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STAFF NOTES.

The Director, Mr. A. J. Fraser, will accompany the Minister for Fisheries, Mr. Ross Hutchinson, on an inspection of the pearl-culture grounds at Kuri Bay. The Under Secretary, Chief Secretary's Department, Mr. J. J. Devereaux, and the Minister's private secretary, Mr. J. M. Driscoll, will also be in the party which will leave Perth by air on June 7. Calls will be made at Yampi Sound and at Derby and Broome to attend to other business of the Departments which Mr. Hutchinson administers. The return to Perth will be made on June 18.

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We welcome to the staff three new appointees -

Miss Delia A. Broun, who took up typing duties in Head Office on May 11;

Mr. A. T. Pearce, who was appointed skipper of the p.v. "Kooruldhoo" on May 9 and who received a week's instruction at Head Office before taking command of his vessel at Geraldton;

Mr. F. J. (Eric) Campbell, who was appointed skipper of the p.v. "Misty Isle" on May 16.

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Miss W. M. Rowland, of Head Office, commenced three week's sick leave on May 22 and underwent an appendectomy the following day. She is now recuperating at home. During her absence, Mrs. E. M. Sparrow is assisting on a temporary basis

The Fauna Protection Officer, Mr. H. B. Shugg, and the Research Officer, Mr. B. K. Bowen, accompanied the Director of the Western Australian Museum, Dr. W. D. L. Ride, to Bullsbrook on May 12. They inspected the areas where the rare short-necked tortoise is known to occur and discussed its conservation with the owners of the land, Messrs. W. R. & S. W. Martyn. On June 8, Mr. Bowen will visit the Boyup Brook district in connection with the fresh-water research programme.

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Officers who resumed duty during the month after annual leave included Senior Inspector A. K. Melsom and Assistant Inspectors G. J. Hanley and D. H. Smith.

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Inspector E. I. Forster will be transferred to Denmark on June 13. He will be responsible for that part of the Albany district west of Denmark for the duration of the humpback whaling season. When the season concludes, Inspector B. A. Carmichael will resume responsibility for the whole of his district and Mr. Forster will return to the Metropolitan district.

PERSONAL PARS.

We were delighted to receive a visit from Mr. M. Goodlad during the month. Mr. Goodlad, who retired in 1955 after 17 year's service with the Department, is enjoying reasonably good health and asked to be remembered to all his old colleagues. He is still fishing professionally at Bunbury.

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The Chief of the Division of Fisheries and Oceanography, C.S.I.R.O., Dr. G. F. Humphrey, will arrive in Perth on June 5. He will be accompanied by Dr. G. L. Kesteven, who has been re-appointed to the Division as Assistant Chief (Fisheries) after 13 year's absence. Dr. Kesteven, a one-time colleague of the Director, served overseas in international organisations such as U.N.R.R.A. and F.A.O. He will be in charge of all the Division's fisheries research. Drs. Humphrey and Kesteven will call on the Director on June 7, and on the Minister for Fisheries on the following day, to discuss future scientific research in this State.

Another appointment to the Division was that of Mr. D. Vaur, of the Fisheries Laboratory, Lowestoft, England, who has been appointed Principal Research Officer and will be responsible for the Division's oceanographic programme.

Mr. M. Drinan, Manager of the Australian Pearling Company's prawn and scallop fishing operations at Carnarvon, called on the Director during the month. We were pleased to see Mr. Drinan on his feet again after two major operations.

COMMONWEALTH-STATE FISHERIES CONFERENCE POSTPONED.

Advice has been received that the above Conference, which was to have been held in Perth in July, has been postponed. It will now be held in Canberra, probably during the week commencing September 5, which will be just prior to the Interstate Fauna Authorities Conference. The latter will be held in Brisbane during the week commencing September 12. It is expected that Western Australia will be host State to the fisheries authorities next year.

FRESH-WATER & FARM DAM RESEARCH.

The Research Officer, Mr. B. K. Bowen, advises that this research programme is continuing satisfactorily. Field work has been almost completed in the Beverley district. Suitable dams in the Bridgetown-Boyup Brook area have been selected and stocked with advanced fingerling trout. It is expected, however, that the results of the programme will not be available for some time.

