RTMENT, WESTERN AUSTRALIA

# MONTHLY SERVICE BULLETIN

Vol. IV, No. 4. April 1, 1955

## STAFF NOTES

All members of the staff join in extending to Inspector and Mrs. A.V. Green heartfelt sympathy for the tragic loss of their baby daughter, Glenis, who died suddenly on March 15.

The Superintendent, Mr. A.J. Fraser, and Senior Clerk H.B. Shugg will carry out an inspection of the lake country from the Woodanilling district north-east to Corrigin immediately after Easter.

The Clerk-in-Charge, Mr. B.R. Saville, with Inspector A.K. Melsom, spent a few days towards the end of March inspecting aspects of the crayfishing industry in the Lancelin Island area.

The Supervising Inspector, Mr. J.E. Bramley, and Inspector G.C. Jeffery, left Perth in mid-March for Shark Bay and Carnarvon. They transported a 9' dinghy to Shark Bay and a 12' dinghy from Shark Bay to Carnarvon, and also inspected fishing centres and observed fauna occurrences en route. They will return to Perth early this month.

Cadet Inspector J.D. Milne has resigned from the public service as from March 24.

Two new members welcomed to our staff last month were Miss Faye Higgins, who replaced Mr. John Barakonski at Head Office, and Mr. Leslie W. Duncan, who has been appointed a temporary Cadet Inspector, vice J.D. Milne.

During March, Technical Officer L.G. Smith carried out further sampling in connection with the estuarine research programme along the south and south-west coast. A review of the progress made appears elsewhere in this Bulletin.

Technical Officer J.S. Simpson left on March 28 for an inspection of dams in the Corrigin and surrounding districts. He will undertake testing and sampling of dam waters and will observe the progress of the trout which were introduced there last October.

Miss V.T. Hogan of Head Office will commence annual leave on April 18 and will holiday at Geraldton.

## PERSONAL PAR

Mr. Robert Dean, a fisherman from Townsville, Queensland, in the course of an Australia-wide survey of the fishing industry for the Queensland Professional Fishermen's League, is now visiting Western Australia.

On his way to the West, Mr. Dean visited Melbourne and certain Victorian fishing ports, as well as Adelaide and Port Lincoln in South Australia.

Arrangements were made for Mr. Dean to inspect the fishing-boat harbour and fishermen's co-operative at Fremantle. He spent a few days in the "Lancelin" off Rottnest, and visited Geraldton and the Abrolhos. Before he returns to the Eastern States by train on April 11, Mr. Dean will spend a few more days in the "Lancelin" while on the tuna survey in the Bunbury - Busselton - Cape Naturaliste region.

## WILSON'S INLET

For 50 years or more there has been disagreement among the different interests as to whether netting by professional fishermen constitutes a threat to angling in this inlet. Since last Christmas anglers

have secured particularly poor results and have raised with renewed vigor their long-standing demand that the waters of the Inlet should be closed to seining.

In May last year the Minister for Fisheries (Mr. Kelly) visited the Inlet with the Superintendent and attended a public meeting to hear the protagonists put their recommendations. Again last month in company with the Supervising Inspector, Mr. Kelly met many members of the Angling and Boating Club, professional fishermen, local residents, tourists, holiday-makers and Road Board members. As on the previous visits, the opinions expressed by the various interests differed greatly from one another, but they did agree that the main cause of the poor fishing was due to the bar not opening for the last couple of seasons.

Although seining has practically ceased during the past few months as the professional fishermen are working on salmon, line anglers have had very poor results. The departmental view, borne out by observations, is that there is no species of fish in the Inlet suffering as a result of over-seining. We suggest that the reasons for the poor angling are :-

1) The Bar has not opened for two seasons;
2) there is an abundance of fish food in the estuary; and
3) there has been an inflow from land sources of a large quantity of fresh water as a result of the high rainfall in the catchment areas.

The Public Works Department is at present engaged in cutting a channel from the estuary to the ocean and has two dragline mechanical scoops operating. The channel is approximately 8' deep and 1½ chains wide. It is expected that the Inlet will be opened to the sea early in the winter, and Mr. Kelly and the Superintendent intend to visit the area again to observe conditions then, and to obtain some knowledge of the quantity of fish passing out to sea.

