OF FISHERIES AND FAUNA

ERN AUSTRALIA

MONTHLY SERVICE BULLETIN

Vol. XV No. 8. August, 1966

STAFF NOTES

The Department extends a welcome to Mr. J.P. Robins, B.Sc., who commenced duties as Senior Research Officer (Development) on July 15.

Mr. Robins was born in Armidale, N.S.W. in 1923. He served with the R.A.N. during World War II and after his discharge took a C.R.T.S. course in Zoology and Geology at the New England University College (now the University of New England) and graduated B.Sc. in 1950.

Soon afterwards he joined the C.S.I.R.O. Division of Fisheries and has since been engaged on whale and tuna research. During his term at Cronulla Mr. Robins went to Japan for further study and stayed 12 months. Whilst there he undertook research at various fisheries laboratories, and in Tokyo attended a world technical meeting on fisheries research vessels. He has spent some time at sea on both Japanese and American tuna research vessels.

Mr. Robins' wife and three daughters are expected to reach Fremantle by ship on August 25.

* * *

Assistant Fauna Warden K.D. Morrison commenced two years' National Service Training on July 11. To fill the resultant vacancy Assistant Inspector P.M. Lambert, of Mandurah has been transferred to the Fauna Branch, and Assistant Inspector D.G. Noble has gone to Mandurah to replace Mr. Lambert.

* * *

The Assistant Supervising Inspector, Mr. J.E. Munro, left Perth on July 19 by road for Geraldton, and from there by boat for the Abrolhos Islands for a tour of inspection.

Inspectors T.B. Baines and R.G. Lindsay and Cadet Inspector P.A. Wood have been on annual leave since July 25.

* * *

Technical Officer J.S. Simpson and Mr. B. Kerr, Licensing and Statistical Officer, Head Office, have both resumed duties after illness.

* * *

Congratulations is extended to Technical Officer E.H. Barker, who recently announced his engagement to Miss Ann Bottrill.

FAUNA OFFICER'S EUROPEAN PROGRAMME

Writing from Lucerne, Switzerland, where he had just attended the triennial meeting of the International Union for the Conservation of Nature and Natural Resources, Mr. H.B. Shugg, Fauna Officer, states that at the meeting there was evidence of much hard work and of an extraordinary interest, on a world-wide basis, in the conservation of nature. He says the discussions showed that an immense amount of research had been done. Dr. Hal Coolidge, who visited Perth in 1952 and attended a meeting of the Fauna Protection Advisory Committee, was elected President of I.U.C.N.

Later, in a letter from London, Mr. Shugg gives an outline of his itinerary. He was to attend the 14th Conference of the International Council for Bird Preservation at Cambridge University from July 11 to 15, and the International Ornithological Congress at Oxford University between July 24 and 30. The Nature Conservancy, the statutory body charged with the responsibility of conserving nature in Britain, had arranged a programme which would take him to reserves and sanctuaries in several parts of England and Scotland. In addition he will visit the headquarters of the Wildfowl Trust at Gloucester, and later visit the Paris and Norfolk Zoos.

CONVICTIONS

APRIL - JUNE, 1966.

Date	Defendent	Court	Charge	Result
		FISHERIES ACT		
25.5.66	LIVESEY P.S.-	Albany	U/S craytails	$ 28.50
	BROUGHTON-WEBB D.A.	"	"	
19.4.66	BOZANICH Len.	Fremantle	"	40.00
4.5.66	FABRIS Osca	"	Fishing in closed waters	100.00
"	" "	"	U/S Craytails	122.20
4.5.66	BOSCOLO John	"	Fishing in closed waters	60.00
"	" "	"	U/S Craytails	60.00
"	" "	"	Consigning U/S fish	86.00
"	" "	"	"	86.00
4.5.66	WARNE Alan	"	"	135.00
9.5.66	MERLINO Angelo	"	"	125.60
"	" "	"	"	304.60
9.5.66	DEACON Trevor	"	"	30.00
2.5.66	" "	"	Obstruction	81.50
"	" "	"	Consigning U/S fish	51.20
9.5.66	TESTER Kevin	"	"	63.90
12.5.66	STARR George	"	"	62.80
13.6.66	DI MENTO- F.	"	brushed spawners	200.00
"	GAZIA G.	"	"	200.00
27.6.66	BELFIORE C.	"	Consigning U/S fish	208.00
3.5.66	SINCLAIR J.R.	Geraldton	"	142.00
11.5.66	VINDSETMO D.	Perth	"	61.00
11.5.66	LAWRENCE Jack	"	U/S Fish	20.80
12.5.66	FERGSON. David S.	"		16.00
"	" "	"	U/S Fish	29.40
"	BAYER T.	"	Consigning U/S fish	228.00
"	DENNIS Henry J.	"	Breach of Proclamation.	20.00
18.5.66	JOKOVICH R.	"	Consigning U/S fish	184.00

Magistrate H.G. Smith imposed the first suspensions under the provisions Fisheries Amendment Act 1965 in the Fremantle Police Court on May 2, 1966.

