SHERIES AND FAUNA
AUSTRALIA
VICE BULLETIN

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STAFF NOTES

"In spring a young man's fancy lightly turns to love!"

Inspector D.P. Gordon, of Albany, married Miss Brenda Powell on September 11. Miss Powell, who held the position of clerk assistant in the statistical section at Head Office, resigned from the Public Service on September 2. Cadet Inspector W.M. Mahoney married Miss Patricia Allfott on August 24. Cadet Inspector Peter Alan Wood married Sandra Mary Harvey on July 29.

Our best wishes are extended to all these newly weds.

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Our congratulations are extended to Inspector and Mrs. R.G. Lindsay on the occasion of the birth of their daughter Dora.

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Several appointments to the fieldstaff were made during the month of July. We welcome Mr. P.A. Wood, Mr. J.R. Chantry amd Mr. J.S. Fletcher, who commenced with us on July 20, 21 and 26 respectively. Mr. Wood has been selected primarily in connection with the crayfish and prawn research programmes as a temporary field assistant but, for the time being, will carry the title of cadet inspector, as will Messrs. Chantry and Fletcher.

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We welcome to Head Office staff Miss E.M. Smith and Miss M.C. Clayton. Miss Smith commenced duty on July 19 as typist, vice Miss J.M. Wallis, who resigned from the service on July 16. Miss Clayton commenced duty as a clerk-assistant in the statistical section of August 30, replacing Miss Powell.

Our congratulations are extended to Mr. J. Byleveld, of Head Office, who has been promoted to a C-II-2 position in the Chief Secretary's Department, following the dismissal of an appeal against his recommendation to that item. Mr. Byleveld will remain with us for some weeks pending the appointment of a replacement to our staff.

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Inspector R.M. Crawford relieved Senior Inspector A.K. Melsom, who has been relieving Senior Inspector J.E. Munro during the latter's absence on combined annual and long service leave. Inspector B.A. Carmichael will act as Senior Inspector during the absence of Mr. Melsom on his annual leave as from August 2. Inspector A.T. Pearce left for Geraldton on July 24 to relieve at that centre during Mr. Carmichael's absence. Assistant Inspector G.D. Noble left for Pemberton, on July 5, to assist at the hatchery during the annual trout stripping programme. Officers who commenced annual leave last month included Cadet Inspector G.D. Noble, on August 23; Cadet Inspector W.H. Mahoney, on August 16; and Mr. H.B. Shugg and Miss N.C. O'Meagher, each of Head Office, on August 23.

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The r.v. "Peron" left Fremantle for Shark Bay, on July 12, to continue her prawn trawling programme. She will also assist in the hydrological research being conducted by the Department of Geology, University of Western Australia.

Research Officer R.C.J. Lenanton, accompanied by Assistant Inspector E.J. Little, left for Shark Bay, on July 19, to continue his whiting research programme. They took with them a recently purchased caravan to provide accommodation for research personnel at Denham.

Mr. D. Donnelly has spent approximately two weeks at Learmonth to continue the collection of prawn data, previously carried out by Mr. David Coe, of the Division of Fisheries and Oceanography, C.S.I.R.O.. Mr. Coe, returned to the Eastern States for personal reasons.

FISHERIES TRAINING SCHOOL

For personal reasons, Inspector F.J. Campbell, who was selected to attend the field officers training course at Cronulla, N.S.W., has asked to be excused. Inspector C.W. Ostle has been nominated to attend in his stead.

ALBANY DEPARTMENTAL TELEPHONE

A telephone service has been installed at the residence of Inspector D.P. Gordon. The number is Albany 1976.

CRAY POT LICENSE

Licensing Officers are advised that if a currently licensed crayfishing vessel is to be replaced by a vessel new to the industry, the new vessel will, in addition to a new boat license, be required to obtain a new pot license.

THE WINSTON CHURCHILL MEMORIAL TRUST

The Winston Churchill Memorial Trust invites applications for Churchill Fellowships tenable overseas during 1966. The Fellowships are intended to provide opportunities for male and female Australian citizens from any walk of life to further their education or training overseas. It is expected that thirty awards will be available in 1966 for the whole of Australia and its Territories.

The conditions are that applicants should already have achieved, or demonstrated promise of achieving, distinction in careers of benefit to the Australian community and should wish to undertake a programme of work which necessitates travel abroad. They will be required to submit detailed proposals of a programme of overseas study or training.

The Fellowships will normally be tenable for periods ranging from three to twelve months, but awards of longer or shorter duration, or extension, may be granted in special circumstances.

Applications, closing on August 30, 1965, should be addressed to The Winston Churchill Memorial Trust, Box 478 P.O., Canberra, A.C.T.

BASIC WAGE RISE

The Public Service Commissioner has advised that, as a result of the quarterly declaration of the Western Australian Industrial Commission, the basic rate has been increased by £8.0.0 a year for adult males and £6.0.0 a year for adult females.

The new rates took effect from July 26, 1965.

The late Wililam Davidson

VALE WILLIAM DAVIDSON

On July 11, Mr. William Davidson, formerly senior inspector in the Department, died after a long illness.