## SALMON TAGS RECOVERED

The following are details of tags taken from South Australian tagged salmon :-

| | | | |
|---|---|---|---|
| Tag No. 2957 | Released at Ceduna, June 20, 1952. | Length Unknown | Recovered Bremer Bay, January 18, 1955, by Mr. N. Garnett. Length 20". |
| Tag No. 2810 | Released at Ceduna, June 20, 1952. | Length Unknown | Recovered Peaceful Bay, March 9, 1955, by Mr. N. Bevan. Length 24". |

Bremer Bay is on the south coast approximately 65 miles east of Albany and Peaceful Bay is near Irwin's Inlet, 35 miles west of Albany.

In both cases the tags were small internal types and were the first recovered in this State from salmon tagged in South Australia.

## ESTUARINE RESEARCH PROGRAMME - A REVIEW OF PROGRESS

( by Technical Officer L.G. Smith )

Now that this programme has been under way for six months, it is possible to report on the progress that has been made. Initially the programme was divided into three main sections, and comments on the present stage reached by the investigations will be dealt with in relation to each section separately. The programme itself was described, it will be remembered, in the September, 1954, issue of this Bulletin.

1. Routine Measurements:

This involves marking, on celluloid strips, the lengths of all the common onshore and estuarine species, at Albany, Bunbury, Mandurah, Geraldton and Shark Bay. This work is being done continuously by District Inspectors and their assistants and is proceeding apace.

2. Racial Studies and Scale Sampling:

The work under this section has been completed.

Twenty-five specimens of each species have been obtained, preserved in formalin and, together with details of the date and locality of capture, have been forwarded to the headquarters of the Division of Fisheries C.S.I.R.O. at Cronulla N.S.W. for examination. Scale samples have been taken from fish of the 18 species needed, and forwarded with details of the species, date and place of capture.

3. Gonad and Stomach Contents:

At the commencement of the programme it was intended to secure pieces of gonads, and forward them preserved in tubes of formol-saline solution. The results were, however, not satisfactory, and this procedure was eliminated from the programme. Instead, reliance has been placed on whole gonads. Each fish is measured and a scale sample taken for age determination. The gonads and stomachs are then removed and numbered (to correspond with the sex and length of the fish) and preserved in calcium-formalin to prevent the eggs and tissues from shrinking before reaching the laboratory. To secure the required ten testes and twenty ovaries, sometimes fifty or more fish have to be dissected, since it is frequently found that fish of the same sex "run" together. This work, which is the most important in the programme, has been carried out with the assistance of inspectors in various districts. Samples have been taken from fish dissected at Wilson's Inlet, Oyster Harbour, Princess Royal Harbour, Bunbury, Leschenault Estuary, Collie River and Mandurah. Sampling will continue for a further six months to complete the twelve months' programme.

Fish that have spawned since the work commenced are cobbler, dusky flathead, Perth herring, yellowtail, silver (or sand) whiting, black bream and yellow-fin bream - the last-named from Shark Bay - and it is most interesting to see the gonads of these species building up for the next spawning. From present indications it seems possible that yellow-eye mullet spawn twice a year.

During December, January and February yellowtail, which are normally very common at Mandurah and Bunbury, were virtually absent from those centres.

However, they have now returned after spawning.

Some tagging has continued over the period of the programme, a highlight being the internal tagging of thirty mullet travelling north off Whitford's Beach during February.

At Wilson's Inlet, dusky flathead were spawning in March - the milt and eggs were seen flowing from them. This Inlet contains quantities of mussels and cockles and the fish, which are choice, are much fatter than those from other estuaries.

The co-operation received from inspectors, fishermen, fishermen's co-operatives and canneries has been most heartening. It has materially assisted the progress of the programme and is greatly appreciated.

## ANGLING AT THE MURCHISON

Inspector S.W. Bowler of Geraldton reports that during March some excellent catches were made at the Murchison River. During one morning alone a visitor landed 12 Spanish mackerel, weighing from 15 to 20 lb. They were taken off Oyster Reef at the mouth of the river by rod and reel with mullet bait.

Mullet forced down from the upper reaches of the river by flood waters have attracted the mackerel as well as tailor and mulloway (river kingfish). Black bream are also abundant and all reports indicate that never before have fish generally been so plentiful in the river.