Angelo Merlino of Arundel Street, Fremantle had his fisherman's license and the license for his cray boat "Florence Nightingale" suspended for one month.

To June 30, 1966 the only other suspension ordered by the court was T. Bayer whose license was suspended for 3 weeks from 12.5.66.

Ministerial cancellations to June 30th are as follows:-

T.A. Deakon L.F.B. Finn P.107 from 22.2.66.
O. Fabris & J. Boscolo L.F.B. Solataro F.237 from 17.2.66.
A. Kongras L.F.B. P.38 from 16.2.66.
J. Paskov & N. Zaknich L.F.B. Dalmatia F.398 from 16.2.66.

CONVICTIONS

APRIL- JUNE, 1966.

Date	Defendent	Charge	Result
	FAUNA PROTECTION ACT		
18.5.66.	LOW, A.G.M.	Keeping Fauna without a license	1.00
12.5.66.	STRLE A. MEHIC Z.	Taking protected fauna.	200.00
16.6.66.	WILSON, John A.	Keeping fauna without a license	10.00
15.6.66.	RE, SCREAIGH, WOLFENDEN AND RUSHFORTH.	Taking protected fauna.	20.00

TOM BURDON TRANSFERS TO COMMONWEALTH

The staff will learn with interest that the Assistant Director of Fisheries, Fisheries and Wildlife Department, Victoria (Mr. T.W. Burdon) has been appointed to a position in the Fisheries Branch of the Department of Primary Industry, Canberra. This is the post which was rendered vacant some time ago when Mr. Douglas Gates, Project Officer, transferred to the Department of National Development.

Mr. Burdon, who came from Britain less than two years ago to join the Victorian Department, has had much experience in the fisheries service of some British colonies.

The No. 2 fisheries position in Canberra formerly held by Mr. A.G. Bollen, now in London, has not yet been filled.

POWER BOATS AND INLAND FISHERIES

The effect speedboats have upon estuarine fisheries was an important matter discussed at the last Annual Staff Conference.

Conference opinion was divided on the subject. One proposal was that the Harbour and Light Department should consult the Department of Fisheries and Fauna prior to any area being gazetted for speedboats. It was pointed out that once an area was so gazetted, no other boat was supposed to be in the area. Another proposal was that speedboats be banned from the vicinity of mud banks and other fishing areas. These would include the head waters of rivers and other nursery areas.

During last summer a close check was kept on speed boats and skiers by departmental inspectors in an endeavour to determine whether in fact they were doing harm to the fisheries.

Inspector Hammond, reporting from Bunbury in December, 1965, said, "There is no doubt that speed boats and skiers are doing quite a considerable amount of damage to our fisheries. Holiday periods are the worst on the Leschenault Estuary and also from Busselton to Eagle Bay on the South Coast." He continued, "The public must have their pleasures and relaxation and generally they are law abiding. Educating the public by publishing some pertinent facts would be a big help."

Reports from the Albany district indicate that speedboat activity has increased considerably there. Inspector Gordon says - "Although professional fishermen have been little affected by them, amateur fishermen have found it increasingly difficult to catch many fish at all in Oyster Harbour. Some have caught none at all. Numerous complaints have been received from professional fishermen at Wilson Inlet, Denmark, where several large schools have been lost through the inconsiderate action of speedboat owners."

Senior Inspector Green reports from Mandurah that speed boats and skiers operate in fair numbers from the beaches, particularly in the Halls Head and bar area. The general opinion of fishermen is that power boats and skiers adversely affect the schools of fish along the coast. An example was given whereby schools of white bait that in the past could usually be found off the bar and Robert Point, were no longer in evidence since the influx of high-powered boats during the past three or so years. Mr. Green quoted another example of the effect speed boats have on fish. "An experienced fisherman had a net around a school of mullet, and was motoring around 'bashing' the water trying to get the fish to mesh but with little success. Then a speed boat passed within a hundred yards of his net and the fish panicked to such a degree that they nearly took the net from the rope." Many speed boats and skiers show little regard for the regulation which keeps them to areas specially set aside for their use.

Inspector Tanner, reporting from Lancelin, says - "Although there is practically no scale fishing in the area, mullet which were once quite numerous have been noticeably absent since the advent of high powered boats."

Geraldton appears to be the least affected, as no complaints have been made to the District Inspector. However, Shark Bay fishermen are feeling the effect of speed boats, according to Assistant Supervising Inspector J.E. Munro. He states - "Many fishermen are emphatic that speed boat activity has reduced fish populations in Western Australian waters. To prove this, however, is well nigh impossible." In Mr. Munro's opinion the important and disquieting feature is that without any doubt at all, speed boats are interfering with commercial fishermen during their lawful operations.

The Swan River was until recent years producing in excess of 250,000 lb. of fish each year. From Perth Waters alone an average of about 60,000 lb. of mullet was taken in

ago were thrown open by the Harbour and Light Department to the use of power boats and water skis. In the first year of their operation, the production figure dropped to almost nil, and by the second year no fish were available at all. According to Supervising Inspector J.E. Bramley, a similar picture presents itself at every recognised fishing resort. Mr. Bramley states - "The time is fast approaching when a definite stand must be taken against speedboats and skiers to protect not only estuarine fisheries, but also the encroachment by power boat operators upon established coastal fisheries."

