ENT, WESTERN AUSTRALIA

RVICE BULLETIN

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PERSONAL NOTES

Messrs. Brownfield, Bramley and Traynor have returned to Head Office from their visit to the Kimberleys.

Mr. Traynor later left for the Great Southern and South-West to continue duck-banding operations. He was accompanied by Assistant Inspector Oliver.

Assistant Inspectors G. Coombes and J. L. Gallop have been appointed to the permanent staff on six months' probation.

Congratulations are extended to Inspector and Mrs. A. V. Green on the birth of a son on September 11. Before her marriage Mrs. Green was Miss Betty Roberts, of the Head Office staff.

The Superintendent (Mr. Fraser) visited Pemberton during the week-end of September 6-7 to attend the ceremonies connected with the official opening of the new trout ponds. Other departmental representatives at the various functions were Inspectors Munro and J. S. Simpson and Cadet Inspector Carmichael.

Accompanied by Mr. Saville, of Head Office, the Superintendent visited Albany and Denmark from September 11 to 13. Enquiries were made into a proposal for the opening of a small area of Oyster Harbour to net-fishing, and in relation to the depredations of kangaroos and emus in the Denmark-Young's Siding-Tingledale area. On the evening of September 12, accompanied by Inspector Jeffery, they were present at a meeting of the Denmark Road Board, to which representatives of the local professional fishermen, anglers

and farmers had been invited for a general discussion on fisheries and fauna protection problems.

Inspector W. Davidson and Cadet Inspector M. J. Simpson are at present on annual leave. Inspector Crawford is relieving at Fremantle during Mr. Davidson's absence.

Inspector Bowler will commence his leave at the beginning of October. Inspector Melsom will relieve.

During the whole of the week of September 15-19 Inspector J. E. Munro was present at the Wild Life Show organised by the W.A. Naturalists' Club and Gould League of Bird Lovers and held in the Perth Town Hall. Mr. Munro prepared the Department's exhibit and answered literally hundreds of enquiries by patrons of the show.

Mr. K. Godfrey, of C.S.I.R.O. Fisheries Division, left p.v. "Lancelin" at Onslow on her return trip from Broome, and left almost immediately for Tasmania to assist with Mr. W. B. Malcolm's Australian Salmon investigations.

Mr. L. G. Smith, Technical Officer, last month visited the Geraldton district in connection with the mullet and ruff sampling and tagging programme. On his return to Perth he visited Bunbury, Busselton and Albany for ruff sampling.

Miss Shirley Norwood has resumed duty after annual leave.

Mr. H. Jitts, who since his arrival in Western Australia a couple of years ago has been in charge of hydrological investigations in W.A., is no longer associated with that phase of C.S.I.R.O. activity. He has not severed his connection with the Fisheries Division, but will undertake other duties. Mr. Athol Middleton has assumed control of the hydrological programme for this State.

A recent visitor to Head Office was Mrs. J. Butler, formerly Miss Millie Johnston, of the Head Office staff. Mrs. Butler resigned from the State Public Service in 1946 to accept a position with the old Department of External Territories, and was almost immediately posted to Port Moresby. Since marriage she has lived with her husband in many different parts of the

Territory, but Mr. Butler has now resigned to take up the duties of patrol officer with the Department of Native Affairs in this State.

NEW TROUT PONDS OPENED

In rather inclement weather the new trout rearing ponds were officially opened on Saturday, September 6, in the presence of a large gathering of residents and visitors. The proceedings were to some extent marred by rain, which precluded a larger attendance.

In his opening address the President of the Pemberton-Warren Trout Acclimatisation Society gave a brief history of the introduction of trout to the district and mentioned the many difficulties which had to be overcome before to-day's stage of development could be reached. When it became evident that an increased number of ponds, which had to be of an improved design, were necessary, said Mr. Kelly, an approach to the Government for financial assistance was made and proved successful. The result was a grant of £3,500 to the Society. A great deal of preliminary work, including clearing, had been done for the construction of the ponds at a site adjoining the existing hatchery, but before making a start on construction it was found that the supply of water, the source of which was on land privately held, might be curtailed. Fortunately for the Society the Pemberton Golf Club surrendered at this time its lease of the National Park and the State Electricity Commission decided to abandon the hydro-electric scheme then in operation.

Arrangements were made with the Trustees of the National Park for a lease by the Society, which also purchased the old water pipe-line and turbine buildings from the S.E.C. Plans were prepared by the Public Works Department and tenders were called. However, no tenders were received and the Society decided to do its own contracting.

Week-end work was organised by Mr. R. Cave, to whom the Society was very deeply grateful, and the earthworks were commenced in March, 1951. Work was carried on right through the winter with an occasional "full-time" employee making preparations during the week for the week-end gangs. With no permanent supervisor available, all engineering administration and

supervision had been done by the Society's officers and staff. Some very valuable advice had in the preliminary stages been received from the Engineers of the Main Roads Department and from Mr. P. H. Pemberton concerning foundations and drainage, and a contour plan prepared by Mr. R. Bevan, but the whole work of construction had been done by amateur labour. A new pipe-line from the old hydro-electric dam had been laid, and ample supplies of water were assured. Later on, he said, the Government made available a further sum of £1,000 in view of greatly increased costs.