## FISHERIES ACT, 1905-1951 AND THE OYSTER FISHERIES ACT, 1881

A ruling from the Crown Solicitor has been obtained in relation to certain operations under the Fisheries Act and The Oyster Fisheries Act. Inspectors are instructed as follows :-

1. Any person who catches or attempts to catch fish for sale must hold a license issued pursuant to the Fisheries Act (This, of course, is axiomatic);

2. Any person who fishes for oysters must hold a license signed by the Chief Inspector, issued pursuant to The Oyster Fisheries Act. However, the regulations do not prevent any unlicensed person from fishing for or taking oysters for his personal consumption on the spot where they are gathered and not for barter or sale;

3. Any person who catches fish for sale and also fishes for oysters must hold licenses issued under both Acts;

4. Any person who holds a license issued under either the Fisheries Act or The Oyster Fisheries Act must, if so required, furnish by the 15th of each month a monthly return as prescribed by Section 18 of the Fisheries Act of all fish or oysters or both taken during the preceding month;

5. The necessary application forms for licenses under The Oyster Fisheries Act may be obtained from Head Office. The prescribed fee is £2 per annum if granted on or before June 30 in each year and £1 if granted after that date.

All licenses under The Oyster Fisheries Act must be signed by the Chief Inspector and shall terminate on December 31 next following the date of issue.

## TUNA RESEARCH

The Research Vessel "Lancelin" commanded by Captain H.C.W. Piesse, with Mr. R.M. Crawford, Mate, Assistant Inspector G. Konow and C.S.I.R.O. Technical Officer K. Godfrey on board, left Fremantle on March 23 for tuna investigations in Geographe Bay from Bunbury to Cape Naturaliste.

Tows will be made for plankton to compare the fertility of southern waters with those farther

north, where surveys have already been made.

The "Lancelin" will also trawl for fish and crustaceans.

For some time previously, the "Lancelin" had been investigating the deeper waters on the western side of Rottnest Island to find out whether prawns were available in commercial quantities.

## ABROLHOS CRAYFISHERY

According to reports from Inspector S.W. Bowler, of Geraldton, the 1955 Abrolhos crayfish season, which commenced on March 15, should be an excellent one.

The catches to date have been heavy - equal to, if not better than, those of any other season. He said that prominent fishermen have remarked that whether the good results will continue will probably depend upon weather conditions.

The most unseasonal hot weather at the Islands and at Geraldton, combined with a smooth sea, has played havoc with the crayfish being transported to the mainland. It is conservatively estimated that at least 7% of the crayfish caught are either dead on arrival at the processing works or else are found dead in the holding crates at the Abrolhos.

On opening day there were 104 boats and 162 fishermen operating at the Islands, and of these 37 boats and 55 men were working at Rat Island in the Easter Group where the take has been exceptionally high. On March 25,538 bags were landed by the carrier-boat "Eureka II" from Rat Island, and three days later the same vessel landed a further 441 bags from the same area. Two hundred and fourteen bags from the Wallabi Group and 204 bags from North Island were also landed on March 28, bringing the total landings for that day to 859 bags - 259 bags more than the previous record.

These exceptional deliveries caused some confusion at the various processing plants, and

fishermen have been asked to hold back catches in the island holding-crates in an endeavour to bring about a more regular flow of fish to the mainland factories.

## CONVICTIONS RECORDED

### December 31, 1954, to March 31, 1955

| Date | Defendant | Court | Charge | Result |
|---|---|---|---|---|
| 20.12.54 | Fazio, S. ✠ | Fremantle | Abusive Language | Fined £15 |
| do. | Matropasqua, Giuseppi. ✠ | do. | More than 2 pots within 1 mile of Rottnest | " £5 |
| do. | Matropasqua, Giulio ✠ | do. | do. | " £5 |
| do. | Erba, I. ✠ | do. | do. | " £5 |
| do. | Desceglio, P. ✠ | do. | do. | " £5 |
| 21.2.55 | Santaromita, N. | do. | Undersize Crayfish | " £2 |
| 28.3.55 | Rotondella, M. | do. | do. | " £5 |
| do. | Lancelin Products | do. | do. | " £5 |
| do. | Pittorino, U. | do. | do. | " £5 |
| do. | Sgherzo, L. | do. | do. | " £2 |
| 1.3.55 | Valenti, M (Jr.) | Geraldton | do. | " £4 |
| do. | Davis, A. | do. | do. | " £2 |
| do. | Scapiouzza, S. | do. | do. | " £2 |
| do. | Hewitt, R. | do. | do. | " £10 |

✠ December convictions, omitted from January, 1955, Bulletin.