Senior Research Officer B.K. Bowen finds that although many articles have been written on the subject of water skiing and fishing, very little information has been gathered scientifically. In the last ten years or so wildlife scientists and fishing authorities have been doing some investigations, as reported in an article by Dick Berden in the periodical "Australian Outdoors".

One of the first research efforts consisted of a series of tests run on a number of small lakes, all similar in size, variety of fish, and productivity. Outboard motors were permitted on some of these lakes and here the test anglers fished amongst darting power boats. On others motors were banned and fishermen were up against nothing noisier than the creak of a rowlock or the cry of a bird. When these tests were completed, the conditions were reversed. Outboards were put in the non-outboard lakes and taken off the others. A series of fishing tests was made under these conditions. The net result? No evidence whatsoever that outboards have any effect on fishing.

In answering an enquiry from this Department, Mr. J.T. Brown, Assistant Director, U.S. Bureau of Sport Fisheries and Wildlife, says that one comes to the conclusion that the solution of actual or potential conflicts between water skiing and fishing rests on several factors, including proper zoning of water areas. The relative economic values should also be compared in arriving at decisions.

Other countries have the same problem and, as yet, have not produced a really satisfactory method of resolving the conflict. The most acceptable solution seems to be a compromise with zoned areas.

Officers of the Department are asked to give this matter some thought as it will be listed for discussion at

MR. SLACK-SMITH VISITS CRONULLA AND CANBERRA

Detailed log book data has been kept by prawn fishermen in Both Shark Bay and Exmouth Gulf since the commencement of the 1964 season. To date, over 20,000 individual trawl records have been accumulated. The analysis of these data cannot possibly be done by hand and computer methods are being developed to handle it.

Mr. Slack-Smith recently worked with Mr. A.E. Stark, of the C.S.I.R.O. Division of Mathematical Statistics, on the C.S.I.R.O. C.D.C.3200 computer in Sydney and on the C.D.C.3600 in Canberra to develop computer programs to carry out the required analyses.

All the data is being placed on punch cards and edited to eliminate mistakes and inconsistences prior to its transfer to magnetic tape for final computer analyses and tabulation. Initially summaries of catch and effort for each block fished will be tabulated. The final analyses from these tables will include (1) examination of performance of each vessel and the factors contributing to changes in performance; (2) the rate of movement of prawns through the areas; (3) the size of the stock; (4) the most efficient fishing strategies for taking the catch. Information will also be obtained on breeding seasons, sex ratios, estimates of growth rates and the reaction of prawns to light intensity.

FISH MARKET BULLETIN

Lobster Tails: The Tasmanian Government Trade and Marketing Office, Sydney reports that the bulk of the supply to the San Pedro market during the week ended June 28 was ex Western Australia. The medium and larger sizes were in "moderate to good" supply but the small sizes were in light supply. The market was reported as being "strong" and stocks had met with a "good" demand at unchanged prices.

C.S.I.R.O. REPORTS

Tuna: The chartered vessel f.v. "Estelle Star" arrived at Albany on May 24 and by the end of her charter on June 27 a total of 634 juvenile southern bluefin tuna had been tagged in the Albany area. Fishing was very poor throughout the charter period and frequent periods of unfavourable weather

Sperm Whales: The chartered vessel f.v. "Degei" successfully marked a total of 37 sperm whales between Albany and Esperance in the period May 19 to May 26, 1966.

TRENDS IN EXPORT OF W.A. CRAYFISH AS COMPARED TO THE AUSTRALIAN OVERSEAS TRADE.

Total Australian export of frozen crayfish for the eleven months to May, 1966, were valued at $18,713,000.00 an increase of 47.2% compared with the corresponding period in 1964/65, according to details published by the Bureau of Census and Statistics, Canberra.

Western Australia's contribution to this increase is summarised in the following table:-

	Eleven months ended May, 1965.		Eleven months ended May, 1966.	
	W.A.	Australia	W.A.	Australia
	lb.	lb.	lb.	lb.
Craytails	4,589,220	7,132,000	4,729,420	9,358,000
Whole Crayfish	325,612	465,000	586,636	1,922,000

Western Australia supplied 50.5% of the total craytails exported from Australia during the eleven months ended May, 1966, as compared with 64.3% for the corresponding period ended May, 1965.

Even though Western Australia's export of craytails increased in the period ended May, 1966, by 1.03% as compared with the corresponding period ended May, 1965, its overall percentage of total Australian exports dropped considerably.

Similarly, Western Australia's proportion of whole crayfish for the Australian export market was 70% for the eleven months ended May, 1965, as compared with only 30.5% for the eleven months ended May, 1966.