Mr. Kelly concluded by saying that special tribute was due to Mr. F. Shoobridge, the Society's Curator, who in addition to his normal duties supervised most of the construction, and to the Honorary Secretary-Treasurer of the Society, Mr. N. W. Martin, who attended to the whole of the financial arrangements.

The Superintendent of Fisheries, Mr. A. J. Fraser, expressed his pleasure and gratification in the fact that trout acclimatisation had progressed to the stage where new rearing ponds were necessary. He congratulated Mr. Kelly and the Society on their work, and said that the £4,500 made available by the Government did not by any means represent the value of the work put into the ponds. Thousands of hours of voluntary work, whose value could not be assessed, had been put into the whole Pemberton set-up by local enthusiasts, and their contribution was beyond value.

Mr. E. K. Hoar, M.L.A., said he had watched with interest the progress that had been made in establishing something they believed in. The project had had the support of all Governments, irrespective of political belief, and he welcomed the opportunity of welcoming and introducing to the gathering the Minister for Fisheries (the Hon. A.V.R. Abbott, M.L.A.), who would perform the official opening ceremony.

Mr. Abbott said he was very happy to be present. As a foundation member of the old Fish and Game Society, he had been particularly interested in this work ever since that Society was established in 1935. He had travelled extensively through Australia and had seen many trout ponds, but he was quite satisfied that the setting at Pemberton was the most beautiful of any in the Commonwealth. It was a pity that such huge sums had to be spent on defence projects just now. If their necessity did not exist, money could have been made available to make Pemberton the outstanding tourist

centre in the West. The Premier was most sympathetic to this venture, but unfortunately "that bogey which no one ever really sees but which has great power - the Treasury," does not permit all needs being met. He said that before opening the ponds he would ask Mr. J. B. Grosser, a Vice President of the Society, to make some remarks.

Mr. Grosser said that very few people actually had knowledge of the vast amount of work which required to be done in the field of trout propagation. In Pemberton, he said, there was one man who had devoted an appreciable portion of his time and brains to this end. That man was Mr. A. R. Kelly, whose initiative, forethought and driving force were responsible for their construction. Mr. Grosser also mentioned Mrs. Kelly, who had been so much alone while her husband was so busy on the Society's work. He desired to record the Society's gratitude for her very real help. Mr. Grosser then presented a plaque to Mr. Kelly in token of the Society's appreciation of his contribution and said the Council was desirous that it be erected in a prominent position at the ponds as a permanent reminder of his invaluable work. The plaque bore the following inscription -

> This plate expresses the appreciation of the untiring and valuable efforts of A.R. Kelly in the organisation and construction of these rearing ponds and his outstanding contribution to the propagation of trout in Western Australia. September 6, 1952.

After Mr. Kelly briefly acknowledged the presentation, the Minister for Fisheries officially opened the ponds by unlocking the gates and turning on the water to No. 1 pond. Simultaneously the water to the other ponds was turned on by Messrs. H. Birmingham and N. S. Fletcher, Presidents of the Murray and Serpentine-Jarrahdale Trout Acclimatisation Societies respectively, S. R. Doust, Secretary of the Blackwood Trout Acclimatisation Society, E. K. Hoar, M.L.A., L. Thompson, Chairman of the Manjimup Road Board, Hon. G. P. Wild, M.L.A., Minister for Forests, and A. J. Fraser, Superintendent of Fisheries. After the turning on of the water, 20,000 trout fry were liberated in the ponds by Inspector J. S. Simpson and Mr. F. Shoobridge, assisted by members of the Society.

At the afternoon tea which followed, a vote of thanks to the Minister and other visitors was moved

by Mr. L. Thompson, who said it was an honour to him to welcome them to the Manjimup Road District, in whose area the new ponds are situated.

In the evening the visitors were entertained at dinner by the local Society. The toast of the Minister for Fisheries and the Department was proposed by Mr. Kelly and the responses were made by Mr. Abbott, Mr. Fraser and Mr. J. S. Simpson. The toast of the Trout Acclimatisation Council of W.A. was proposed by Mr. A. L. Smith, and responded to by Mr. Keith Sheard, acting Secretary. "Friends and Helpers" were honoured in a toast submitted by Mr. N. W. Martin, and Mr. F. W. Leeman, of the State Sawmills, responded. A toast to the visitors was proposed by Mr. S. E. Young, to which the Hon. G. P. Wild, M.L.A., responded. Mr. N. S. Fletcher, supported by Messrs. H. Birmingham and R. E. Doust, proposed the toast of the Pemberton-Warren Trout Acclimatisation Society, which was acknowledged by Mr. J. B. Grosser.

On the Sunday morning a casting competition was held at the Pemberton swimming pool, and although the weather was still showery, with a cold wind, it attracted quite a number of onlookers.

The results of the competition were -

$\frac{1}{4}$-oz. plug distance (Trophy donated by C. Horner & Sons) - Mr. L. Duncan, Bridgetown.

$\frac{5}{8}$-oz. plug distance (trophy donated by Perth Sports Depot) - Mr. W. Wykes, Perth.