"Uncle Bill", as he was affectionately known to fellow-officers and fishermen alike, retired from the public service on February 27, 1957, severing an association of nearly 38 years, during the greater portion of which he had served as inspector of fisheries at Fremantle.

Born at Botany Bay, N.S.W., on August 7, 1892, the son of a master mariner, Bill Davidson was brought to Western Australia at the age of three years, when his family settled at Albany.

Later removing to Perth, he completed his education at West Leederville and Perth Boys Schools. He served an apprenticeship as a plumber, and in 1916 went overseas with the first A.I.F. Severely wounded at Pozieres, he was after a spell in England sent back to Western Australia for discharge.

He entered the Fisheries Department on April 4, 1919, and shortly afterwards was posted to Yunderup, where he remained for a brief period. At that time, as Uncle Bill recalled on the occasion of his send-off from the Department, the staff comprised only the Chief Inspector (Mr. Aldrich), a female clerk-typist, with one inspector each at Broome, Shark Bay, Mandurah, Bunbury and Albany and two each at Perth and Fremantle.

Mr. Davidson is survived by his widow, who has been seriously ill in hospital over a lengthy period, and daughter (Mrs. Jansen). To both we extend our deepest sympathy.

DON E. CEBULSKI

It was with deep regret that we noted the tragic death in a road accident of Mr. Don E. Cebulski, of the Department of Geology of the University of Western Australia.

Miss Sandra Gray, Graduate Assistant, his passenger in the car, was not seriously injured. They were on their way to Denham to continue a study of the sediments and hydrology of Shark Bay. Mr. Cebulski came to Australia from America

approximately two years ago to carry out studies for a doctorate in philosophy. In that time he had gained the respect and friendship of all who had the pleasure of meeting him or working with him.

He leaves a widow and three young children to whom we extend our sincere sympathy.

ABALONE

There has been a growing interest in the exploitation of abalone in Australia over the last few years. In New South Wales, Victoria and Tasmania, this fishery has grown rapidly and prospects of further development of limited fisheries in those states is promising.

In view of this it is interesting to note the situation in South Africa where it has been found that catches of abalone have been declining. As a result, the Division of Sea Fisheries, headed by Mr. G.G. Newman, has carried out a programme of research on the commercial species Haliotis midae. The aspects of the exploitation and biology of the species studied were:-

(a) The Industry
(b) Distribution
(c) Variation in Stock Abundance
(d) Reproduction
(e) Growth
(f) Movement

It was concluded that, in spite of the implementation of a minimum size limit and of a divers' licensing system, there were indications of over-exploitation of the South African abalone populations. These findings confirmed complaints by the industry that stocks were being depleted. The Division is now considering the introduction of various measures to halt the decline, including the establishment of sanctuaries, an annual catch quota, and revision of the minimum size limit.

ADMINISTRATIVE INSTRUCTION

Departmental keys issued to officers must be recorded. If any are unissued, they must be handed to the Licensing Officer at Head Office for safekeeping.

Any officer who has been issued with keys, must, before leaving on annual or long service leave, either hand his set to his branch head or to the Licensing Officer, or advise him in writing the name of the officer to whom they have been handed.

If keys are lost, Head Office is to be notified so that a new lock, if necessary, may be ordered.

APPLICATION FOR LEAVE

The attention of all staff is drawn to the necessity to complete an application for leave form, and to forward it to their officer in charge, before commencing leave. Failure to comply with this regulation could result in leave being debited without pay.

ADVANCE PAYMENT ANNUAL RECREATION LEAVE

Officers proceeding on annual recreation leave, and who desire payment of salary in advance, are requested to submit applications at least three (3) weeks prior to the proposed date of commencement of leave to ensure that the additional payment may be included on the particular pay schedules.

APPLICATION TO FISH CLOSE WATERS REFUSED

On June 18, the Honorary Assistant Minister for Fisheries and Fauna (Mr. G.C. MacKinnon) received a deputation from whitebait suppliers to discuss the possibility of obtaining permission to ring net so-called whitebait in close waters in the lower reaches of the Swan River.

The proposition put forward by the deputation boiled down to a day-to-day licensing system necessitating the presence of an inspector to supervise their operations.

After all aspects of this matter had been thoroughly investigated, the Minister decided that he could not accede to the request.

SOUTHERN BLUEFIN TUNA

In a six-monthly report submitted to the Western Fisheries Research Committee, the Department of Fisheries and Oceanography, C.S.I.R.O., advised that a vessel, the "Catronia B"

was chartered from May 24 to June 24 to participate in the tagging of juvenile bluefin.

Altogether, 2,002 fish were tagged and released. All were double tagged using yellow tags with grey ends. No fish were injected with O.T.C. (Tetracycline), or given antiseptic treatment, nor were times out of water recorded, as none of these treatments appear, from previous work, to have much effect on the survival of the fish or tag shedding rate.

Fishing was somewhat slower than in previous years when upwards of 5,000 fish had been tagged in a month. This is attributed to changes in fish behaviour rather than in weather or fishing techniques. Local fishermen said that bluefin had not appeared in their usual numbers this year.