CONVICTIONS RECORDED (Contd)

December 31, 1954 to March 31, 1955

| Date | Defendant | Court | Charge | Result |
|---|---|---|---|---|
| 1.3.55 | Cannon, H.J. | Geraldton | Undersize Crayfish | Fined £2 |
| do. | Litchfield, S. | do. | do. | " £5 |
| 8.3.55 | Strudwick, G.W. | Harvey | Taking marron in close season | " £5 |
| do. | Carlisle, G.L. | do. | do. | " £5 |
| do. | McCamish, R.H. | do. | do. | " £5 |
| do. | Hille, R.W. | do. | do. | " £5 |
| do. | Burton, L.A. | do. | do. | " £5 |
| 23.2.55 | G. Magi & Sons | Perth | Undersize Fish | " £5 |
| 23.3.55 | Robinson, L.B. | do. | Undersize Crayfish | " £2 |

TROUT ACCLIMATISATION

For the information and guidance of inspectors who have not had an opportunity of making themselves thoroughly acquainted with the administrative structure of trout acclimatisation in Western Australia, the following notes set out the various spheres of influence.

Under the Fisheries Act the Governor is empowered to register trout acclimatisation societies consisting of not less than ten members whose objects are wholly or partly the acclimatisation of trout. Upon registration a society becomes a body corporate,

and the property in all trout, in the area in respect of which it is registered, are in law vested in the society. Registered societies are also empowered to make by-laws regulating fishing in their respective districts, and to require trout fishermen to hold a license. The Department virtually exercises no jurisdiction in areas in respect of which a society is registered, but in the event of a society failing to carry out its job in a proper manner, the Governor may authorise the Minister to exercise the powers and functions of that society. The Department also has an indirect control, insofar as annual Government grants to the various societies could be withheld if they neglected to carry out their duties in a reasonable manner.

There is also a body known as the Trout Acclimatisation Council of W.A., composed of the Superintendent of Fisheries as Chairman, together with one representative from each registered society. There are as well a few official non-voting members. Societies on joining the Council agree to transfer to the Council some of their powers, such as the determination of the number of ova to be laid down at the hatcheries each season, the price to be charged for fish to societies and private buyers, and the number of fish to be made available to societies and private buyers. The hatchery is controlled by the Pemberton-Warren Society, whose funds for hatchery operation and maintenance come from an annual Government grant of £1,000 and a predetermined contribution from the Trout Acclimatisation Council, which receives all moneys paid in respect of sales of fish.

Distribution of fish from the hatcheries to central distribution points are made by Technical Officer J.S. Simpson as a departmental contribution to trout acclimatisation. The Department also provides such technical assistance as may be required by the societies, private buyers and the Trout Acclimatisation Council.

The second schedule to the Fisheries Act fixes the minimum legal length of both brown and rainbow trout as 12", and this applies in all parts of the State. The licensing provisions of the by-laws and the close seasons (which are fixed by the societies) are policed by the different societies.

## ADDITION TO THE ABROLHOS FLEET

On Sunday evening, March 20, the 50' auxiliary fishing boat "Lauristan" tied up in the Fremantle Fishing-Boat Harbour after a 2,000-mile trip from Apollo Bay, Victoria.

The "Lauristan", which is a well-boat without a freezer, intends to operate in the Abrolhos crayfishery and later in the Geraldton area. She brought 28 pots with her and will acquire more locally. She intends to catch her own bait. The skipper is Bruce Robson, a well-known former South Australian fisherman, and the crew members comprise an engineer, a cook and a pot maker.

## FISH PRODUCTION - WESTERN AUSTRALIA

The following table shows the State's commercial fish production for the year ended December 31, 1954. For purposes of comparison, 1953 production figures have been included.

These figures represent the total or round weight of all fish landed. In cases where gutted, or headed and gutted, weights are returned by fishermen for fish like snapper, jewfish and salmon, these have been converted back to round weights so that a clearer picture is presented. In previous years this was not done, and in the figures for 1953 published last year there will be found variations from those recorded here.

The stepping up of 1954 production, which shows a 24% increase as compared with 1953, has been due solely to increased takes of both crayfish and salmon. A great proportion of the crayfish increase was due to the opening of the Jurien Bay area.