Heavy line unrestricted fly distance (trophy donated by Mr. Roberts, Serpentine) - Mr. A. L. Smith, Perth.

Dry fly accuracy (trophy donated by Harris, Scarfe and Sandovers Ltd.) - Mr. F. Anderson, Pemberton.

$\frac{3}{8}$-oz. plug accuracy (trophy donated by Mrs. Eckersley, Harvey) - Mr. S. R. Doust, Bridgetown.

The trophies were presented to the winners by the Superintendent of Fisheries, Mr. A. J. Fraser.

OBSERVATIONS ON BIRDS

Dr. D. L. Serventy, of the Wildlife Survey Section, C.S.I.R.O., has written asking for information

concerning any unusual occurrence of any species of bird. He says this is proving a most unusual year, and a number of northern birds have been reported in districts much farther south than they have ever been seen in previous years. For example, Inspector Bowler has reported that on a visit to Perth by road towards the end of August he was surprised at the large numbers of straw-necked ibis he observed between Geraldton and Moora, one flock of at least 150 birds being seen flying about 4 miles south of the latter place. Other northern birds which have been reported in the south are the brolga, as far south as Geraldton, and the magpie goose, at Mullewa.

Reports have also been received in regard to the occurrence of the black-tailed native hen, the fork-tailed, the letter-winged and the black-shouldered kites, the spotted harrier and the Pacific heron. Dr. Serventy has in course of preparation an article dealing with the invasion and he will be glad to have any field information from departmental officers. Any observations which the staff may care to report to the Department will be passed on forthwith to Dr. Serventy, who asks that the particulars given should include the species, locality, date and general abundance of the species.

PEMBERTON HATCHERIES - 1952 HATCHING SEASON

Inspector J. S. Simpson has submitted a most informative report concerning hatching operations at Pemberton this year. His remarks are summarised below -

After years of varying success, the Pemberton-Warren Trout Acclimatisation Society must feel proud and happy at the culmination of their efforts to maintain a stock of rainbow breeders from which sufficient ova can be secured to meet all restocking requirements throughout the State. Some years ago the Society set a target of a million ova annually, and in 1940 the new hatchery, designed to incubate 500,000 eggs, was completed. This year, without any additions to the original structure, a total of 1,054,670 ova were laid down, which meant that the cement troughs intended to hatch 25,000 ova each had to carry 50,000 and more.

This overcrowding naturally involved a very great deal of extra work, as the eggs were two or three deep, thus rendering the removal of the dead eggs doubly tedious. It was really a worrying business

because there was always the fear that owing to the overcrowding there might at any time be an outbreak of disease, but fortunately the whole setup worked well, and although losses were slightly higher than might have been expected with a normal complement of ova, the results in general were most gratifying. One bad moment was when the dam from which the hatchery water is piped sprang a leak, and water was dangerously short until the leak was located and rectified.

As previously recorded the first take of ova was on May 23, and at the end of the first week 110,000 rainbow and 7,000 brown ova had been stripped and laid down. Thirty additional hatching trays had to be constructed to cope with the spate of eggs, and in addition three of the old iron hatching troughs from the original hatchery built in 1936 and pulled down a number of years ago were brought into operation. These were fed through a hose from a $\frac{3}{4}$" tap.

The pond-held rainbows stripped exceptionally well, and averaged over 1,000 eggs from each fish. The handling of the fish in cradles (made from $\frac{1}{2}$" net) for the first time proved most successful, and allowed the hatchery operatives to work more efficiently and rapidly. This speed of working permitted the use of only one male fish to fertilise the eggs of five females. Hatchery results indicate that fertilisation by this process was quite satisfactory.

The last of the season's take of eggs were laid out in the hatchery on July 21, and by the end of that month there was such congestion that 253,000 fry were transferred to the new rearing ponds.

Only one of the stream traps was in operation during the season, that at Lefroy Brook. Owing to road repairs, the trap at East Brook could not be reached. Of the 109 trout caught at Lefroy Brook, one only was a rainbow. Of the 108 browns 65 were males and 43 were females. A number of the females taken had already shed their ova. Inspector Simpson is of opinion that this was caused by interference by water rats, which are fairly plentiful in the district and are often met with in the traps. A number of the trapped trout had been badly mauled and in some cases almost completely eaten. A bad washaway under the bedlog of the trap caused it to be out of commission for a week or more at the peak of the spawning period, otherwise the take would undoubtedly have been greater.

The following are the complete hatchery returns for the season -

	Rainbow	Brown
Total number of females stripped	916	*
Total number of ova taken	1,023,889	30,781
Average number of eggs per fish	1,117	*
Total number of eggs eyed	941,978	27,708
Percentage loss to eyed stage	8%	10%
Total number hatched	800,317	24,973
Percentage loss to hatching stage	22%	18%

* Record not kept.

The trap figures are as shown (for brown trout only) -

Total trapped	108
Males	65
Females	43
Average weight	2.25 lb.
Average length	17 in.
Condition factor	45.79

P. V. "LANCELIN" - NORTHERN CRUISE

Mr. K. Godfrey, Technical Officer, C.S.I.R.O. Division of Fisheries, who joined "Lancelin" at Port Hedland on the northern leg of her cruise to the North-West, and left her after completing the survey of Exmouth Gulf, has provided a few notes in relation to her prawn-trawling experiments (principally in Exmouth Gulf) and to the catches made by trolling.