SEA ORDEAL

Bunbury professional fishermen, Nicholas Soulos and Neil Burton of l.f.v. "New Sydney" were missing for 3 days before they were rescued after an intensive air, sea and land search. They left on a fishing trip on July 26, but two days later, on the day they had planned to return, the engine failed to start. There was not enough wind to make use of the emergency sail they had rigged and they drifted, approximately 50 miles. Their food lasted until the last day, but water had to be rationed to half a cup a day. A Cessna of the Bunbury Aero Club, piloted by Mr. R. McKenzie, spotted the disabled vessel, which was later towed to Bunbury harbour by the pilot boat "Koombana".

PRESERVATION OF INDIGENOUS FLORA AND FAUNA

As a result of representations made to the Hon. Premier for the creation of a unified conservation authority, under scientific direction, for the preservation of indigenous flora and fauna, a Committee has been formed which will advise the Government on the creation and retention of adequate reserves for such purposes.

The Premier has announced that the Committee will be constituted as follows;

Mr. S.J. Stokes (Chairman)	-	Lands Department.
Mr. G.E. Brockway	-	Forest Department.
Mr. D.G. Eustace	-	Main Roads Department.
Mr. C.F.H. Jenkins	-	Department of Agriculture.
Mr. H.B. Shugg	-	Department of Fisheries & Fauna.
Mr. E.K. Steere	-	Public Works Department.

CONVICTIONS

APRIL - JULY, 1965

Date	Defendent	Court	Charge	Result
	FISHERIES ACT			Fined
5.4.65	SARTORI, Peter	Fremantle	U/W tails	29.15.0
"	COOPER, Joseph	"	U/S Crayfish	29. 5.0
"	CHITTY, Rex Maitland	"	" "	34. 0.0
"	PAINO, Samuel	"	" "	34.10.0
26.4.65	DE-CEGLIE, Guiseppe	"	" "	65. 5.0 (Plus Cancellation of all licenses)
"	CARTER, James	"	" "	20.15.0
"	CASEY, Keith	"	" "	20.15.0
17.5.65	SMITH, Allen Ruskin	"	" "	33. 6.0
"	VINCENT, Merven Charles	"	" "	26. 5.0
31.5.65	SIGGENS, Lionel	"	" "	40.16.0
"	PELL, John A.	"	" "	40.16.0
"	MAURICIO, Julio Concalves	"	" "	126. 0.0
"	TRIPI, Salvatore	"	" "	40. 0.0
"	BARWICK, James William	"	" "	18. 4.0
28.6.65	JAKOVITCH, Roko	"	U/W Tails	50.15.0
26.7.65	SIMPSON, Hector George) BUTLER, Raymond John)	"	Netting in closed waters)	10. 0.0
"	HANSEN, Kaare Tornes	"	U/S Crayfish	36.12.0
"	MALONE, Hilary	"	U/W Tails	74.12.0
"	WINTER, Charles Richard) RUSSELL, John)	"	Netting in Close Waters)	10. 0.0
"	PORTELLI, Antonio) PORTELLI, Christopher)	"	" " ")	10. 0.0
"	KNOTT, Frederick) PORTELLI, Antonio)	"	" ")	10. 0.0
19.2.65	FERRO, Vencenzio	Perth	U/S Crayfish	51.15.0
2.4.65	ROGERS, Ronald Joseph	"	" "	77.15.0
15.4.65	CREAM, Stanley Everard	"	" "	29. 5.0
"	" " "	"	" "	61.18.0
"	" " "	"	" "	68. 0.0
"	HOY, Joseph Henry	"	" "	30.18.0
7.5.65	ABBOTT, Francis Keith	"	" "	10. 7.0
"	DELROSSA, Guiseppe	"	" "	21.15.0
"	YOUNGS, Charles Robert	"	" "	88. 5.0
"	VISSIGGIO, Nicola	"	" "	37.10.0
"	LAGALLA, Nicola	"	" " and Tails	22. 0.0