| Species | 1954 lb. | 1953 lb. |
|---|---|---|
| Crayfish | 10,279,531 | 7,985,391 |
| Salmon (including salmon trout) | 6,126,277 | 3,685,977 |
| Snapper | 1,306,381 | 1,187,598 |
| Ruff | 618,443 | 1,063,165 |
| Cobbler | 569,013 | 690,612 |
| Muller (river or sea) | 395,366 | 465,419 |
| Jewfish, Westralian | 373,794 | 339,756 |
| Whiting, Sand | 312,930 | 295,342 |
| Shark | 307,667 | 308,882 |
| Mullet, Yellow-eye | 300,762 | 323,341 |
| Tailor | 91,301 | 119,300 |
| Trevally (Skipjack) | 78,248 | 74,608 |
| Whiting, King George | 76,854 | 79,541 |
| Bream, Yellow-fin | 54,411 | 64,289 |
| Garfish | 49,380 | 48,649 |
| Samson Fish | 47,491 | 30,522 |
| Prawns | 37,957 | 35,406 |
| Flathead | 22,732 | 20,643 |
| Cod (various species) | 22,673 | 16,877 |
| Tuna | 16,660 | 8,436 |
| Crabs | 16,487 | 38,442 |
| Pike | 15,649 | 24,808 |
| Leatherjackets | 13,932 | 26,254 |
| Groper | 12,793 | 16,192 |
| Skate | 11,626 | 14,123 |
| Squid | 10,112 | 5,322 |
| Tarwhine (Silver Bream) | 6,287 | 12,743 |
| Perth Herring | 5,951 | 6,142 |
| Mackerel, Spanish | 5,273 | 14,976 |
| Bream, Black | 4,694 | 5,871 |
| Sweep | 4,162 | 4,135 |
| Snook | 4,136 | 7,255 |
| Pilchard (Sea) | 3,319 | 30,385 |
| Yellow Tail | 2,223 | 10,346 |
| Roach | 1,713 | 1,824 |
| Mulloway | 1,696 | 5,687 |
| Other Species | 4,078 | 3,819 |
| TOTALS ... | 21,212,002 | 17,072,078 |

## GERALDTON FISHERMEN'S CO-OPERATIVE

The Geraldton Fishermen's Co-operative Ltd., which opened its new crayfish de-tailing and fish processing works in April, 1951, and which has since then made very rapid progress, particularly in regard to the preparation of crayfish tails for export, has recently purchased Mr. H.J. Spaven's freezing-works at Shark Bay.

Certain structural alterations and renovations are being put in hand, and a new fish filleting and processing room will be built. When these alterations are completed, it is proposed to fillet various classes of fish and to market them in an attractive frozen pack. The co-operative will also consider an attack on the Melbourne market with a special whiting pack, in the hope that the lucrative market for whiting developed in pre-war days can be re-captured. Marketing in the metropolitan area will possibly be done through the agency of the Fremantle Fishermen's Co-operative Society Ltd., whose wholesale and retail business has shown marked expansion since its new premises were opened in 1954.

During 1954 fishermen delivered 1,900,000 lb. of crayfish to the Geraldton Co-op for processing. This represents approximately 63% of the total production of the Geraldton - Abrolhos area.

The Chairman of this most progressive undertaking is Mr. W. Burton, and the Manager Mr. F.R. Lemmon.

## PORT GREGORY

At the present time 7 men are working 7 boats in this area and all are concentrating on crayfishing. The catch per boat per day is about 120 lb. which is low for this time of the year. The average number of pots being worked is 35. Very little handlining is being done, although small catches of jewfish and snapper have been made.

Angling at Port Gregory is reported to be quite good - whiting, tailor, herring, snapper and kingfish are quite plentiful.

## THE CLEARING HOUSE

### Japanese Fishermen take the Last Straw

Fishing off the shores of Japan has become an extremely dangerous occupation, far beyond the hazards normally expected by fishermen..

For some time Japanese vessels have been attacked and seized by those of other nationalities, and the sinking of two of her fishing boats by the Chinese Nationalists north of Formosa recently, was considered by the Japanese government as the "last straw".

In answer to this the foreign ministry has published a statement on the number of attacks and seizures of Japanese fishing boats this year.

These figures show that between January 1 and November 26 a total of 211 vessels were attacked and 126 seized. Ninety-eight were returned. The Soviet Union attacked 39, seized 64 and returned 58, while South Korea attacked 44, seized 23 and returned two. It is impossible for Japan to approach these two countries in the normal way, owing to the absence of diplomatic relations, although discussions have taken place with the Russians in Moscow and with the Chinese Communists in Peking. Communist China is at present going all out to establish a policy of friendship with Japan, and as a propaganda move has returned 30 vessels and 318 fishermen.

### Busy Chinese

Japan, however, is coming under fire from all sides. In this recent incident of the sinking of two of her vessels by the Chinese Nationalists, the fishing boats were mistaken for Communist invasion craft. Of 22 vessels attacked between January 1 and November 26, Nationalist China has seized 11 and returned none.

Not only is Japan losing her fishing vessels, which are expensive to replace, but the danger to her

existence is no small matter, as she depends on her fishing activities for a large percentage of her food. The country cannot afford to lose the labour of its fishermen who are being held for long periods at a time.