Altogether 37 hauls were made with the beam-trawl and 31 with the otter-trawl. Hauls were made on almost every type of bottom imaginable - mud, sand, gravel, shell and broken reef - in depths ranging from 2 to 10 fathoms, at all hours of the day and night and at all states of the tide. It was actually found that the most important factor was the state of the tide, and that the hour of the day was of no real importance.

The nets were constructed by C.S.I.R.O. Division of Fisheries. Particulars are as follows -

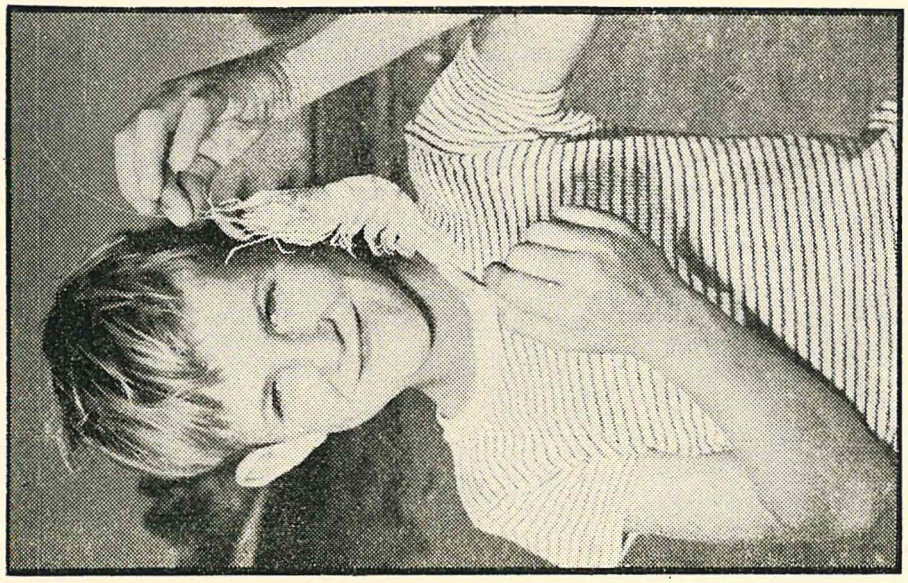
	Otter-trawl	Beam-trawl
Length overall	app. 24 ft.	app. 20 ft.
Width of mouth	30 ft.	18 ft.
Depth of cod end	100 meshes	9 ft.
Mesh of net	2" ($1\frac{1}{4}$" in pocket)	$2\frac{1}{2}$" to 1"
Ply of net	12 ply	12 ply
Size of rope in warps	$2\frac{1}{2}$"	$2\frac{1}{2}$"

The length of rope in warps was 5 times the depth of the water in both cases, and the footrope was 10% longer than the head rope.

The otter-trawl was proved the more suitable, but even this type of trawl required considerable modification, e.g., heavier net (at least 15-ply) was necessary, a heavy footrope had to be incorporated and a rope with a "tickler chain" proved essential between the otter boards. It was also found necessary to use warps 5 times the depth of water fished.

Prawns were found in most areas, but the most encouraging results came from Exmouth Gulf. The principal species taken were a prawn very similar to the king prawn, which averaged 6 inches in length, and one similar to the tiger prawn, which averaged just over 5 inches. These two species have not yet been definitely identified. The females were all carrying spawn in a late stage and both kinds were of excellent flavour. Neither of these prawns has ever been seen by local residents in any of the creeks in the north. They are probably both of strictly marine habits.