VICTORIANS VISIT WESTERN AUSTRALIA.

On June 22, the Victorian Parliamentary State Development Committee will arrive in Perth by train. The Committee will have discussions with State officers and will inspect operations of the fishing industry in Western Australia. It will also study aspects of development which might assist its work in Victoria. Fishing boat and marketing facilities will be inspected at Fremantle, Dongara and Geraldton. The Director will accompany the Committee on its trip to Dongara and Geraldton from June 26 to June 29. The Committee expects to leave Perth by train on July 3.

WILDLIFE SECTION IN SOUTH AUSTRALIA.

The South Australian Director of Fisheries and Game, Mr. A. C. Bogg, has forwarded a copy of a statement issued recently by that State's Minister for Agriculture, Mr. Brookman.

The statement revealed the establishment of a wildlife section in the South Australian department. The section is to consist of one science graduate as a senior wildlife officer and three wardens whose duties will include supervision and research. They will be required to travel widely throughout the State. The section will pay particular attention to wild ducks, but other problems of bird life conservation will be reviewed. Attention will also be given to the number and types of birds permitted to be trapped.

The statement concludes with the comment that persons using wildlife for commerce or sport should contribute towards improved conservation facilities. The South Australian Government has taken action to increase gun license fees from 5/- to £1 and game licenses from £1 to £2 in accordance with this principle.

The proposed appointments will bring South Australia into parity with the rest of the Commonwealth. Previously, it was the only State which did not have a special section responsible for the conservation of wildlife.

EURO INVESTIGATIONS.

Mr. E. H. M. Ealey, Research Officer, Wildlife Survey Section, C.S.I.R.O., has kindly let us have a further brief report on his marsupial research during the 1959-1960 year. It is a summary of his more recent field work and studies of the habits and life histories of euros. Mr. Ealey's previous report was published in the March, 1959, edition of this Bulletin.

The new report reads -

"Analysis of records from tagged animals suggested that some euros could exist, if necessary, without access to free water. This suggestion was supported when a sparse population was located in the desert between Marble Bar and Broome where caves were available as heat refuges but which was far from water. This population must depend on dew and sap from vegetation, apart from occasional rain.

"Woodstock was revisited in November, 1959, and over 100 euros were trapped. This was a big enough sample to measure changes in age structure of the Woodstock population. Recapture of previously marked animals gave further data for age/growth studies.

"During this trip a visit was paid to Talga Talga station where a pastoralist had poisoned according to C.S.I.R.O. recommendations. A survey showed that near extermination had been achieved over an area of 120,000 acres. A conservative calculation indicated that more than 12,000 euros had been poisoned in two months.

"Three more samples of female euros have been taken to obtain reproductive data. A total of 500 were shot in the months August and November, 1959, and February, 1960. Because of drought conditions in the Marble Bar area, breeding had almost ceased by early summer, 1959. Breeding appears to have occurred in October and November that year, despite the drought conditions then operating. The cyclonic rains experienced early in 1960 caused a further flush of breeding and also a high survival rate among the drought-bred progeny. Following rains have ensured that euro numbers will increase by approximately one third in 1960".

RECOVERY OF RUSSIAN WHALE MARKS.

It will be remembered that in the July, 1959, issue of this Bulletin, it was reported by Inspector B. A. Carmichael that two additional Russian whale marking darts had been recovered at Albany. They were numbers 719 and 720 taken from a humpback whale captured by the Cheynes Beach Whaling Company's vessel,

"Kos. VII", on June 29, 1959. The whale was a male, 36'1" in length taken at 35° 2' S. and 117° 58' E.

Advice has now been received from Dr. G. L. Kesteven, Assistant Chief (Fisheries) of the Division of Fisheries and Oceanography, C.S.I.R.O., that the whale had been marked by the Russians on February 2, 1959, at 63° 47' S. and 111° 49' E. At the time of its recovery, therefore, the whale was slightly over 2,000 miles from, and almost due north of, its point of marking.

TAMMAR RESEARCH TO AID CANADIAN CARIBOU.