However, Western Australia's total export of whole crayfish increased by 80% for the eleven months ended May, 1966, when compared with the same period in the previous

SPERM WHALE RESEARCH

In view of the present level of whale stocks and the extent of exploitation, the Minister for Primary Industry has decided not to provide further financial assistance to continue with sperm whale research.

A sperm whale marking programme has been in progress, which has made a contribution towards clarifying the paths and speed of movement of sperm whales to the Albany area, the general limits of distribution of the stock, and the size of sustainable yield of the stock. Valuable information is also gained, by way of distribution, density, and dissection of movement, of sperm whales in the areas where marking takes place.

Such cessation of investigation into sperm whaling could be a result of the U.S.S.R. failing to ratify an international agreement. Consequently, the U.S.S.R. was not bound to observe the sperm whale conservation measures agreed to at the last meeting of the International Whaling Commission.

LICENSING OF FAUNA

On July 26 two offenders under the Fauna Protection Act Regulations were convicted and fined.

Under Section 12A, a person shall not keep fauna in captivity or confinement unless he is the holder of a current license issued in accordance with these regulations. Considerable publicity by the press was given to this prosecution action. As a result the departments licensing branch was deluged with enquiries in the vicinity of 300 within the first two days of the case. Approximately one in every ten required a license.

A PERSONAL MANAGEMENT PHILOSOPHY

The subject of management philosophy is one that is frequently talked about by staff and by management. Questions that staff members ask, frequently stimulate thoughts. There are questions about principles which govern the public administrator, about decision making and the promotion of subordinates. There are some personal questions, about the way the administrator's own contributions to an organization are assessed, about the many checks and controls placed on public administrators and what he thinks of the criticism often heaped on government officials.

A series of eight questions and answers dealing with personal management philosophy were published in the May - June 1966 issue of "Modern Government".

Commencing with this issue, each "Bulletin" will contain a question and answer until all eight have been published. A suggestion to all members of the staff might well be that the subject matter of each question and answer could be YOUR topic of the month.

The first question was: What governing principles guide your work as a public servant?

I believe that a public servant must operate in a goldfish bowl and, therefore, every act, public or private, must be carried through in such a way that it can stand public examination. His work should be done openly, with full justifications prepared in advance.

There is no room for snap judgment nor surreptitious dealing.

The public servant should satisfy himself and rely on his judgment. He should expect to have his mistakes pointed out to him publicly and in this, if in nothing else, he seldom will be mistaken and rarely criticized.

The public servant should not try for the popular decision, because public tastes are fickle and there is no constant criterion to be discovered here. He should instead endeavour always to do the "right" thing, that which will legitimately promote the objectives of his programme.

Criticism is bound to greet many decisions, but that is because there is no surface quiet on the ocean of public opinion and there are always currents and waves moving and splashing about against any forward motion.

NOTES ON ROAD SAFETY

On March 30 of this year the House of Representatives debated road deaths as compared to the number of Australians killed while defending liberty and their country in Vietnam. I am sure the reply made by the Minister for Shipping and Transport Mr. Freeth, will ring a message requiring no further comment.

"Mr. Freeth - It is regrettable that, during the year ended 30th June, 1965, 382 youths between the ages of

17 and 21 years met their deaths in road accidents. The figures for the last full year - that is for the period between January and December 1965 - have not yet been finally verified, but it is estimated that during that period 400 youths between the ages of 17 and 21 years met their deaths on roads in Australia. My colleague, the Minister for the Army, has informed me that since Australian troops have been in Vietnam the death has occurred of four members of our forces under the age of 21."

SHARK BAY

The Supervising Inspector, Mr. J.E. Bramley reporting on his recent tour of inspection of the Shark Bay area indicates that this is one of the worst seasons for scale fish on record.

Fishermen in the area contributed this mainly to the cold weather, and both their catch of whiting and snapper is considerably down on previous years.

Mr. Bramley reported also that prawn catches were falling right off, after a very good start early in the season.

REPORTS WANTED

The Fisheries Branch of the Commonwealth Department of Primary Industry wants prompt reports of sightings of foreign fishing vessels. There has recently been an increase in the number approaching the shores of Australia. Some of the vessels have been engaged in commercial fishing, others have been doing research work and exploratory fishing.

Commercial or amateur fishermen, or any other person sighting foreign vessels are asked to report as much of the following information as is practical: Name and/or number of vessel, nationality and home port, flag displayed, date, time and position of vessel sighted, estimated course and speed, method of fishing used. Reports should be sent direct to the Fisheries Branch, Department of Primary Industry, Canberra.

CLEARING HOUSE.

AUTOMATION - EDUCATION - WOODEN VESSELS.

Automation is coming to the fishing industry with bigger fishing vessels and smaller crews, a veteran highline fishing Captain told a Conference recently held in Canada.

"If we are to be competitive with foreign fishing vessels our per capita landings must go up", Captain M. 'Bubbles' Rodgerson of Nova Scotia declared. " By the same token the smaller crews will have to be more skilled and will have to be paid much more money. Increased productivity and decreased number of men on fishing vessels are the key to future development."

