amory, Minister of Agriculture, Fisheries and Food, in a message to Dr. Philip V. Cardon, Director-General of F.A.O., on the occasion of its tenth anniversary last Sunday. "Since 1945 the aid which your Organisation has been able to bring to the under-developed areas of the world has given new hope to millions of our fellow beings," he said.

Speaking at a commemorative meeting to mark the anniversary held in Quebec (Canada) on the site of the inaugural session, Dr. Cardon said that 41 nations subscribed at Quebec 10 years ago. "Now 71 nations confidently think of F.A.O. as 'our Organisation'.

"Through F.A.O. the nations have demonstrated that the application of science to the needs of man the farmer, the fisher, the forest user, the consumer and social being can be hastened and its advantages equalised among countries to their mutual benefit.

Crayfishing in New Zealand Commands
Top Prices and Good Rewards

The importance of crayfish tails has recently been stressed in relation to the West Australian industry to which some 26 British families have been recruited.

Here are figures which reveal the value of the industry created by the American appetite for shellfish and salad.

The U.S.A.'s own production is 47,000,000lb. annually. That of Canada 42,000,000lb., Cuba and Havana produce 7,000,000lb., as does South Africa. Australia so far has produced a peak of 5,000,000lb. and New Zealand is last with about 2,000,000lb., but last season's output there must have been higher because it earned just under £1,000,000.

Fleet Multiplied

The New Zealand industry centres round the South Island Sounds area (the fleets operating from the Bluff) and the Marlborough Sounds where the rocky coasts suit this crustacean which is slightly different from the crayfish of the northern grounds of Western Australia.

Six years ago only one or two boats were working in the N.Z. southern West Coast Sounds area. Now there are anywhere round 50. Crayfishing is not an easy game in New Zealand for conditions are more severe than in Australia. The work is hard, but the reward is good. The industry is lucrative for all concerned, but the men with the boats must take risks. Their gear is expensive and losses of both ship and the large pots used (worth about £10 each) are by no means unknown. But for all that, the men still think "it's a good thing."

Usually a ship will remain out until it has a full load, varying from five to eight tons of tails, depending on the craft.

The pots vary in size, but the average one is about three or four feet square. Some prefer to work two smaller pots on the one rope while others stick to the one big one.

The average crayfish taken from the Sounds area weighs about 4 lb. with the tail at about a quarter of the total weight. Only the tail is kept, the rest of the carcass being dumped once the ship is away from the grounds. The tails are stacked into the freezer until it is fully loaded.

Each vessel is equipped with radio and radio means a lot to them. Regular watches are kept and weather forecasts received, and messages can be sent when occasion demands.

The future of the industry is bright. The demand for crayfish seems to be as inexhaustible as the supply. Each year more men are taking up the work and new boats are constantly putting in an appearance. The men are paid 3s. 7d. a lb., and the fish retail in the United States at about 7s. 4d. a lb.

Lately quite a number of men have been going to Australia for boats. The reasons for this are: It is hard to get a suitable boat on the New Zealand coast. New Zealand workmanship is every bit as good as the Australian but across the Tasman hardwood is available, whereas it is most difficult to obtain here. Buyers can get their craft under an advantageous exchange rate.

The picture ahead is really rosy. The American demand is high, Britain and France have expressed their interest on many occasions, and the authorities admit they would like to send their goods to Britain especially. But business is business and those countries cannot compete with the prices the United States offers.

("The Fishing News" London October 21, 1955)

Antibiotic to Replace Refrigeration in Trawlers

Trials now in progress in this country may, if successful and the process be approved officially, revolutionise the handling of fish between catch and port.

Cyanamid Products Ltd., British associate of the American Cyanamid Co., is testing "Acronise," an antibiotic of the aureomycin type. This product, it is believed, keeps fish fresh and guards it against bacterial spoilage.

In the U.S.A. sweeping claims are made for this new product. The American company says it averts the necessity of refrigeration equipment on fishing vessels even in tropical countries. Fishermen using Acronise could stay out in distant fishing waters, now beyond economic reach as far as some of the Asian seas are concerned, with the result that they could bring home far heavier catches.