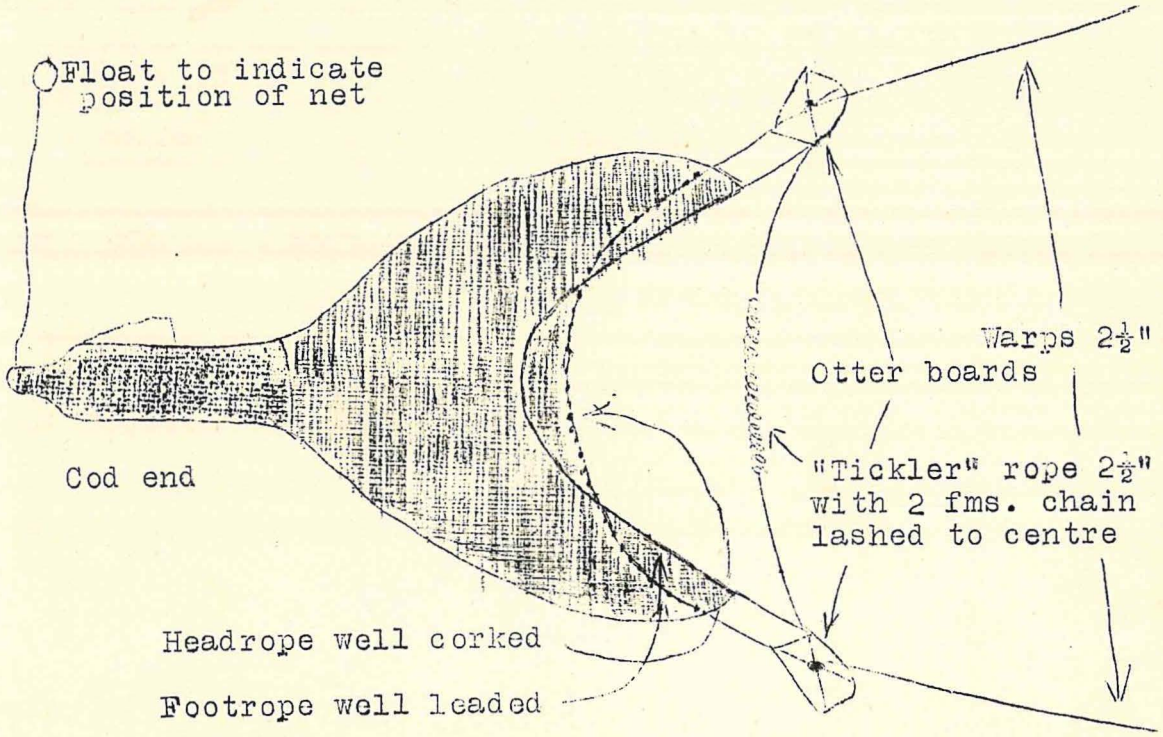
Trolling between Geraldton and Broome produced 263 fish, including the following species - Narrow-barred Mackerel (Scomberomorus commerson), Japanese Spotted Mackerel (Scomberomorus niphonius), Wahoo (Acanthocybium solandri), Large-scaled tunny "Red Mackerel" (Grammatorhyncus bicarinatus), North-West Sea Pike (Sphyraena akerstromi), Grey Mackerel (Scomberomorus semifasciatus), Trevally (Carangid species), Speckled Cod (Epinephalus species), Mackerel Tuna (Euthynnus alletteratus), Northern Bluefin Tuna (Kishinoella tonggol), Striped Tuna (Katsuwonus pelamis), Yellow-tail Kingfish (Regificola grandis), Turrum (Caranx emburyi), Leatherskin (Scomberoides sancti-petri) and Yellowfin Tuna (Neothunnus macropterus).



Peter Simms (10), of Onslow, with one of the prawns caught by "Lancelin"

(Block courtesy "Daily News")

ROUGH SKETCH OF PRAWN OTTER-TRAWL AS RIGGED FOR "LANCELIN"



MARRON PROTECTION

The Marron (Cheraps tenuimanus), the crayfish par excellence of the freshwater streams of the South West Land Division, appears to be diminishing in numbers in many of our streams, although through transplantations its range has been materially extended. Quite a number of keen "marroners" have in recent years complained of the falling off in both size and abundance of this delectable crustacean, and observations made by Inspector J. S. Simpson in the Pemberton district and elsewhere lend weight to the complaint.

It has now been decided that as a conservation measure the capture of marron during the months of September and October in each year will be prohibited in all freshwater streams of the Division mentioned, and that during those months the taking of any sort of fish by means of a net intended to be used or capable of being used for the taking of marron shall be unlawful. For the first time a minimum legal length has been prescribed - 3 inches from the tip of the rostrum to the rear end of the carapace.

The necessary proclamations have already appeared in the "Government Gazette", and copies will be forwarded to all officers as soon as received.

September and October cover the mean spawning period.

STOPPING AND SEARCHING VEHICLES

Section 41 of the Fisheries Act, 1905-1951, gives to an inspector the power (inter alia) to "stop and search any vehicle or go on board any boat or into or upon any house ..... to inspect fish and to search for ..... any net used or about to be used in breach ....."

This is a very wide power indeed, and in cases in which such wide powers are enjoyed the Courts over and over again have stressed that the exercise of such power must not be arbitrary, but must be supported with very sound reasons. The reason for this is that at common law, in accordance with the well-established principle of British justice, a man's home is his castle (i.e., something which he has the right to defend) and

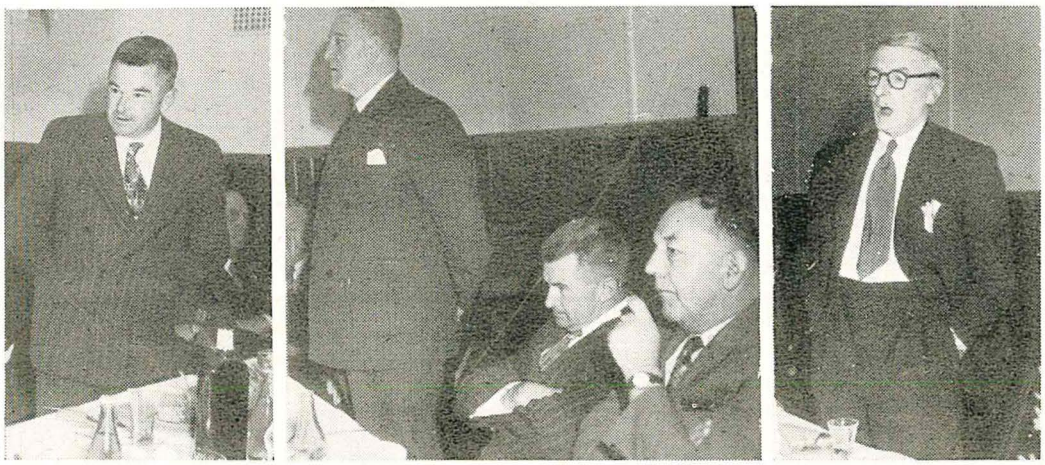
that his possessions are his own, and his own alone. Therefore, before an inspector stops or searches vehicles, or enters houses, etc., he must have very sound grounds for suspecting that in the vehicle, house, etc., there are firstly fish, and/or secondly nets "used or about to be used ....."