Because of the use of complex equipment, Captain Rodgerson foresaw that fishing crews of the future would require higher scholastic and training background. Ships must be built to provide comfort and the number of hours at sea reduced to a level where working conditions are comparable with those in shore based plants.

Captain Rodgerson's views were further endorsed by a Dutch naval architect, J. F. Minnee who thought that education of crews was a major consideration towards technological advancement.

The theory that wooden trawlers are on the way out was disputed by a Nova Scotian shipbuilder, D.A. Eisenhauer, President of the Atlantic Shipbuilding Company, who said that building costs of wooden trawlers were less than steel trawlers and where it had been possible to make meaningful comparisons, are more economical to operate.

New designs, adequate power, comfortable accommodation and electronic fishing and navigational aids are among many improvements which have made the wooden trawler an efficient fishing unit.

(Fishing News International) London April, 1966.

IGLOOS FOR CATCHING LOBSTERS.

A dome-shaped plastic lobster trap, developed by Markland Works Ltd., Amherst, Nova Scotia, is expected to have an effective working life of from eight to ten years. In sea water, the trap's polyethylene material does not rot or become waterlogged, is not attacked by marine borers, and has the same smooth resiliency as kelp, a natural sea plant on the lobster grounds. The polyethylene is pigmented to reduce the danger of sunlight degradation during off-season storage.

The "igloo" design, with an iron ring at the base, gives the trap greater stability on the sea bottom and allows lobsters direct access to the entrance from any direction of approach. The point of entry, consisting of thin plastic "fingers", is at the top of the dome and closer to the bait than any other point in the trap. The resilient fingers, which a lobster can easily spread apart to 9 inches, can trap much larger lobsters than other traps. When the lobster is inside, the fingers spring back into place and close off the entry. A small exit port in the side of the trap permits undersized lobsters to escape. The igloo's special bait container prevents fishes from stealing the bait before it attracts the lobsters.

Lobster fisherman can bait and assemble the trap in seconds. Thirty-two of these compact traps, which come in four sections, occupy the same amount of space on the boat as four conventional wood-and-twine traps. In air, the igloo weighs only 25 pounds as compared to conventional traps which can weigh up to 100 pounds when water-soaked.

(Sea Frontiers Florida March-April, 1966)

Shenton Park Lake is now reported to be the home of over 1,000 ducks. Feeding these has been the self-imposed responsibility of a local resident but has now been taken over by the Subiaco Council.

(The Local Government Journal of Western Australia June, 1966)

"FISHERIES OUTPUT'

Fisheries products taken in Australian waters in 1964-65, excluding pearl shell, trochus shell and whale products, were valued at $38,663,000, an increase of 18.5 per cent on 1963-64. The estimated live weight of fish taken was 94,379,000 lb., a decrease of 2,699,000 lb. Crayfish production fell by 4.9 per cent to 26,270,000 lb.

New South Wales and Western Australia showed decreases in prawn production, while Queensland prawn production increased from 5,118,000 lb. to 5,737,000 lb. Scallop production increased from 15,373,000 lb. in 1963-64 to 24,739,000 lb. in 1964-65, the Victorian catch rising from 10,434,000 lb. to 21,371,000 lb.

Principal statistics of production (1963-64 figures in brackets) are:- Fish, 94,379,000 lb. (97,078,000 lb.,) valued at $12,175,000 ($13,658,000); crayfish, 26,270,000 lb. (27,634,000 lb.), valued at $17,323,000 ($11,112,000); prawns, 12,075,000 lb. (13,369,000 lb.), valued at $4,797,000 ($4,372,000); oysters, 14,608,000 lb. (12,775,000 lb.), valued at $2,717,000 ($2,366,000); scallops, 24,739,000 lb. (15,373,000 lb.), valued at $1,315,000 ($886,000).

Fish Processing: Fish processed in Australia were:- Whole fish, 16,745,000 lb. (17,506,000 lb.); headed and/or gutted, 5,037,000 lb. (5,148,000 lb.). They were used primarily for canned fish for which production was 11,095,000 lb. (11,267,000 lb.), the main species being Australian salmon, 3,884,000 lb. (5,396,000 lb.), and tuna, 5,448,000 lb. (4,691,000 lb.).

Exports: The value of exports of edible marine products totalled $18,204,000 ($14,372,000). This consisted mainly of craytails, $13,600,000 ($11,138,212); prawns, $1,988,000 ($1,138,000); whole crayfish, $453,000 ($904,974); scallops, $876,000; and tuna, $303,000 ($408,000). Most of the craytail exports went to the United States of America, $13,403,000 ($9,953,000; France, $87,000 ($721,000); and Canada, $51,000 ($351,000).

Imports: Imports of fish products were worth a record $24,023,000 ($22,195,000). Included were frozen fish, 39,965,000 lb. (40,176,000 lb.) worth $10,671,000 ($10,384,000); canned fish, 25,949,000 lb. (25,087,000 lb.) worth $10,598,000 ($9,369,000); and smoked or dried fish, 7,591,000 lb. (8,523,000 lb.) worth $1,919,000 ($1,911,000).