Convictions Continued

Date	Defendent	Court	Charge	Result
20.5.65	CHAPMAN, Peter Edwin	Perth	U/S Crayfish	114.0.0
2.6.65	TAIT, George Furey	Midland	" "	24.10.0
"	RATHJEN, Ernest Frederick	"	" "	24. 5.0
"	O'DEA, Francis John	"	U/S crayfish & Obstruction	196.17.6
26.5.65	EKE, Kenneth George	Perth	U/S Crayfish	57. 5.0
26.5.65	POZZI, Guido John	"	Obstruction	10. 0.0
8.6.65	ROGERS, Ronald Joseph	"	U/W Craytails	344.16.0
"	" " "	"	U/S Crayfish	46.12.0
16.6.65	WARNOCK, Keith Edward	Midland	U/W Tails	17.15.0
"	" " "	"	U/S Crayfish	24.10.0
23.6.65	OAKEY, Harold Leonard	Perth	U/S Fish	12. 1.0
"	OKAMOTO, Lindsay Raymond	"	" "	13.14.0
25.6.65	ELSTON, Fred	"	U/S Crayfish	40.12.0
1.7.65	YOUNG, Henry Gray	"	U/W Tails	20. 0.0
16.7.65	DRUSKOVICH, Nikola	"	U/S Crayfish	34. 2.6
"	MATTHEWS, Barry	"	" "	23. 7.6
17.6.65	WILKERSON, Charles Neville	Geraldton	" "	12.10.0
"	PETERSEN, Andrew Johnston	"	" "	41. 0.0
"	PAPARELLO, Vito	"	" "	50.15.0
"	DAVIES, Edward Augusta	"	" "	16. 0.0
"	CONNELL, Frederick, A.	"	" "	18. 6.0
"	WOODBERRY, Maxwell John	"	" "	26. 4.0
"	" " "	"	" "	21.14.0
"	RITCHIE, John	"	" "	22. 6.0
"	RYLANDS, James & Madge	"	" "	18. 2.0
"	WEST, Arthur Ernest	"	" "	36. 0.0
"	" " "	"	U/W Tails	20. 0.0
22.7.65	NELLEY, John Raymond	"	U/S Crayfish	17. 2.0
"	GROSSE, John Edward	Geraldton	U/S Crayfish	15. 5.0
"	THOMSON, Ronald I.	"	" "	33.15.0
"	RIOLI, Antonio	"	" "	45. 0.0
"	PURCHASE, John Frederick	"	" "	34. 0.0
"	MARICH, Peter Bruce	"	" "	21. 4.0
"	HAIG, Edward	"	" "	16.15.0
"	WELSTEAD, John	"	" "	15. 7.0
"	DRUSKOVITCH, Nikola	"	" "	56. 0.0
"	ALLAN, Victor Ernest Albert)	Jointly	" "	
"	GOOCH, Ronald Henry)	"	" "	15. 7.0
27.5.65	MARV, Alexander Roy	Pinjarra	" "	13. 8.0
24.6.65	PURCELL, Richard Thomas	"	Fishing in Closed Waters	5. 0.0
5.4.65	WATTS, Ernest Loton	Shark Bay	U/S Wniting	15.12.0
"	WATTS, John Loton	"	" "	16.19.0

Convictions Continued.

Date	Defendent	Court	Charge	Result
	FAUNA PROTECTION ACT			
5.4.65	PITMAN, Frederick John	Fremantle	Taking Protected Fauna	5. 0.0
"	PERKINS, James	"	" "	5. 0.0
"	YATES, Ronald James	"	" "	5. 0.0
5.5.65	GILES, Kevin Arthur)	Midland	" "	8. 0.0
"	GILES, Neville George)			
" "	JONES, George Edward	"	" "	8. 0.0
"	AYOUB, Douglas	"	" "	8. 0.0
21.5.65	MOUNSEY, Ashley	Perth	" "	2. 0.0
"	ABBOTT, Ronald	"	" "	2. 0.0
"	HASTINGS, Mark	"	" "	2. 0.0
27.5.65	STAGBOUER, George Louis	Boddington	" "	2. 0.0
30.6.65	ABBOTT, William Norman	Midland	" "	10. 0.0

PATROL VESSEL "GARBO"

The Department has accepted a tender of £850 from Mr. T.F. Lonie, of Carnarvon, for the sale of the p.v. "Garbo". The sale will be finalized later as Mr. Lonie has been given three months to pay.

Originally built by Mr. Tom Rann as a cutter, powered by sail and a Thorneycroft auxiliary petrol motor, the vessel entered the Shark Bay pearling industry in 1920. In 1923, the then owner, Mr. Sonny Henfrey, of Shark Bay, sold the vessel to a Mr. Wright, who used the boat as a fishing vessel, operating from Cape Naturaliste to Shark Bay. Subsequently purchased by Messrs. Clen Moss and Lloyd Jones, the vessel later worked the Onslow area as a pearling lugger.

In 1950 the Department purchased "Garbo" and refitted her as a patrol vessel for the coastal areas between Lancelin north to Jurien Bay. She was taken over by Inspector A.J. Bateman as skipper with Inspector R.M. Crawford as mate.

In 1952, the Thorneycroft motor was replaced with a Ruston engine. "Garbo" then patrolled the coast north to Geraldton until 1957, when she was transferred to Shark Bay.

CLEARING HOUSE

WEALTH AND HEALTH FROM FISHING

"If man fully utilizes the resources of the ocean," says Dr. Wilbert M. Chapman in an impressive 40-page pamphlet entitled Potential Resources of the Ocean, "then the ocean will be capable of producing more animal protein than would be needed by 10 times the population of the world."

Dr. Chapman adds: "The fact that most of this protein dies a natural death and returns its components to the sea, is beside the point."

This prospect might seem rosy, but under today's population pressure the picture is not rosy. Authoritative nutritionists assert that half of the present 3,000,000,000 world population suffer from protein malnutrition damaging to health and energy, and that one-sixth additionally suffer to the extent of being sick through inadequate protein. These sufferers are mainly in the tropics and sub-tropics - where social unrest is most rampant.