For example, the mere fact that a vehicle is on the foreshore abutting on closed waters in which unlawful fishing has been taking place, is not in itself a sufficient reason for searching the vehicle. On the other hand, if the vehicle is identified as the property of a fisherman who has been convicted for illegal practices, a more sound reason might exist for searching it. But even under those circumstances a search might not always be justified - a stronger reason, such as activity on the part of some person or persons in the adjacent closed waters, should be sought, otherwise the inspector may find himself in difficulties without having the benefit of the protection afforded him under section 44.

It is true that section 44. prescribes severe penalties (a minimum of £10) for assaulting, resisting, obstructing or abusing an inspector, but if one reads further it will be noted that the inspector must be acting "in the execution of his duty or authority". Going back to section 41, as already explained an inspector has wide powers of search, and while exercising them properly and reasonably he is acting "in the execution of his duty or authority". If, however, he exceeds those powers, or exercises them improperly and unreasonably, he is no longer executing his duty or authority, and the protection granted by section 44 disappears.

A very recent case occurred in this State in which an inspector at night commenced to search a utility truck parked on the foreshore of closed waters, because he thought there may be nets or the like in the vehicle. One of the occupants immediately sprang out and punched the inspector on the mouth. In this instance it was felt that the inspector's reason for searching the vehicle was inadequate. In fact the occupants were not fishing, had not fished, nor had any intention of fishing, neither was a fisherman and there was no gear on board. Furthermore, no suggestion had been made to the inspector that the truck in question was likely to be used in connection with illegal fishing operations. In all the circumstances the Department declined to proceed, as it was felt that the inspector was not justified in making a search.

Personality Page



AT THE PEMBERTON-WARREN TROUT ACCLIMATISATION SOCIETY'S DINNER ON SEPTEMBER 6, 1952.

Left to right—Mr. A. R. Kelly, President of the Society; Hon. A. V. R. Abbott, M.L.A., Minister for Fisheries; Mr. Kelly; Mr. A. J. Fraser, Superintendent of Fisheries; Mr. A. L. Smith, anglers' representative.

A GROUP OF FISHERIES FOLK.

Back (left to right)—Messrs. Clive Wirrell, Keith Sheard, Athol Middleton and Harry Jitts, all of C.S.I.R.O. Fisheries Division. Front—Mr. A. J. Fraser, Superintendent of Fisheries.

THE CLEARING-HOUSE

The following paragraphs culled from overseas and eastern States periodicals are published for information.

A Dismal Failure

Another last chapter in a commercial venture of the late Government took place last week when the 1,966-ton "African Queen", the Colonial Development Corporation's Gambia fish factory ship, was reported sold. She has been laid-up in the River Tyne since last October, when she returned from West Africa after the abandonment of the ill-fated project.

The purchase price is reported as £70,000-£80,000 - a small return in view of her cost. A four-masted vessel with oil engines driving twin screws, the "African Queen" was fitted out for fishing and processing shark, tuna and crayfish for the C.D.C.'s Gambia fishery project, and she cost the corporation £303,500-£127,000 for hull, engines, equipment and plant, and £176,500 for the cost of conversion. The conversion was carried out by J. S. Doig (Grimsby), Ltd. A shore plant and other expenses brought the cost of the corporation's project to a total of £505,000.

She reached Bathurst, Gambia, on January 8, 1951, and eight months later it was decided to abandon the undertaking. The ship's produce realised about £16,000. The project's trading loss at the end of last year was £125,927, development costs and losses on realisation totalling £87,090 had been written off, and provision had been made for further expected losses of £161,127. "This has been one of the worst failures", said the corporation's report for 1951.

What a pity that the "African Queen" did not prove to be such a money-spinner as the Bogart-Hepburn film of the same name!

(The Fishing News, London, August 2, 1952).

Another C.D.C. Shut-Down

Last Week I commented on the last chapter of the Colonial Development Corporation's ill-fated Gambia fish scheme. The corporation has now announced that - as already reported in "The Fishing News" - its

fisheries project in the Seychelles Islands will be shut down.

Government fishery research in those waters over two years had indicated abundant supplies, but intensive efforts by C.D.C. vessels from April, 1951, have not produced anything like the quantities indicated by the Government survey, states the announcement.

The Seychelles scheme was started to supply dried fish to East Africa. During 1951, some 110 tons valued at £6,000 were produced instead of an estimated 640 tons worth £33,000 and in six months' trading the scheme lost £27,902.