Frozen fish, crustaceans and molluscs were mainly from the United Kingdom 13,743,000 lb. (13,267,000 lb.), Denmark, 3,797,000 lb. (4,964,000 lb.); New Zealand, 5,637,000 lb. (4,868,000 lb.); and South Africa, 5,823,495 lb. (6,944,000 lb.). Canned fish imports included salmon, 11,912,000 lb. (11,642,000 lb.); of which 7,869,000 lb. (7,744,000 lb.) came from Japan and 2,466,000 lb. (3,360,000 lb.) from Canada; sardines, 6,341,000 lb. (6,418,000 lb.); of which 2,709,000 lb. (2,192,000 lb.) came from Norway, 1,877,000 lb. (981,000 lb.) from the United Kingdom and 973,000 lb. (2,438,000 lb.) from Canada; herrings, 4,774,000 lb. (4,376,000 lb.); of which 3,549,000 lb. (3,223,000 lb.) came from the United Kingdom and 369,000 lb. (316,000 lb.) from Canada. Fish, smoked or dried, totalled 7,003,000 lb. (8,523,000 lb.) and came mainly from South Africa, 4,094,000 lb. (5,260,000 lb.), and United Kingdom, 2,250,000 lb. (2,724,000 lb.).

The total value of marine shell production was $368,200 ($400,000). This consisted of pearl shell, 916,000 lb. (1,131,000 lb.) worth $364,000 ($390,000); and trochus shell, 48,000 lb. (142,000 lb.) worth $4,200 ($10,000).

Whaling: The termination of east-coast whaling in 1962, and the prohibition in 1963 by the International Whaling Commission of the capture of humpback whales south of the Equator left only one station operating, at Albany, Western Australia.

In 1965, the catch consisted of 668 sperm whales. Production of sperm oil totalled 25,002 (27,534) barrels valued at $510,000 ($620,000) and by-products (meat, meal, and solubles) were valued at $244,000 ($120,000).

(Facts and Figures No. 88)

FIRST ATOM-POWERED WATER DISTILLER.

The fist nuclear-powered desalination plant has been tested successfully by the U.S. Navy at McMurdo Station, Antarctica. According to reports, the new plant will go into fulltime service in the fall of 1966. It is capable of producing 11 gallons of fresh water per minute and can store 55,000 gallons.

(International Oceanographic University of Miami April, 1966)

RED COLOR OF SHELLFISH STUDIED BY ALASKAN LABORATORY

Color is probably the most important criteria in eye appeal in a food market. Housewives want green peas, red salmon, pink shrimp, and scarlet crab. Certain colors count; a few are forbidden. So color has become an important factor in marketing fish and shell fish. So say chemists of the U. S. Bureau of Commercial Fisheries Technology Laboratory at Ketchikan, Alaska.

Trying to learn how to retain the natural red color in Alaskan shrimp and crab during processing is one of the current projects of the Ketchikan Laboratory. As the nature of the carotenoid pigments causing red and orange colors is not fully understood, the problem is difficult.

The purpose of the Technology Laboratory at Ketchikan is to assist processors to turn out a quality product as well as an economic one. The laboratory employs 5 chemists and 3 assistants. It has been in operation since 1940. It operates under the regional office of the U. S. Bureau of Commercial Fisheries in Juneau, Alaska.

(Commercial Fisheries Review Arlington April, 1966)

FISHING VESSELS LAG BEHIND ON EFFICIENCY.

The builders of fishing boats could learn much from studying modern commercial vessels, a Swedish editor told the Food and Agriculture Organisation.

Capt. Thorsten Rinman, former captain of merchant ships and now an editor of Svensk Sjofarts Tidning, Sweden's largest shipping journal, told the meeting:

"The merchant ships of today are more efficient and cheaper than their predecessors, which means a higher earning capacity. It seems rather odd that - with a few exceptions - similar progress has not been made in fishing boat construction."

Capt. Rinman named maintenance, rust protection, engine-room layout, the selection of engine-room equipment, economy and management, and automation, as fields in which

fisheries industries could learn a great deal from present merchant marine practices.

"Even if the background differs from place to place and from time to time," he said, "the owner of a small merchant vessel and the owner of a fishing vessel have this in common: they operate vessels under severe weather conditions, they have as small crews as possible, and time is always inadequate."

Maintenance of fishing vessels, either at sea or in port, when compared with that of merchant vessels, often left much to be desired, he said.

"The economy of a well-kept ship is not in the amount of money spent on maintenance but in the planning and care devoted to it."

(The South African Shipping News May, 1966.)

FIRM FORMED TO HARVEST WEST COAST SEAWEED.

A company has been formed by a West Vancouver engineer to harvest seaweed on the west coast of Vancouver Island.

Walter Huff, who has patented several devices designed to economically harvest the kelp and other seaweed, has formed the Pacific Kelp Company.

The provincial government has paved the way for the operation by passing legislation amending the Fisheries Act to allow 21-year licences for the commercial harvesting of aquatic plants. Under the old law, only one-year licences were granted. The change in legislation was requested by Pacific Kelp.