Mr. J. P. Kelsall, a biologist of the Canadian Wildlife Service, in a recent radio statement said that he believed that research being carried out into the habits of Australian wallabies would help the preservation of Canada's dwindling herds of caribou. In association with the Department of Zoology of the University of Western Australia, Mr. Kelsall is making a study of the effects of the environment on the evolution of the tammar, a small wallaby found on Garden and other offshore islands as well as on the mainland. Research methods pioneered by graduate students at the Western Australian University have brought new facts to bear on the preservation of native animals, Mr. Kelsall said. He added that he would carry out similar research on the caribou when he returned to Canada in August of this year. Canadians, he concluded, killed about 100,000 caribou a year for meat and his Government was concerned at the rapid decline in the herds.

BANDING OF SILVER GULLS.

In continuation of the programme of banding nestlings of Silver Gulls under the Australian Bird Banding Scheme, a further visit was paid to the islands off Shoalwater Bay last month. Western Australian ornithologists, Messrs. J. Ford, E. Le Souef and E. Lindgren, accompanied by the Fauna Warden, Mr. S. W. Bowler, visited the islands on May 22. A large concentration of Silver Gulls was found on all islands and the majority of adult birds were nesting. Although many nests were located, most had eggs and only 31 nestlings were banded.

The islands are being visited at regular intervals to ensure that representative selections of nestlings of the different breeding groups are banded.

BANDED SEA BIRDS.

With the onset of winter storms, reports of the finding of Giant Petrels may be expected to commence shortly. All Inspectors are requested to keep a particularly sharp lookout for banded sea-birds this year. It is expected that the Giant Petrel will be the bird most commonly found and there is really no mistaking it. It is almost entirely black with a pale heavy beak which has a prominent nasal tube on its upper surface. A few individual birds occur in the white phase, but they are relatively rare and usually have a

scattering of dark feathers among the white. These birds will be banded by the Falkland Islands Dependencies Scientific Bureau, and also by the United States Fish and Wildlife Service, under its Antarctic Research Bird Banding Programme. Dr. William J. L. Sladen, of Johns Hopkins University, Baltimore, U.S.A., has written advising that a number of species will be banded under his Service's programme this year. Special attention, he says, is being paid to the banding of Adelle and Emperor Penguins; South Polar Skuas; Giant, Pintado and Wilson's Petrels and the sub-antarctic albatrosses.

Any person recovering alive a banded bird should note down carefully -

- * the band number,
- * the name and address of the banding authority, and
- * the date and locality and method of capture.

THE BIRD SHOULD THEN BE RELEASED WITH THE BAND INTACT.

The only occasion when the band should be removed is when it is found to be causing injury to the bird. If the bird is dead, the band should be removed and as many relevant notes made as possible regarding the locality, date, possible cause of death and any other details which might be helpful. Last year, all the birds banded with F.I.D.S. and U.S. Wildlife Service rings carried an additional coloured plastic band. This year's bandings will, no doubt, also carry two bands and it must be emphasized that neither should be removed from any live bird.

TROUT DELIVERIES.

Technical Officer L. G. Smith has reported on the 1960 trout deliveries. 168 bags containing 21,000 fish, he says, were successfully transported to five trout societies and two country centres for private sale. There were no losses.

Mr. Smith reports that some of the fish were graded this year and it was found that this made packing them much easier. A wooden fish-grader was used at the hatchery. It allowed the small fish to pass through it while the larger ones were turned back. The small trout averaged 56 to the pound and the larger ones, 20 to the pound. Each society received both sizes. The longest distance travelled on the deliveries was on May 12, when 20 bags were taken to Devil's Creek, 20 miles past Jeramungup.

TAGGED WHITING CAUGHT.

On May 19, Inspector A. V. Green, of Mandurah, forwarded fish tag No. 4274. It had been found by Mr. H. Wilson in his fish box which contained a quantity of whiting and yellow-eye mullet.

Originally, the tag had been inserted by Technical Officer L. G. Smith into a whiting for Mandurah's Ampol Fish Pot, last March. A prize of £10,000

had been offered for the recovery of the fish, but it was only current for the period from March 5 to March 7. The recovery of the tag was heartening in view of the oft-voiced claims by the uninformed that fish were weakened by tagging and would be quickly taken by predators, such as shags.