("The Fish Industry" London January, 1955)

## Royal Navy to Watch Over Antarctic Whalers

As a precaution against interference with British whaling fleets operating in the Antarctic in the current season, the Admiralty has assigned the cruiser Superb (9,000 tons) and the 1,300-ton frigate Burghead Bay to that area. A "courtesy" visit will be paid to the Chilean capital.

The Superb and the Burghead Bay, which are stationed at Bermuda, will go from Callao to the Falkland Islands, where the frigate Veryan Bay arrived recently.

South Africa also has a fleet operating in those waters and the chairman of the Union Whaling Co., Durban, has announced that they would seek British naval protection in the event of any attempted interference.

The position arises out of the Onassis incident and the claim of Chile, Ecuador and Peru that they possess exclusive rights over the ocean 200 miles from their shores. There are a few islands in the Antarctic belonging to Chile and she claims that the same position applies to them namely that the waters for 200 miles around them are "all hers".

Argentine, too, claims territorial rights over the Falklands, which have been British territory for several hundred years.

Lloyd's have warned that the war risk clause in the whaling fleets' policies are involved, hence the protection which is being extended.

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

## How Many Herring ARE There in a Cran

How many herring are there in a cran was one of the questions asked recently in the B.B.C.'s programme "What do you Know?". Nobody on the panel seemed to know judging by the variety of quantities suggested, but the question master said the correct answer was 750.

This total is far wide of the mark, according to Mr. Alfred Cox, of 20 St. Peter's Plain, Great Yarmouth, in a letter to the Yarmouth Mercury:

"My grandfather was one of the originators of the cran," he says. "To get down to its origin one has to go back to the days when herring were sold by the hundred. Some sellers gave a few over, five to 20, and the 20 over was called a long hundred. To save time and patience a basket was made which when filled four times made ten long hundred.

"So a cran of herring should contain 1,200 October herring. This is my father's version and I feel sure the correct one."

Other fishermen around the coast may be able to throw further light on this question. The big disparity between what, presumably, is an official total, 750, and the Yarmouth one of 1,200, might mean the difference between profit and loss to vendor or buyer at times.

Can exact number of herring in a cran be guaranteed, and has anybody ever taken the trouble to count a few cranfulls to establish a fixed number? If so, doesn't the size of the fish govern the number in a cran?

East Anglian October herring, mentioned by Mr. Cox, may differ in size from those caught during the Scottish summer season. "How many herring in a cran?" seems far more intriguing a question than "How many beans make five?"!

("The Fishing News" London January 28, 1955)

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## Japanese Fishermen Have Been Warned

Japanese coastguard authorities announce the issue of "stern warnings" that Japanese fishermen will be "severely dealt with under Japanese law" if they trespass in foreign territorial waters. An official said the warning had been given because of many complaints from Australia and other countries that Japanese fishing boats were violating territorial waters, says Reuter from Tokyo.

These violations were damaging Japan's name, he said, adding that the fishermen had been told they would "not under any circumstances be allowed to enter foreign territorial waters" unless they first notified the coastguard authorities and through them obtained the permission of the country concerned.

("The Fishing News" London February 4, 1955)

## Pink Colored Gillnets Increase Japanese Catches by 60 Percent

When pink shirts, socks and ties became big sellers in men's haberdashery, we might have suspected that the fishing industry would follow through with an appropriate contribution to the new fad.

Japanese scientists have been dyeing gillnets a bright shade of pink, and increasing catches around their islands by as much as 60 percent. The simple idea of a colored net has been so successful, in fact, that the Japanese are predicting that the new twist will revolutionize the fishing industry all over the world.

Japanese zoologists claimed, after a series of extensive experiments, that fish were most strongly attracted to pink objects, and set about to debunk the old theory that nets should be as invisible as possible.

Previously, most Japanese fishermen used black or white nets, but the success of the experiments

soon became known and now fishermen all round Japan's coasts are reported to be using the new pink nets.

Japanese government statistics showed that there was an increase of 60 percent in catches over the period since the new nets have been used.

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

## The "Fairtry" Story is Told

by W. Lochridge,
of Chr. Salvesen & Co.

Proudly we present the story everyone has been waiting for - the first detailed account of how the first fully operational British factory trawler is making her mark on the industry's history. Is the gear fishing successful? Is the processing plant working satisfactorily? Here are the answers in an article of interest to everyone in the fishing world.