Seaweed is used in the manufacture of certain types of fertilizer and in some plastics, and has a wide range of uses in the chemical industry.

Pacific Kelp was unable to obtain adequate financial backing on the basis of one-year leases, which were renewable at the discretion of the government.

A government spokesman said that "we have high

hopes of establishing a major industry" on the West Coast.

The operation will consist of several barges for collecting the seaweed and a mothership for processing.

(Western Fisheries Vancouver April, 1966)

MARINE SCIENTIST STUDIES ANTARCTIC OCEAN SQUID AND OCTOPOD

A scientist of the Institute of Marine Science, University of Miami, left south Florida early in January 1966 for the frigid south polar seas. He joined the National Science Foundation's Antarctic research ship USNS Eltanin for a two-month cruise in the Drake Passage, Scotia Sea, and the waters surrounding South Georgia, South Sandwich Islands, South Orkneys, the Falkland Islands, and the Palmer Peninsula. He is the sixth scientist from the Institute to do field work in the Southern Ocean in an investigation of the occurrence, distribution, and biology of the squid and octopod in a program directed by the Institute's Division of Biological Sciences.

Supported by the Office of Antarctic Programs under the National Science Foundation, earlier Eltanin cruises with Institute scientists aboard have been from Valparaiso, Chile, to New Zealand and return, working as far south as the pack ice permitted operations. Previous cruises have been made during the Antarctic winter when the Southern Ocean is at its worst. This cruise will be the first made during the Antarctic summer.

Studies have revealed large numbers of squid and bottom-dwelling octopod in the waters surrounding the Antarctic continent and several scientific papers are now ready on various species taken on the cruises. Squid in Antarctica form a large part of the diet of the sperm whale, various seals, and numerous sea birds. With the exception of fish, they constitute the largest food source in the oceans and their study is of importance to many nations.

(Commercial Fisheries Review Arlington April, 1966)

RUSSIAN STERN TRAWLER VISITS MELBOURNE.

On May 3rd the Russian stern trawler, the "Aka Demik Berg" entered the Port of Melbourne.

The vessel is 84 metres in length with a tonnage of 3,800 tons, with a refrigerated capacity of 600 tons of frozen fish.

The main engine of 2,000 hp. gives the vessel a speed of 10 to 11 knots.

The wheel-house is a maze of electronic equipment, comprising two sets of Radar, two types of fish-finders, direction finders, multi-channel radio transceivers and push-button rudder control. The reversible pitch propellor is also controlled from the wheel-house.

The trawler was built in 1963 and is engaged in exploratory fishing - mainly in the Pacific Ocean - under the aegis of the Institute of Oceanography - Vladisvostok. The vessel has been fishing in the Great Australian Bight and it was stated they had no commercial catches on board but it was admitted that there was a strong commercial interest in the area and particularly in the following species :-

Redfish (Centroberyx affinis), Snoek (Leionura atun), Bight Redfish (Trachichthodes gerraodi), Queen Snapper (Blue Morwong) (Nemadactulyus valenciennesi), Jackass Fish (Morwong) (N. macropterus), Deep-sea Travella (Hyperoglyphe porosa), (and the Carngida species including Usacaranx georgianus). They are not interested in the edible shark or crayfish. The captain reported sightings of Tuna - possibly skipjack - but explained that he did not catch this species as there was no purse-seine on board. He was, however, clearly impressed with these resources.

During an interview, the Captain stated that a vessel of this type could pay for itself in three years and could take up to 15,000 tons annually on good grounds, but 10,000 tons would be a fair average. It is interesting to realise that four vessels of this type could land the

equivalent of the total annual catch of the Australian fishing industry.

The vessel carried a crew of 86 including ten women - this also includes ten scientific officers and eight engineers.

A back-stage preview of the platypus show was arranged and the party was able to photograph this animal at very close range. It was a trifle difficult to explain the outstanding pecularities of this creature to the visitors. The Russian-English phrase book available contained madly unrelated phrases such as "My boiler tubes are in considerable disrepair" or "Where is the Olympic Swimming Pool?". However, Fred Baum did an excellent job in mime and the party left the show shaking their heads in dismay, and there was perhaps just a tinge of disbelief in what they had seen.

A light lunch at the Kiosk was arranged by the Department's two drivers - Dick Hayes and Alan Temple - and the party returned to the vessel in the late afternoon.

The vessel is now on her way to New Zealand to carry out further exploratory work.

P.S. When the vessel returns to Vladivostock, it would be interesting to know what reaction there will be to the myriads of photographs taken of under-water egg-laying rabbits and giant birds who only eat hats .....

(Fur Feathers and Fins Victoria May, 1966)

EXPORTING EELS.

Large quantities of eels are now being exported from Australia and New Zealand to Europe, where they are considered a delicacy. The relatively new industry has developed and grown rapidly. In 1965 one firm alone in Auckland exported 100 tons of silver-bellied long-finned eels weighing from $\frac{1}{2}$ to 2 pounds each. The new enterprise started when it was learned that there is a severe shortage of eels in some European countries due to river pollution.