BANDED TURTLES.

Advice has been received that the Sarawak Museum, Borneo, has commenced a programme of banding green turtles. The bands are being affixed to the right front flipper and are marked "Sarawak Museum Reward". Anyone finding a turtle with the tag on it should record the date and place where the turtle was found and forward the information to this Department or to the Museum. The turtle should be returned to the water with the band intact.

It is possible that some of the Sarawak turtles might turn up on our northern shores.

BOAT SHED AND LANDING AT BUNBURY.

Advice has been received from the Under Secretary for Lands that reserve A6962, at Bunbury, will be surveyed and a small portion leased to the Department for the purpose of "boat shed and landing". This is a very satisfactory conclusion to negotiations which have extended over 12 months.

ABROLHOS CRAYFISHING.

As the table hereover shows, there was a decline this year in the April crayfish catch at the Abrolhos Islands.

The decline indicates that the fishery is definitely feeling the strain of the fishing effort, for it has occurred despite an increase in the number of men operating.

It must be realised, however, that the earlier opening of the season might have been the principal cause of the apparent decline. The progressive production at the end of April, 1960, was greater than in 1959, as is shown at the foot of the table. It may be more appropriate, however, to compare production for the sixtyone days to April 30, 1960, with that of the first nine weeks of 1959 - i.e. from March 15 to May 16. While an accurate estimate of the latter cannot be determined, the May, 1959, catch amounted to 835,204 lb. If half the latter (417,000 lb.) were added to the progressive total to April, 1959, (2,097,126 lb.) the result (2,514,000 lb.) would be very little more than that of the sixtyone day catch to April 30, 1960.

ABROLHOS CRAYFISHERY.

AREA.	APRIL 1959			APRIL 1960		
	No. of Men	Total Catch	Catch per Man	No. of Men	Total Catch	Catch per Man
		lb.	lb.		lb.	lb.
North Island	50	262,788	5,256	72	276,380	3,838
Wallabi Group	72	331,237	4,336	76	285,207	3,753
Easter Group	77	389,978	5,064	81	355,122	4,384
Pelsart Group	60	315,247	5,254	49	230,146	4,697
TOTALS:	259	1,299,250	5,016	278	1,146,855	4,125

Total for March-April 1957 - 1,778,483 - season commenced March 15
 1958 - 1,982,902 " " "
 1959 - 2,097,126 " " "
 1960 - 2,406,778 " " March 1

It appears that we have just about reached the limit of production in the area being fished, if indeed it has not already been reached. However, there are population fluctuations in every fishery. In the absence of scientific knowledge we cannot do more than guess at the actual state of well-being of this most valuable industry. It is, as far as we know, the only important fishery in the world that has not had allocated to it, a full biological research team to guide its proper management.

W.A. FISH PRODUCTION, 1959.

Recently completed fisheries production statistics reveal that, once again, a record has been established. From $24\frac{1}{2}$ million lb. in 1958, the total rose to over 30 million lb. for the 12 months ended December 31, 1959. This represented an increase of almost 24% - a quite remarkable rise.

Although increases were recorded in 23 species, those most responsible for the big rise were crayfish, snapper and ruff. Between them these three added an additional 6,000,000 lb. to the total. These were offset, to some extent, by decreases suffered in the catches of salmon and cobbler (roughly 143,000 lb. in each case), skipjack, King George whiting and both sea and yellow-eye mullet.

It is also of interest to note the increases in bait species - slimy and scaly mackerel, whitebait and sardines.

Despite the disappearance of scallops from the records, the total catch of molluscs rose from 75,000 lb. to 95,000 lb., chiefly as a result of the increase (19,000 lb.) in the catch of cuttlefish.

Of the crustaceans, other than crayfish, the catch of prawns fell from 127,000 lb. to 77,000 lb. while that of crabs rose by 12,000 lb. to 48,000 lb.

With the Australian Pearling Company carrying out developmental fishing on prawns and scallops in the waters north of Denham, the total catch of molluscs and crustaceans (other than crayfish) could well show a marked increase in 1960.