Fisheries of the world can make a vital contribution to rectifying these situations. So Dr. Chapman surveys the facts.

Protein from the ocean

Of the ocean's effective contribution of aquatic food at present, 88.4 per cent is fish and the biggest contributors to this total are the herring-like fishes such as anchovy, sardines and herrings. These are derived principally from tropic and sub-tropic waters. Thanks to agressive fishing the production of animal proteins from the ocean is increasing at a much more rapid rate than is the human population of the world - the growth rate from 1957-1962 of fisheries being 8 per cent. against the population growth of 2½ per cent.

At present not a great deal of the increased fish production of the world is being used in tropical countries where the protein is most needed. It is being used instead in developed countries who already enjoy ample protein. In these countries, fish meal from the tropics is principally converted into poultry and stock foods preliminary to human consumption.

But while this is the present position, benefit is gradually being conferred upon the developing countries through these expanded fisheries, even though they are being developed by foreigners. But from improved economic condi-

tions in such countries as Peru and West Africa, etc., and growing industrialization, there is emerging an increasing use of fish and even fish meal, for chicken production as a first step to human use.

It is impossible in a short survey adequately to emphasize the many points made by Dr. Chapman. The foregoing are only a few angles from his vastly important paper.

Diffusion of the knowledge in this paper, as circulated by the Van Camp Organization, is a definite service to the fisheries of the world and the increasing aid they can render to humanity.

(Fishing News International London April-June 1965)

BOOMING SEAFOOD EXPORTS

Australia is rapidly becoming a leading exporter of seafoods including crayfish, scallops, prawns, tuna and abalone, said Primary Industry Minister Adermann. "During the present financial year the value of Australia's marine exports will reach about £A10 million, compared with £A8 million last year," the Minister said.

America, France and Japan are Australia's three main markets for marine products, and this year's exports to America are expected to be worth about £A6,300,000.

During the past year Victoria produced more than 70 per cent. of Australia's scallops, and broke the near-monopoly which Tasmania had held for a decade. Take was as follows (in shell): Victoria, 10,967,000 lb.; Tasmania, 4,260,000 lb.; and Queensland, 170,000 lb.

Eight men recently caught £A4,500 worth of tuna off Eden (New South Wales) in a five-hour spell. The haul - 80 tons - is believed to be an Australian record.

In Western Australia it is hoped to encourage fishing of tuna, pilchard, sardines and crabs. The Japanese have found it profitable to catch tuna off the Western Australian coast, but Australians have so far been unable to establish this industry.

Clamp down on racket in cray meat

It is alleged in Western Australia that a number of fishermen and others are working a "racket" in which they

export tons of illegal cray meat (from undersized crayfish) to other Australian states, as well as distributing thousands of the undersized fish to hotels and restaurants.

One fisherman received a heavy fine for having in his possession 1,900 undersized crayfish.

Fisheries inspectors are trying to clamp down on the illegal trading which, it is feared, could eventually ruin the industry.

One company is planning to build crayfish ponds at Jurien Bay in an effort to improve the quality of crayfish exports.

(Fishing News International London April-June 1965)

FLIES RELIEF CREWS TO ATLANTIC VESSELS

Relief crews for Japanese fishing vessels operating in the western Atlantic are being flown out from Japan, and the relieved men returned home in the same manner. In March 65 fishermen and 15 officers flew from Japan via Vancouver, Canada, en route to St. Martin Island in the Netherlands West Indies.

They would man tuna longliners delivering their catches there for transshipment to canneries in the United States and Puerto Rico.

(Ocean Fisheries San Francisco April 1965)

SMALL FISH SHOPS ARE A PUBLIC NEED

Self-service shops have become "lonely selection" to the housewife and supermarkets "shops without speech".

Value for money can be assured in almost any restaurant because the food they serve is measured to the half ounce and uniformly good bec use it is cooked in factories miles away where quality control is assured.

Everything these days appears to be mass-produced. Everything except people.

This is how a writer in "Fish Trades Gazette" sums up the trend in modern food merchandising.

And this is says, is why there will always be small fish shops.

The public want to be treated as individuals. They want personal service.

(Fish Trades Review Sydney May 1965)

NEWS SERVICE FOR EUROPEAN FISH MARKETS

A future news service for Europe's fish markets is visualized in a reprint published this month by the U.S. Bureau of Commercial Fisheries. The reprinted article from "Fishing News International," Jan-Mar, 1965, gives highlights of a study made in late 1963 of the feasibility of a unified system of market news reporting for all western Europe. The study, conducted by the Bureau's Market News Service Chief, covered 30 cities and fishing ports in 13 countries. Recommendations made included establishment, with OECD as coordinator, of an international reciprocal exchange of fishery market data directly between fishing ports.

(Commercial Fisheries, Market News Service, New York, May 1965)

RESEARCH HYDROPLANE

Great emphasis today is being laid on research says a report in the Liverpool newspaper The Journal of Commerce and Shipping Telegraph, and this is giving birth to some very strange looking objects. Perhaps one of the most peculiar looking is an observation craft being used by the Soviet Union for fishery research.