(Sea Secrets University of Miami February, 1966)

TUNA PURSE SEINER REPORTS GOOD FISHING IN SOUTH PACIFIC.

The Japanese purse seiner Taikei Maru No. 23 (212 gross tons), which left Japan, December 3, 1965, on a tuna fishing trip to the southwest Pacific Ocean, began fishing off New Guinea around December 13. She unexpectedly encountered good fishing, taking a full load in one week. She was scheduled to be back in Japan around December 27 or 28 with 65 metric tons of skipjack and 250 tons of yellowfin tuna. (Katsuo Magur Tsushin, December 22, 1965.)

(Commercial Fisheries Review Washington March, 1966)

JAPAN PLANS SUBMARINE FOR FISHERIES RESEARCH.

A research submarine capable of taking four men, including two fisheries scientists, to a maximum depth of 1,500 meters (4,920 ft.) is being planned by the Japan Science and Technology Agency. Cost is expected to approximate U.S. $833,333.

It is expected that actual planning and design work will begin in the second quarter of the present year. Actual operation may be three years away.

(Ocean Fisheries California April, 1966)

SHRIMP BREEDING.

The Soviet Institute of Marine Fishing and Oceanography is studying the possibility of cultivating shrimps in the water reservoirs of peat-fired power stations. After previous attempts to breed sweet-water Far East shrimps in other reservoirs failed, the problem was solved when several shrimps accidentally got into the water reservoir of a power station together with fish fry let in to clear it of plants. The even temperature of 35 deg. C., and the soft peat water provided an excellent medium in which the shrimps could breed. In a few years the number of shrimps has reached several hundred thousand in one reservoir.

ALASKA KING CRABS GAIN THREE LBS. IN ONE YEAR.

Some of the ten-pound male king crabs tagged and released 60 miles seaward from the city of Kodiak by the Alaska Department of Fish and Game in October, 1963 are being recaptured as 13 pounders. These actively growing males are gaining 2½ to 3 pounds in one year and are increasing one inch in size across the back. On the other hand, some of the other males did not molt and are being recaptured the same size and weight as when initially released. Migrations do not exceed 50 miles in any one direction and average considerably less.

(Pacific Fisherman California March 1966)

THE TREE-WALKING FISH.

Many anglers are aware of the fact that trees are nonexistent along the salmon rivers of Iceland, which makes it something of a paradise for the fly caster. But few people ever discover that there's at least one place in the world where a man might land his back cast in a tree and catch a fish out of the branches.

Back in 1959, I visited the Ile des Poissons Qui Marche in the mouth of the Congo River. Actually, the name "island of fish who walk" is an understatement. They ran faster than a man can run on soft mud, in any case. Each morning as the west African sun pushed the mercury toward 140 degrees thousands of fish came running out of the water and over the banks to climb up the mangrove trees. With elbowlike pectoral fins the skipping gobies walked out on the branches and waited for some hapless insect to flit by so they could grab it out of the air for breakfast.

I couldn't get my hands on one, so I dangled a dry fly in front of a goby, the way you would "fish" for a frog. It's no sport catching 8-to 9-inch fish out of trees, but I wanted to see if they were as smart as they were agile. This was not easy because the Periophthalmus has keen vision - eyes that work independently of each other, much like a submarine periscope - and it can keep one eye on you while it examines the fly with the other eye. But in the best angling tradition I finally discovered that gobies were suckers for the sight of a small Black Gnat

Tree-walking fish won't win a beauty prize, as they look much like a sculpin. However, on the way back to camp we saw smoke rising from the mangroves, and it turned out to be a native fishing village dedicated to collecting gobies - which are considered a gourmet item. How do the local boys catch them? They knock'em out of trees of course, then run them down with something like a miniature butterfly net, capturing them for the table.

Truth is often stranger than fishin'.

(Field and Stream New York February 1966)

FISH UNHARMED BY OIL RIGS.

Replying to a question in Parliament by Mr. Hector Hughes, (Lab. Aberdeen, North), Dr. Jeremy Bray (Parliamentary Secretary to the Minister of Power) said he had no evidence to suggest that drilling in the North Sea for gas and oil "has had any adverse effect on fish".

Asked what scientific enquiries he had made on which to base his answer, Dr. Bray said a full investigation had been carried out by the California Department of Fish and Game between 1958 and 1960 and it was found that there was no deleterious effect on fish.

(Fishing News May, 1966)

MOST ABUNDANT FISH ISN'T EATEN.

Paradoxically, the most abundant fish along the Atlantic and Gulf Coasts never graces the dinner table. Menhaden, a boney fish too oily to eat, accounts for about 40 per cent of the total catch of commercial fish and is the principal source in the United States for marine oils used as drying agents in paints and varnishes. The fish meal produced along with fish oils from menhaden is widely used in livestock and poultry feeds, and as a fertilizer.

(Commercial Fisheries Review Arlington April, 1966)