The table hereover compares 1959 production with that of 1958.

All figures are in round weight.

FISH PRODUCTION.

Species	1959	1958
	lb.	lb.
Crayfish	18,966,297	14,500,779
Salmon, Australian	3,943,679	4,086,518
Snapper	2,047,003	922,824
Ruff (Sea Herring)	1,338,374	889,083
Mullet, River or Sea	802,670	859,192
Shark (all species)	475,995	370,951
Whiting, Sand	436,114	405,224
Mullet, Yellow-eye	435,110	476,401
Cobbler	336,243	480,129
Jewfish, Westralian	317,477	289,834
Tailor	147,896	131,618
Trevally (Skipjack)	93,194	174,966
Samson Fish (Sea Kingfish)	87,859	91,064
Prawns	76,762	126,549
Whiting, King George	71,971	151,582
Leatherjacket (Silver Flounder)	62,644	45,143
Mackerel, Spanish	61,602	67,251
Herring, Perth	61,150	34,993
Bream, Yellow-fin	54,402	34,525
Cuttlefish	53,917	34,004
Garfish	49,863	44,636
Crabs	48,609	36,689
Bream, Buffalo	45,256	43,541
Mackerel, Scaly & Slimy	37,103	57
Whitebait	28,523	140
Flathead (all species)	27,117	27,508
Squid	26,159	17,393
Sardines	23,548	61
Cod (all species)	20,909	13,157
Groper	20,499	16,841
Pike	18,041	13,557
Mulloway (River Kingfish)	17,848	17,961
Oysters	15,071	5,491
Skate	12,450	3,536
Tuna	11,881	8,054
Bream, Black	11,857	17,600
Others	43,577	65,666
TOTALS	30,328,670	24,504,518

CLEARING HOUSE.

Glass Fibre Hulls For Fishing Boats.

The impending introduction in the U.K. of fishing boat hulls constructed of glass fibre reinforced plastics, must raise many questions in the minds of fishing boat owners, regarding the qualities and characteristics of this comparatively new material. This special ~~WORLD~~ FISHING feature, written by a naval architect, anticipates some of the rather more obvious queries.

Q. Is glass reinforced plastic strong enough for fishing boat hulls?

A. Yes! Correctly processed under proper conditions, this material is, weight for weight, stronger than wood and compares favourably with steel or aluminium. In practice, the thickness of material required to provide rigidity is greater than that required on a basis of tensile strength and resistance to impact, therefore an exceptionally high damage resistance will be an inherent feature of the construction. Moreover, a plastic hull will be of one-piece construction virtually, thus avoiding the main weakness of wooden construction, which is in the fastenings.

Q. Does glass reinforced plastic wear well?

A. Resistance to abrasion or chafe is similar to that of good closegrained wood. Areas subject to excessive chafe should be protected in the normal manner, by fitting the usual cope irons and steel plates, which can be screw-fastened to the material.

Q. Although the material is very strong, there will be occasions when the hull is damaged. Can effective repairs be made readily, in the ship's home port?

A. Provided that the manufacturer's instructions are carried out implicitly, any reliable workman should be able to make effective repairs. The essence of good workmanship in these plastics is cleanliness and strict adherence to specified quantities of materials. Repair kits, supplied by the manufacturers have the materials packaged in measured quantities. The mixing is done in one of the containers and if care is taken, results will be satisfactory.

Q. Will there be any frames or other stiffeners built into the hull, and will there be much more space inside the ship?

A. It is usual to incorporate stiffened sections in the construction and these can be much smaller than the equivalent members in traditional forms of construction, but there are several factors, other than strength requirements, which determine the size of frame members advisable. For instance, if it is necessary to have the vessel registered below a certain gross tonnage measurement, for crewing and other considerations, and as tonnage accounts for the internal capacity of the vessel, then the frames must be made as deep in section as they are in normal construction, or the outside dimensions of the ship must be made smaller, in order to maintain the correct tonnage measurement. If the latter procedure is adopted, then it may be found that the ship will not have sufficient volume of displacement to carry a full cargo. On the other hand, the small ship will be the most economical to build, as material costs make up a very large part of the total cost of a plastic ship. Compromisindimensions, giving sufficient volume of displacement in a reasonable hull form, together with frames sufficiently deep to maintain the required tonnage measurement, will provide the only compromise between economy and efficiency.