Designed by the Klaipeda branch of the Soviet State Institute of Design for the Fishing Fleet, it is a type of submarine hydroplane, being towed by a surface ship. It has already been tried out in the Mediterranean and the Atlantic off Equatorial Africa in tow of the research ship Muksun.

Looking very much like an aeroplane, it has movable fins protruding about one third of the way along, which act as the horizontal rudders. Aft there are two smaller fins, and above them there is a rudder. The bow end is rounded, and has four large observation windows. The main body of the craft resembles a stumpy aircraft fuselage, and it is topped at the forward end by a dome with two protruding port holes.

The operator lies flat, viewing through the four

large ports. A telephone gives a continuous link with the mother ship. The towing bar circles the forward end above the observation ports.

The hydroplane's main purpose is observing the working of trawls and the reactions of fish to various fishing appliances. No difficulty has been experienced in filming the reactions when operating in depths of 164 to 246 ft. No lights were required either, for the trawl shows up quite clearly in the bluish-green water.

Observations have been carried out from two to four hours, and it has sometimes been possible to move through shoals of timid fish.

The Research Institute has made the records into a film, which is giving great assistance in improving fishing appliances.

The research-ship Muksu[illegible] is now engaged in further investigations off the West African coast.

(The South African Shipping News and Fishing Industry Review
Cape Town March 1965)

CATAMARAN BUILT FOR SURVEY WORK

A new catamaran developed for the Food and Agriculture Organisation, by G. Prout and Sons Ltd., of Canvey Island, England, has completed a series of successful proving trials.

First of a group of 16 intended for river gauging and hydrological survey work in East Pakistan, the 27 ft. boat performed excellently in both rough and smooth water, and was found to be capable of some 13 knots when running against waves of up to four ft.

The glass fibre reinforced polyester resin construction ensures that the catamaran is strong and exceptionally light - approximately 1,792 lb. - allowing easy overland transport. It has a high performance from relatively low-powered engines.

Specialists in the design and construction of catamarans, Prouts consider that these very manoeuvrable and speedy boats have great potential as commercial vessels. With the first class stability of their twin symmetrical hulls, joined by a 12 ft. 6 in. wide deck, and their light construction - they can anchor against a strong current, and sail in only 15 in. of water. They are suitable for use as in-shore fishing vessels, light lifeboats, inland waterway

survey craft, and holiday-camp pleasure craft.

A further 15 catamarans, for U.N.O. will be equipped, like the prototype, with a small cabin forward, and will have a well in the centre of the boat allowing samples of the river bed to be obtained for analysis.

(The South African Shipping News and Fishing Industry Review Cape Town March 1965)

SALMON EXPERIMENTS WITH TOKYO NET

A revolutionary type of salmon fishing net is to be experimented with off the coast of Co. Donegal, Ireland, in May and the experiments will be carried out by Mr. Charles McGowan, skipper of the 50ft. trawler Pursuit.

The new drift net has been produced by a Tokyo firm and successfully operated by Japanese crews.

Set anything up to 15 miles off shore, the net has attached to it tiny electrical transmitters which send signals at given intervals showing the number of salmon in the net.

The transmission is recorded on a radar screen installed on the trawler which remains in harbour.

(Fishing News London April 9, 1965)

POISON FISH - GOOD EATING

One of the puffer-fishes, known as fugu in Japan, is very poisonous, but is nevertheless a high-priced delicacy. This apparent paradox is explained by the fact that, in Japan, the sale of fugu is prohibited except at special restaurants, where it is prepared by licensed cooks. The toxic properties are eliminated by the cooks who carefully remove the roe, liver and skin, which contain the poison.

The poison, tetrodotoxin, is a powerful nerve poison. In its pure concentrated form it is a thousand times more potent than cyanide and 160,000 more active than cocaine. A most unexpected discovery recently showed that this poison is identical to that of the California newt, Taricha torosa.

(Sea Frontiers Miami Jan - Feb. 1965.)

"MAN OVERBOARD" WARNING SYSTEM

New from Alertocall Ltd., is an electronic device designed for use by fishermen and trawl fleet owners. Carried by a crew member, it will trigger off any desired alarm, from a buzzer to a ship's siren, if he falls overboard. The unit, which is little over a 1 in. cube, is powered by a deaf-aid battery which runs it for about 2,000 hours. It needs no connection to the warning device, and can be secured inside clothing.

The manufacturers have also perfected a remote fire alarm system which uses solid state detector units. These need no connection to the fire alarm which also indicates on a panel the location of the detector causing the alarm. The system works on a thermal principle. A slow rise in temperature will not affect it but a sudden rise gives an alarm.

(World Fishing London June 1965)

FISHERY LANDINGS AT RECORD HIGH IN 1963.

The combined fishery landings of European nations (not including U.S.S.R.) in 1963 were at a record high of 8.84 million metric tons accounting for 19 percent of the world catch. Only Asia, with a total catch of 17.8 million tons (39 percent of the world total) caught more fish in 1963 than the nations of continental Europe, the Food and Agriculture Organization (FAO) announced December 22, 1964.