Some £350,000 was sanctioned for the project, of which about £270,000 has been spent. The vessels - the 336-ton motor fishing vessel "Isle of St. Anne", the 333-ton motor fishing vessel "Isle of Silhouette" and the 522-ton carrier motorship "Isle of Mahe" - together with the equipment and the shore station on the Isle of Saint Anne, will be sold.

Some of the reasons for the failure of the scheme given in the corporation's report for last year are: Fishing was seriously restricted by mechanical breakdowns in one vessel, which made only four out of the scheduled 14 trips; on the trips made, catches were much smaller than expected, due in part to abnormal weather; European officers and the type of vessel used - with their refits - have proved far too costly.

(The Fishing News, London, August 9, 1952).

Blast-Freezing of Fish

Montrose Firm's New Plant

A deep-freezing plant, one of the first in the district, has been installed by the Montrose, Angus salmon fishing firm of Joseph Johnston and Sons, Ltd.

Shafts of frozen air are directed by fans on to the fish, most of which are laid out in trays. Larger fish are hung on hooks. Each tray takes four salmon or 15 sea-trout. The freezing process takes four hours for sea-trout and almost twice that time for salmon.

Immediately they are removed from the trays, the frozen fish are placed in water before being boxed. Effect of this is to encase them in an air-excluding jacket of ice. The treated fish are kept in a chamber with a temperature of -22 deg. Fahr. The advantage of the blast-freezer over the slower methods of refrigeration is stated to be that the fish lose nothing of their natural firmness or flavour.

This new plant is unusual in that it also includes a form of central heating. Experience has shown that soil below a cold store can be frozen to a depth of 40 ft. in some circumstances, despite the insulated flooring. Expansion occurs at a stage in the freezing of the soil, and the floor is liable to burst.

A system of heated wires in the floor of the Montrose plant compensates for the expansion. A thermostat controls the heating of the wires just before the critical point is reached. There is one snag. Workers handling the fish have to be careful not to touch any of the metal fittings or they may be burned by the icy metal.

(The Fishing News, London, August 9, 1952).

They Can't Get Away!

A fishery officer with a heavier-than-usual post-bag these days is N. Mackenzie, who is in charge of 800 miles of water for the Great Ouse River Board.

Reports that he has developed electrical apparatus for fishing have led to enthusiastic enquiries - official and unofficial - from South Africa and Canada, India and Australia. Other river boards in Britain are also very interested and asking for demonstrations of this almost fool-proof method.

Experiments in electrical fishing have been carried out on the Continent, but this latest apparatus appears to be the most mobile and least cumbersome so far produced.

Petrol-engine and generator are carried in a steel frame which can be turned into a "wheel-barrow" by means of detachable wheel and handles. To this is connected a wooden rod with a "live" spoked wheel at the end.

Another operates on DC and has two live electrodes at the end of the wooden rods.

When the former is used, all fish coming within eight feet of the wheel are stunned and can be easily netted for inspection. The latter, primarily for lakes, attracts the fish and enables them to be netted before sinking into deep water.

Cost is between £60 and £150.

"The great thing about this equipment", Mr. Mackenzie told FISH INDUSTRY, "is the time it saves."

Thousands of fish can be inspected now compared with hundreds before.

Use of this equipment has proved so successful that the board are proposing to have a bye-law prohibiting the use of similar instruments without the board's consent.

"It is most undesirable that equipment of this kind is used outside the river boards," said Mr. Mackenzie. "Abuse could lead to untold trouble and a lot of harm".

The machines do not harm the fish or affect fertility. Stunning lasts only a few minutes.

The apparatus facilitates removal of coarse fish from trout streams, and vice versa, and will enable a more thorough census to be carried out.

Can the equipment be developed commercially?

"I don't think so," said Mr. Mackenzie. "There are many technical problems. We find that muddy water cuts down voltage - sea water would do so to an even greater extent. Voltage has to be stepped-up in comparison with depth. And I think cost of equipment would be too high and it would need a lot of room."

Mr. Mackenzie is following his father and grandfather as a fishery officer. His brothers, too, hold similar posts.

He is assisted away from the office by 14 part-time bailiffs, each in charge of a section of water. He is hoping to have full-time bailiffs soon.

Are men easy to find? "Not today," said Mr. Mackenzie.

"Good bailiffs are scarce - the right man must know a lot about rivers and fish and be a keen naturalist.

"In addition he must be tactful, know the law - and be completely trustworthy because he spends most of his time working alone."

(Fish Industry, London, August 1952).

Nor'-West Whaling Surplus is £119,683

First accounts of Nor'-West Whaling Co. Ltd. as a public company show a surplus of £119,683 for the year ended March 31, 1952, after depreciation and provision of £120,000 for taxation.

From the net surplus, the directors report, the debit balance of £44,020 carried forward last year in the profit and loss appropriation account and payment of the interim dividend of 10 per cent, amounting to £27,000 were deducted.

This left £48,663 available. Appropriations recommended are payment of a final dividend of 10 per cent (making 20 per cent for the year), requiring £27,000, and transfer of £20,000 to general reserve account, leaving £1,663 to be carried forward.

It is estimated that the £120,000 provided to meet income tax will be sufficient for total tax liability to March 31, 1952, but there are some matters still to be agreed upon with the Commissioner of Taxation in relation to the company's expenditure. It may, therefore, become necessary to transfer to provision for income tax some part of the £20,000 recommended for transfer to general reserve.