Q. Most plastics are made up under heat and great pressure. Are cold moulded plastics as completely resistant to water soakage and decay as the plastics to which we are accustomed?

A. It is very doubtful if a claim can be made that cold plastics are as completely impervious as the thermal setting types, but the difference is one of degree only. Water soakage in a properly manufactured cold-moulded hull can be ignored and there is no question of damage by fungicidal attack. Water soakage and deterioration will only occur if the materials used and workmanship are inferior. Poor quality mouldings are sometimes made when excessive filler materials are added to the mix, in order to economise on the more expensive synthetic resins. The answer is, of course, to deal with a reliable manufacturer, and this advice applies equally to all forms of construction.

Q. Is it true that plastic hulls do not need painting?

A. In so far as is required for protection, plastic hulls do not need to be painted. Colours can be built into the hull, but care should be taken in the choice of colours as some pigments fade, and any repairs made will show up. If it is desired to change the colour of a part, once built, then painting is the only way to achieve that. Under-water anti-fouling paint will be just as necessary as on any other hull, but the smoothness of a moulded hull should render the antifouling much more effective.

Q. How will the hulls be fitted out internally?

A. In much the same way as normal hulls. Cabin linings and furniture will be secured to wood cleating in the normal way. Light battens -

Q. Will there be any advantage to fishing vessels in particular, in the use of plastic hulls?

A. The main advantage to fishing boats in particular, will be a clean hygienic fishroom. Other advantages, such as freedom from leaks, decay or corrosion and internal cleanliness, are, of course, welcome in any vessel.

There will be many more questions that a prospective purchaser of a glass fibre reinforced plastic boat will want to ask, but the foregoing answers the first and obvious questions which are usually raised.

(World Fishing

London

April, 1960)

School Lunches - A Growing Market.

The use of food in public schools is the subject of a report (MRR-377) recently issued by the Agricultural Marketing Service Board. Based on a national survey, the report shows that school-lunch programs **offer an increasingly important market for food products.**

The 60,000 public elementary and high schools offering food services use almost \$600 million worth of food annually. During the 1958-59 school year, public school enrollments totalled 34.7 million, and it is estimated that they will reach 41.5 million by 1965 and 44.5 million by 1970. School lunch service is presently available to about half of the children in our public schools, and about 2 billion school lunches were served to these pupils last year.

As our population grows and school enrollments rise, and as new schools are constructed with modern cooking and cafeteria facilities, we can expect a further expansion of school lunch programs. The school lunch program - already a substantial market outlet - is one of the most rapidly growing segments of the away-from-home eating market. Mr. Fish Merchandise- Are you getting your share of this market?

(Fishing Gazette

New York, N.Y.

March, 1960)

Electro-Fishing Tests Off Cape Cod.

Using underwater television, U.S. scientists have completed electro-fishing tests off Cape Cod (Massachusetts). An electric field created by a positive electrode placed about 50 ft. from a negative electrode and located in front of a trawl net, developed an effective method for stunning

and bearers - can be fastened to the hull with wood screws. Special pads, stringers and webs will be built in, to carry bulkheads, bearers, etc. Fish-rooms can be lined in any material considered suitable, wood, aluminium or plastic. Cement may be used to provide a smooth fishroom floor, but less of it would be required, allowing lighter displacement hull forms. Alternatively, double bottoms could be built in.

Q. Will hull insulation be required ?

A. Glass reinforced plastics have fairly good thermal insulation properties, and internal condensation should be a minimum. Fishroom insulation would, of course, be valuable and some builders might advise a sandwich construction with insulation built in. Sandwich construction is sometimes used for extra rigidity, but the outer skin should be just as thick as normal single skins to provide resistance to damage by impact.