Other fishery catches by continent in 1963 were: South America, 8.49 million tons or 18 percent of the world total, North America (including Greenland, Central America, the Caribbean Islands, Canada, Mexico, and the United States), 4.31 million tons (9 percent); the U.S.S.R., 4.0 million tons (9 percent); Africa, 2.81 million tons (6 percent),

The largest European fishery catch was Norway's with 1,387,800 tons, a slight increase over the 1,331,700 tons caught in 1962. Norway ranked sixth in world fishery landings--behind Peru, Japan, Mainland China, the U.S.S.R., and the United States. Norway's best fishing year was 1956 when 2,187,300 tons was caught.

Spain ranked second among European nations with a 1963 fishery catch of 1,097,900 tons, and was in ninth place in world fishery landings. In 1962, Spain's fishery landings were 1,075,400 tons.

In 1963 Denmark and the Faroe Islands caught 985,000 tons, an increase of 56,600 tons over the 1962 catch of 928,400 tons. They were in 11th place in the 1963 world order.

The United Kingdom fishery catch in 1963 was 951,200 tons as compared with 944,300 tons in 1962, and below the record 1948 catch of 1,206,100 tons. The United Kingdom ranked 12th in the 1963 world fishery catch.

Iceland's 1963 catch of 784,500 tons was below the 832,000 ton catch in 1962, and ranked 14th in the world.

France caught 742,300 tons in 1963, slight drop from the 744,300-ton catch in 1962. France's best fishery catch of 750,900 tons was in 1961. France ranked in 16th place in the 1963 world fishery landings.

The Federal Republic of Germany 1963 fishery catch was 646,900 tons. This was above the 1962 catch of 632,700 tons, but more than 100,000 tons below her best catch of 814,800 tons in 1955. The Federal Republic ranked 17th in the world.

Portugal was the only other European nation to catch more than one-half million tons of fish in 1963-- a total of 539,800 tons compared with 525,600 tons in 1962.

Other European nations catching 100,000 tons or more were: Netherlands 361,000 tons; Sweden, 339,800; Italy, 231,600; Poland, 226,700; and East Germany, 184,800. (Food and Agriculture Organization, Rome, December 22, 1964).

(Commercial Fisheries Review Washington, D.C. March 1965)

INSECTICIDES

In the United States, two workers (Ferguson and Boyd) have found that the mosquito fish (Gambusia affinis) develop resistance to some insecticides. Populations of fish which have previously been exposed to several insecticides were less affected than fish which had never come into contact with them. There is some evidence that this resistance is genetically-determined.

Resistance to chlorinated hydrocarbons has now been shown for several vertebrates, at least under certain conditions.

(Nature Conservation Society of South Australia Adelaide June, 1965.)

VORACIOUS STING RAY HAS WEAKNESS FOR OYSTERS

Oystermen everywhere are unhappily aware of the frailties of the oyster, prey to borers, starfish and other predators, susceptible to a variety of diseases and adversely sensitive to such variables as salinity and water temperature. Pacific Coast oystermen have yet another woe, the sting ray, a bat-winged, tough-hided predator that can destroy a bed of oysters in a single night.

Typical of all oyster producers in the area, Coast Oyster Co. is now on its annual sting ray alert. The huge creatures, ranging upwards of 150 pounds, as much as four feet in width and twice as long, swarm into Arcata Bay where the company has its growing beds from March through April to give birth to their young. The baby rays are born alive, usually a short time after the bay is entered. The rays spend about six months in the bay, then return to the open sea late in the summer or early fall.

The sting ray leaves a path of destruction along the bottom of the bay as they move toward the mud flats. Before reaching the oyster beds, the rays prey upon crabs and decimate clam beds along their line of travel. Many commercial fishermen who have taken rays in their drag nets have found them stuffed with clams and baby crabs.

A big ray can completely clean out a clam bed as he scours along the bottom, according to local fish and game biologists. The ray uses his huge wings to create a suction by flapping them on the bottom. This sucks the unfortunate bivalve out of the sand and into the hungry ray's bony maw.

The voracious sting ray scoops up the oysters and crushes their shells in his bony-plated mouth like breaking an egg. He swallows the innards and spits out the shell particles.

Every possible means is used to keep the oyster pirates from entering the growing beds. Several hundred acres of oyster beds are completely fenced with ten-foot redwood stakes to hold the uninvited poachers on the seaward side.

Even by fencing the beds, the predators are not always kept out. They sometimes slip over the barriers during high tide.

The rays are caught in simple circular traps built where the tide run-off pours into the bay's channels.

Unable to swim out of the trap and stranded in shallow water by the receding tide, the rays have finished their last meal.

Armed with lead-pipe gaffs, the oyster crewmen wade into the knee-deep muck and gaff the ugly monster before the tide rises.

It's not a one-sided battle as far as the rays are concerned. It may be their last, but they make it one of their best. Well-armed themselves, the bat-rays pack a poisonous , dagger-like spine in the base of their long whip-lashing tails.