Following on the development work carried out by F.V. Fairfree, plans were drawn up for a factory trawler specially built to carry out the complex duties involved in catching and processing fish at sea on the distant fishing grounds. In planning such a ship many points had to be considered before a final design could be prepared. What quantity of fish was considered as a daily production capacity? For how many days' fishing should fuel be carried? What type of propelling machinery should be installed? How many men had accommodation to be provided for? Which method of refrigeration should be employed for freezing and storing the catch? These and many other vital questions had to be considered and balanced before any plan could be drawn up and a complete design prepared. When a design had been prepared to satisfy all the production requirements, this had to be considered in the searching light of its suitability as a ship operating as a trawler among other trawlers on the distant fishing grounds. It must be remembered that even if such a ship was intended to operate in the Newfoundland or Greenland areas beyond the normal

"preservation by ice" range from Britain, she would most likely be in the company of other ships such as French, Spanish or Portuguese "salters", or the New World ships on their home grounds.

In the light of earlier development work carried out during the years from 1946 to 1950 with the pioneer vessels Oriana and Fairfree, stern trawling had been adopted as the logical method of fishing from a high-sided vessel, and in addition to the usual speed and resistance tests of the hull model at the National Physical Laboratory it was decided to carry out test-tank manoeuvrability trials with the model. A drogue was prepared which gave the equivalent scale of 7 tons resistance to the model at trawling speeds and various settings of trawl wire towing positions were tried out on the model before a decision was reached on the method to be adopted.

The vessel which was eventually built, incorporating the many novel requirements of service as a factory-trawler, has been fully described before in World Fishing (June 1954, p.p. 208-213), so a summary will suffice here. The ship is 245 ft. long b.p., 44 ft. moulded breadth, and 24 ft. moulded depth to the main deck. Accommodation was provided to good merchant ship standard with separate mess-rooms and wash places for all ranks. All accommodation is amid-ships and is heated and ventilated by the warm air system. Bed and bedding is supplied by the company for all ratings.

General operational details

The trawl winch is driven by electric motor, and twin motors are fitted with a change-over gearbox allowing either to be used. The lead of the warps from the winch to the gallows hanging blocks is horizontal and is led outboard to the gallows at each quarter by centre and side bollards. It is of interest to note that at the end of 6 months' constant use the warp was still in first class condition and some credit for this is no doubt due to the simple path which the warp follows compared to that necessary in the orthodox trawler.

The catch is passed to the factory by way of hydraulically operated flush hatches at the after end of the fishing deck, and a scale-ice machine was installed for use in heavy fishing or when a haul was likely to be held for more than a very few hours before processing. Filleting machinery was provided but hand filleting tables were also installed for use in dealing with fish varieties not suited to the machine process. These tables were of steel frame construction with "lift-out" tops so that cleaning could be both simple and effective. Weighing is carried out on ordinary balance scales fitted to permanent level weighing tables of simple yet ingenious design.

Quick freezing

Quick-freezing can be carried out by either air-blast or contact freezers, and the frozen blocks are sealed in ice by passing through spray glazing machines with conveyor drive. The transfer of cartons of fish blocks from factory to storage hold is effected by conveyor and spiral chute. There are three low temperature cargo stowage holds, cooled by brine grids, and divided into pounds in a manner similar to normal trawler practice.

Refrigeration compressors use Arcon 6 gas as a refrigerant, with calcium chloride brine as the cooling medium to freezers and cargo spaces. Engine room auxiliary machinery includes a boiler for the supply of steam to fish-meal and liver-oil plants, in addition to the evaporator and the domestic heating units. A very extensive electric supply installation is provided as all auxiliaries are driven by electric motors. The main engine is of the well-known Doxford type and gives direct drive conditions for trawling in a manner not unlike that of a corresponding steam engine. The fuel requirements of steam machinery, of course, prevented anything beyond its very preliminary consideration. The vessel operates over very large ranges of time and distance, and large fuel and fresh water tank capacities had to be provided.

Trawling operations

After successful trials had been completed, the maiden voyage to the fishing grounds off Newfoundland

was uneventful except for a considerable detour to avoid ice fields on the final days. Fishing operations met with initial delay due to mechanical trouble in the trawl winch change-over gearbox, but this was overcome in short time and work went ahead in fishing and at the same time adapting the gear handling methods to the simplest form possible to save manpower. The handling of the fishing gear is very largely a mechanical operation, and the complete trawl, from dan-leno bobbins to cod-ends, is hauled up the stern slipway on to the deck by the trawl winch. To distribute the load of fish, two cod-ends are fitted to the net, and considerable initial development of net design was carried out before we had our final specification and design of trawl net and equipment. A further problem which faces any large trawler on rough ground is in the fishing gear coming fast on underwater obstructions. The large moving mass of the ship does not pull up in anything like the same way as a smaller ship and winch brake setting becomes most important while trawling. Development in this direction now incorporates a mechanical arrangement which allows the desired brake setting to be made by a spring-loaded device so that an excess load causes the winch to pay-off until the ship can be halted and the net hauled clear of the obstruction.