Q. Can engine seats be made sufficiently rigid and secure, and are built-in tanks satisfactory ?

A. Steel webs are moulded in to form engine seats and are a solid integral part of the structure. The material is resistant to Diesel fuel and built-in tanks have been satisfactory in use, but should not abut on fishroom bulkheads, as there is always the possibility of damage and consequent leakage.

Q. How will the cost compare with wood construction.

A. The cost of the raw materials is high and the moulds are fairly expensive, but these costs are offset very largely by the low man-hours required to lay up a hull. Fitting out expenses are much the same as on any other craft, except that built-in tanks, etc., represent a small saving. From information given during the recent FAO Fishing Boat Conference, it appears that 60-75 ft. hulls can be built at a price comparable with equivalent wooden hulls, even when one only is required, and more cheaply when several hulls are ordered off one mould. But this should not be taken as a generalization at this stage.

Q. Can worthwhile maintenance savings be expected ?

A. Slipping, to clean bottom and apply antifouling, should be carried out just as frequently as with any other hull, but the cost of painting topsides and superstructure can be eliminated. Also, fishroom drying will be no problem. If underwater fittings and propeller, etc., are all made of one suitable metal and properly protected against electrolysis and galvanic interaction with steel piling in harbours, corrosion wastage would be reduced to a minimum. Less trouble, due to misalignment, can be expected with machinery and tail shaft. Long term, the expense of caulking and renewing fastenings will be eliminated and also the cost of laying up on a slip to dry out the ship.

fish, says National Fisherman.

When the TV monitor showed fish to be in the electric field the current was switched on. While fishing at standard trawl speeds in 15 fathoms observations were made of various fish.

Flounders were observed to curl up from head to tail under the influence of the electric field. A photographic record of fish behaviour during electro-fishing operations was secured.

(Fishing News

London

March 25, 1960)

Professor who Sang to a Skate.

Ever fancy talking and singing to a fish?

Do you think it would hear?

Well, according to Dr. Otto Lowenstein, Professor of Zoology and Comparative Physiology at Birmingham University, fish are capable of hearing talking and singing.

And to prove his claim, he played back on a tape recorder to a gathering of sixth-formers attending the junior British Association meeting in Birmingham on Thursday of last week, what he had said and sung to a skate.

And to do so, he linked a small microphone with the brain of the fish.

Then he put the microphone with a tape recorder in a soundproof container to make sure the only way the fish could hear his voice was through its brain.

Next he repeated to it, vowel sounds and snatches of tonic sol-fa, and when the record was played back, the scholars heard the professor's voice, muffled but still clear, saying "Ah, ee, oh", and the singing of "Do-ray-me".

! Dawn Chorus !

There was a lot of noise underwater for fish to hear, the Professor said, explaining that "a minnow, for example, can hear as well as we can up to a certain pitch. They can even be trained to eat when you sing one note to them".

Fish also "talk" it seems, for the Professor played another recording made under water of sounds produced by fish.

It sounded like the dawn chorus of birds in a wood!

(The Fishing News

London

April 1, 1960)

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Sydney Rushes Bight Fish.

Sydney buyers were wildly enthusiastic about the first fish from the Great Australian Bight earlier this month.

About 250 (70lb.) boxes of fish, caught by the former Grimsby trawler, Southern Endeavour, came direct from Adelaide by frigate.

Most of the fish was in excellent condition, despite the long road haul. About 14 varieties, many unknown to the Sydney trade, were included in the consignment. Chief varieties were king snapper, morwong and flathead.

Brother.

The king snapper (a big brother to our redfish or nannygai) really got everyone in with its beautiful colouring and huge deep-red eyes -- like the tail-lights of a Customline Ford.

Some of the specimens weighed up to 7 lb. gutted.

City providore, Johnny Johns, sought permission to have some of the big fish cooked and sampled before the sales. Although Johnny is not employed by the Southern Trawling Coy., his action was the mark of a sales promotion genius.

Scores of buyers sampled the excellent flavour of the King Snapper and noted its texture, which is a shade between a snapper and a bream. Considering buyers did not know the recovery percentage of fillets from King Snapper its price of 1/- to 1/2 a lb. was a good one.

A test check on King Snapper and other Bight varieties will be made and the results published in later issues of "Fish Trades Review".