Spoilage even in short-range fishing now runs high in many Asian countries and has been a barrier against greater availability of fish foods as a low-cost source of protein.

("The Fishing News" London December 9, 1955)

Scientists Probe Cause of Discoloration in Tuna

A joint study by the Continental Can Company and the U.S. Fish and Wildlife Service is under way to discover the cause of the development of dark discoloration in canned tuna. It is believed to be caused by reaction in the can of hydrogen sulfide with iron to form black iron sulfide.

The FWS scientists are trying to find the reason for the occurrence of the discoloration in some cases and not in others.

It has been noted that the black iron sulfide does not form until after the cans of fish have been removed from the cannery retort. It has been found that if the cans of tuna are retorted on trays and the cans are inverted between 5 and 20 minutes of their coming out of the retort, no discoloration takes place. This solution to the problem will work in the relatively few canneries which are equipped to retort on trays but can not be applied to the majority of canneries where jumbled lots of cans

in cars are retorted except by rather drastic modification in facilities.

Studies are being carried out at the
USFWS Seattle Fishery Technological Laboratory.

("Western Fisheries" Vancouver, B.C. October, 1955)

Temperature Factor Significant in Search for Fish

Scientist says "Use Thermometer"

Fishermen armed with thermometers, if they are aware of certain hydrographic factors, can get as much value out of them as they can out of echo sounders, declares Mr. H.J. McLellan, in a paper read at the Atlantic Biological Station, St. Andrews, N.B., and published in the Canadian Fisherman.

Fish are found in greatest quantities where the living is easiest - where temperatures are comfortable, where salinity and hydrogen concentrations maintain salt balance, where oxygen is available in suitable quantities and where food is plentiful, says Mr. McLellan.

In fishing operations observation of hydrographic factors can be of use; the thermometer can be as valuable as the echo sounder. He cites the cod fishery in the Bear Island region, which supplies a very large proportion of the English landings, as a case where fisheries biologists and hydrographers have been able to assist the fishermen in quickly locating paying quantities of fish.

Narrow at Bottom

"Two populations of cod are involved and two suitable ranges of temperature: first from 1.75 deg.C. to 3 deg.C., which applies mostly to the region south of Bear Island. And secondly: 3 deg.C. to 5 deg.C., which applies to the west of the island.

"The boundaries of the regions of bottom where these temperatures are found are rather narrow, and it has been shown that it well pays fishermen to use their thermometers before dragging."

In the Norwegian mid-water cod fishery in the Lofoten area the spawning cod are found in a mid-water transitional area with temperatures 3 deg.C. to 6.5 deg.C. Research vessels each year locate this water mass by hydrographic observations, locate the fish within it by echo sounder, and relay information to the fishing vessels.

Dealing with experimental work on herring drifting in the Gulf of St. Lawrence, Mr. McLellan says it was found that a small rise in surface temperatures appeared to greatly decrease the catch with shallow surface nets, but there was evidence that by fishing at greater depths, where temperatures were not so high, good catches could still be made. "Here, then, was a horizontal boundary keeping the herring within a sub-surface layer."

At various places in the oceans sharp vertical boundaries exist where, in a very few miles, great changes in temperature and salinity may be observed over a range of depths. Such boundaries are virtual walls which may concentrate fish that have a marked preference for conditions on one side of the boundary. Vertical oceanic boundaries are exploited in a number of fisheries throughout the world. Off the Norwegian coast a band of Atlantic water with temperature around 8 deg.C lies between Arctic water (temperatures 3 deg. to 4 deg.C) off-shore and coastal water (5 deg. to 6 deg.C) inshore.

"In approaching the Norwegian Coast herring first travel in the Arctic water, concentrated against the Arctic-Atlantic boundary, then they travel quickly through the Atlantic water to the coastal waters for spawning. Research vessels locate the boundary, and thence the herring shoals, which they follow, directing fishing vessels to the productive areas. The period within which the herring can be fished is thus greatly increased, as is the value of the Norwegian catch."

("The Fishing News" London December 30, 1955)