The company's catch of whales for the 1951 season reached 574, giving a yield of 4,166 tons of oil. New plant installed during the season contributed largely to the company's extended operations. Sales averaged more than £113 sterling a ton of whale oil sold.

Favourable

The Director of Commonwealth Fisheries, the directors state, wrote to the company after the end of last season, stating that its results compared favourably

with shore-based stations in other parts of the world.

To save delays and expense in overhauling craft between seasons, the board decided to obtain a slipway on the Swan River with working and storage accommodation. A property has been purchased at Rocky Bay.

A review of the 1952 season indicated that the company's full quota allowance of 600 whales would be taken and that oil extraction per whale would be higher.

Lower world prices now offering for whale oil has given the board some concern. About 2,500 tons of new season's oil have been sold forward and shipment provided for.

Average price for oil already sold is £76/11/- sterling a ton, which is considered satisfactory under present conditions. The directors consider that existing lower oil prices will be offset to some extent by the higher yield of oil and higher prices for whale meat.

The new season has seen the completion of the plans the company formed to install an up-to-date whale treatment plant.

(The West Australian, Friday, September 26, 1952).

Sport Fishing for Carp

Sport fishing for carp is rapidly increasing. This will come as a shock to many anglers, but the growing interest in this generally scorned species is warmly welcomed by fish managers in those states where an overabundance of the exotic is causing headaches.

The stocking of farm ponds with carp is becoming common practice in certain sections of the South-east. Pennsylvania in recent years has annually supplied over 50 ponds with something like 75,000 pounds of live carp. In 1951 over 200,000 pounds of carp trapped in Wisconsin waters were transported alive to artificial ponds in adjacent states where, in many instances, a fee was charged for attempting to catch them with hook and line.

If the owner of a farm pond wants to raise carp in it, that is his affair. Surely no other fishing resource will be harmed, and perhaps his need for

stocking will help reduce carp populations in waters where they are competing with other and generally more popular species.

Wisconsin is currently campaigning for a wider use of carp as food. Last year the state sent over 4 million pounds of this fish to market, which meant $265,000 to the fishermen who harvested them. It also meant relief from carp competition for bass, pike and what-not in many of the state's lakes. The Conservation Department has prepared and is distributing a carp recipe booklet that can be recommended without reservation. Until it has been tried, the quality of smoked carp as a delicacy is difficult to appreciate.

(Field & Stream, New York, August 1952).

Shocking Method of Angling.

The old style you-grind-it telephone is being used by rodless anglers of Hugo, Oklahoma, U.S.A., as a means of putting fish on their table - and not by calling the corner fish shop. The once obsolete phones are at a premium in Hugo; more than 100 phones are being used by locals, who are shocking fish into the pan.

The fishermen take the crank-type phones extending two wires out of it, and then attaches two large squares of screen; they drop the screens to the bottom of a lake or stream, giving a few hefty cranks on the phone.

After the shock the fish come quickly to the top where waiting telephone subscribers net them.

Oklahoma State Game and Fishing ranger Haskell Watson said: "It has been reported that in areas where old style telephones are still in use, the owners take them off the wall, go fishing, and then return to install their phones and call their neighbours to tell about the catch."

The ranger continued, saying that it was legal to catch fish under this system, adding that he had not received any complaints about the new fishing method; "that's probably because everyone who can get a phone has gone fishing."

(Outdoors and Fishing, Sydney, August, 1952).

Pictures of Pemberton Doings

Left—

Top: The water to No. 2 pond has just been turned on.

Middle: Left to right, Messrs. H. Birmingham, President, Murray Trout Acclimatisation Society; Hon. A. R. V. Abbott, M.L.A., Minister for Fisheries; J. E. Watson; E. K. Hoar, M.L.A.

Bottom: Mr. A. L. Smith makes the winning cast in the heavy line unrestricted distance fly casting contest.

Right—

Top: Planting fry in pond.

Middle: The official party moves into the ponds enclosure after the Minister for Fisheries unlocks the gates. Left to right, Messrs. E. K. Hoar, M.L.A.; S. R. Doust, Secretary, Blackwood Trout Acclimatisation Society; Hon. A. V. R. Abbott; H. Birmingham; N. S. Fletcher; A. R. Kelly, President, Pemberton-Warren Trout Acclimatisation Society; Hon. G. P. Wild, M.L.A., Minister for Forests; A. J. Fraser; L. Thompson, Chairman Manjimup Road Board; J. B. Grosser, Vice-President, Pemberton-Warren Trout Acclimatisation Society.

Bottom: Mr. W. Wylkes gains first place in the $\frac{5}{8}$-oz. plug distance casting championship.

Below—

Mr. A. J. Fraser, Superintendent of Fisheries, turns on water to No. 7 pond. Watching him are (left to right) Messrs. N. S. Fletcher, President, Serpentine-Jarrahdale Trout Acclimatisation Society; R. Cave, Councillor, Pemberton-Warren Trout Acclimatisation Society; Keith Sheard, acting-Secretary, Trout Acclimatisation Council of W.A.