One of the big advantages of Bight fish is that it comes in clean, non-returnable cases and does away with the time-wasting business of box hire. Another thing - all the fish is gutted. A big saving in freight.

Short Cruise.

Mr. W. H. Langley, executive officer of the Southern Trawling Company, came to Sydney from Adelaide to see the fish sold. He said the Southern Endeavour went out on a 10-days' training and survey cruise. The Bight fishing grounds are practically unexplored, and nothing is known about the bottoms or other features where fish are expected to be found.

Adelaide Sales.

The vessel fished for three days only and landed 10 tons of fish. The Tasmanian trumpeter and snapper were kept for sale in Adelaide. Some fish was sent to Melbourne, and about seven tons to Sydney.

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At present, Southern Endeavour would make one trip a fortnight.

In future, all varieties of Bight fish would be fully gutted before transport to Sydney, he added.

Captain Duffield, skipper of Southern Endeavour, who brought the ship from Grimsby to Adelaide, played a big role in exploring new fishing grounds in the Arctic.

Well-known Sydney wholesale, Mr. Peter Manettas, said Bight fish was the best thing that had happened to the trade for years.

"Supplies from the Bight will steady the price of imported fish and keep shopkeepers in business," he said.

(Fish Trades Review

Sydney

March, 1960)

The Smell of Fish so Get No Beds in London.

Because their clothes smell of fish they are not welcome in lodgings round Billingsgate market, and have been forced to sleep in their vehicles say drivers of lorries which bring fish from the Lowestoft trawl markets to London.

This point was made by John William Willgoss who pleaded guilty in Lowestoft Court to driving without at least 10 hours rest in 24, and to failing to keep records.

Eleven drivers were summoned and most of them were fined 30s. for each offence.

Describing their plight Willgoss, the only defendant to appear, said it was impossible for them to get a proper room in London for sleeping.

"All we can get is dirty doss houses," he added. "I would rather sleep in my lorry. It is either that or walking the streets."

Having told the Magistrates that he was speaking on behalf of all his fellow drivers summoned, Willgoss said: "We have now been able to make arrangements to use a room on a temporary basis. It is not very good but it is better than nothing."

In one case a driver wrote that he had a message that his mother was desperately ill at Felixstowe. "I failed to take proper rest or to keep records because I wanted to get to her as quickly as possible," said the letter. "My mother died the next day."

An absolute discharge was ordered in this case.

(The Fishing News

London

April 22, 1960)

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"Oil Pollution of the Sea"

by
Eric Hardy, F.Z.S.

The problem of waste oil at sea remains a perennial one, but most of the propaganda tells of its harm to birdlife rather than to fishes. There isn't much information about the effect of oil pollution on fish, fish ova and plankton, and some of it is conflicting. Experiments have shown that it is poisonous when at a strength of hundreds of parts per million, but the Ministry reports that its strength in Harwich harbour and in the Hamilton Dock at Lowestoft was not more than one part per million.

It has also been shown that although fish seem able to adapt themselves to various degrees of oil pollution their flesh acquires a taste of petroleum.

British ships cannot now discharge oil within a thousand miles of our Atlantic coast; but until foreign ships are all compelled to do the same, this regulation will have little effect. It is rather like the regulation controlling the size of British nets to save small fish, when alongside the French and Belgian boats can fish with nets of smaller mesh and take the small fish to their home ports.

(The Fishing News

London

April 29, 1960)

Sockeye Travels 700 Miles without Eating.

How Pacific Coast sockeye and coho salmon migrate up river for more than 700 miles without food and die soon after spawning is described in the annual report of the Fisheries Research Board of Canada. The Technological Station in Vancouver has made a thorough biochemical and chemical study on these fish during their spawning migration.

Because salmon cease feeding shortly before they leave the sea to ascend the river system leading to their parental spawning ground, and continue to fast until they die after spawning, they must rely on conversion of certain of their body constituents into energy for the long and arduous journey and for spawning. Examination of tissues, organs and blood stored from salmon secured in 1957 at different stages during their 715-mile migration in the river revealed new information, says the report.

(The Fishing News

London

March 18, 1960)