While all this development work was being carried on it did so in the course of constant trawling operations, and single hauls during the very early stages ranged up to 12 tons of fish. This, it must be remembered, had to be taken on board by dragging up the slipway in a single haul distributed over the length of the two small diameter but long cod-ends, and considerable work on belly-line arrangements was carried out before a finalised and satisfactory method was found which saved the fish and did not damage the gear.

Factory machinery works smoothly

While development work on fishing was going on, experience in handling the catch through the various factory operations was also being obtained and modifications carried out to facilitate the work in the various processes. It was found, for instance, that the filleting machinery was capable of operation on fish

newly out of the water in addition to fish which had lain for several hours and had passed through the various stages of rigor-mortis. This allowed much flexibility in handling the produce into the succeeding processing operations. Our weighing arrangement for fillets was found to be satisfactory and accurate even in a heavily rolling ship, and no packing or freezing difficulties were experienced which could not be overcome by simple and effective amendment. Ice supply for use where several hours might elapse before a heavy haul could be cleared was cared for without difficulty by the scale-ice plant.

The fish-meal plants installed are of the simple batch system concentrator type of machines, and charging of these is carried out from hopper containers which measure out the required volume of offal required for each charge. The filleting machinery delivers heads and skeletons, after the fillets have been removed, to a conveyor belt which is arranged to discharge into whichever of the four fish-meal plant hoppers is to be loaded. The equipment is simple, and this was regarded as important in a new venture of this kind, even if not so efficient as the more complicated type of plant, and meal of first class quality has been produced since the very beginning of operations. The dried offal is dropped direct from the concentrators into hoppers from which it travels by screw-conveyor to the grinding plant, and thence by cyclone to the bagging plant. Storage is provided in the vicinity of the fish meal production compartment for the sacks of meal, and in reasonable conditions, in the region of 2 tons of meal per 24 hours is produced.

Livers removed in gutting are fed direct to the boilers by way of a hopper which is in the fish pound area, and a chute is provided to allow the use of each of the four liver oil boilers installed. The liver oil storage tanks are situated immediately under the oil boiler compartment so that transfer of oil to these is a simple matter. A pump of considerable capacity is installed to enable the oil, or "foots", to be discharged in port with a minimum of delay.

On each of the first two voyages the ship operated off Newfoundland and Greenland, but on voyage

three only the Newfoundland area was fished.

It will be appreciated that crew welfare is a point of great importance in a vessel which is at sea for long periods at a time, and recreational facilities range from table-games and library to cinema shows or Church Services when the opportunity allows. Mail facilities are usually catered for by the kindness of the St. John's trawlers in acting as "go-betweens" from Fairtry to the company's agents in St. John's. There is no doubt that this has proved to be a service which is eagerly looked forward to by all on board, and there have been occasions when letters were delivered to the ship only 5 days after they had been posted in Britain.

From the points which have been mentioned here some appreciation will be gained of the complex nature of operations involved in a factory trawler of this nature. There have been many lessons learned in the short period during which the ship has been in service, but it must be appreciated that the accomplished work has been very considerable indeed. There is no doubt whatever that Fairtry is what the fisherman terms "a good fishing ship." From the very beginning of operations this fact was evident to all concerned and the main problem in the practical operation of the vessel so far has been to do everything possible to enable factory production of fillets to be geared to dealing with the excellent catches which are obtainable for much of the time. At the same time there has been a rigid ruling that quality must not be sacrificed to production.

<u>First-class quality</u>

On return to port the vessel's cargo is discharged to low temperature cold stores from which distribution is made to customers' requirements. Reports on quality acceptance of the fish have been most satisfactory, and the early objection to the slight colouring of the flesh is being overcome in view of the flavour obtained. It must be borne in mind that the fish are so fresh when frozen that much of the flesh may not have all the blood drained from it, in the manner of fish carried on ice for days in the ordinary trawler. This colouring may in time become the symbol of the freshly frozen fish, but in any case it vanishes entirely in cooking.

("World Fishing" London February, 1955)