Although the sting is seldom fatal, it is extremely painful and there is no known remedy for it.

Follow Coast Oyster Co. employee Gerald Johnson as he enters an oyster bed with a gaff held poised.

You slip quietly into the muddy tide pool. The slimy bay muck pulls at your boots as you steady your footing, then probe with the heavy gaff in the murky water for the unseen beast lying in the shallows.

Suddenly, the water erupts in a thousand shattered pieces. One hundred and forty pounds of fighting-mad sting ray blasts the stillness of the pool as you rip the razor-pointed gaff into the leathery, thrashing, tail-whipping hulk.

Grasping one of the ten-foot red-wood stakes that forms the fence around the oyster bed, you lurch out of the water dragging the flopping ray behind you. Jerking the gaff free, you raise it overhead and strike down on the ray's bony skull with a crushing blow. The ray flaps feebly a few times, then lies still in the soft muck.

Oftentimes, 20 or 30 rays will be caught in a single trap. When this occurs, the water churns with the thrashing rays struggling to get out of the gaff's reach. It becomes tricky and dangerous to be in the trap then. The rays, once subdued, are loaded into the company's skiffs and hauled to the local reduction plant to be used as a fertilizer ingredient.

Not edible as some of the other members of their family, the bat-wing rays are of no commercial value. The only profit the oyster crews get from their back-breaking work is the knowledge that one less ray will be there tomorrow.

Only sometimes it doesn't work that way. Often during the night a new herd of rays will come into the bay and the mud-churning, gaff-slamming battle must be fought over again with the coming of the day's low tide.

(Fishing Gazette. California April 1965)

PROTEIN CONCENTRATE FROM FISH

Department of the Interior scientists believe they are only a year or so away from developing a commercial profitable method of preparing a protein concentrate from fish. Such a concentrate could be used as a dietary supplement by the world's two billion undernourished people, scientists told a Senate Subcommittee on Fisheries. The forecast that the concentrate could be made commercial in a short time came from Dr. D.G. Snyder, Director of the Interior Department Laboratory at College Park, Maryland.

(Sea Secrets. Florida May 1965)

FISH KEEPS YOU SLIM

Fish is an ideal food for people who want to diet in order to lose weight.

This is the finding of a German nutrition expert who recently completed a close study of the influence of fish on human health.

Three factor led the nutrition expert to this view:

* First the protein-rich fish hinders fat formation.
* Secondly, fish contains much less sodium than meat. (Sodium is a necessary factor in the body's metabolism.)
* Thirdly, fish actually removes superfluous amounts of salt (which contains sodium) and liquids from the body.

In the examination, many types of sea fish, including cod, haddock and halibut, were tested for their sodium content.

The scientist also found that considerably more salt is lost after a fish meal than is gained through the meal.

The fact that people are often thirsty after a fish meal was said to be due to the body's need for liquid to flush out the surplus sodium.

(Fish Trades Review Sydney July 1965)

NEW AUSTRALIAN SEAWEED INDUSTRY

Extensive beds of giant brown kelp form the basis of a new industry established on the east coast of Tasmania. A large plant has been built to process the seaweed, which grows densely in some areas around Tasmania from the bottom 65 feet or more up to the surface. The kelp is harvested for alginates, which are used as stabilizers in ice cream and other prepared foods. Harvesting began on a large scale after a study by Australian scientists showed that the giant kelp could be cut off three feet below the surface at four-month intervals without adversely affecting the beds. A large mowing machine with its cutting bar some three feet below the surface is operated from the front end of a barge, and the kelp is brought aboard by means of a conveyer. As much as 300 tons of kelp a day can be harvested in this manner and three or four tons of weed to the acre can be obtained. After cutting, growth is stimulated by light striking the immature fronds and new fronds rapidly replace the harvested plant. New growth is up to nine inches a day.

(Sea Secrets Florida May 1965)

FLATWORMS VERSUS SHIPWORMS

Worm-free boats and pilings may be the result of a new technique for controlling the teredo. The problem of costly damage from this mollusk's highly developed taste for marine timber is being tackled by an American zoologist, Miss Ruth Turner, of the United Nations Food & Agricultural Organization in India.

Miss Turner has found that certain species of marine flatworms eat the eggs of the teredo, and believes that distribution of flatworms in badly infested areas might at least reduce, if not wipe out, the teredo population. Traditional methods of clearing infested timber involve bringing the boats into fresh water; however, experience has shown that the teredo can retire into the woodwork, seal itself in and remain dormant for long periods.

Although the teredo is regarded as a food delicacy in some parts of the world, its disappearance would be welcomed by those countries that have suffered harbor and ship losses reaching millions of dollars.

(Sea Frontiers Florida May-June 1965)

BIRD CONTROL - 1

A novel form of bird deterrent which can be fitted to the top of street lighting standards and other columns has been developed in New Zealand by J. Major at the DSIR at Wellington.

It consists in the mounting of strands of wires or rods parallel, radial or tangential to the surfaces to be protected. Experience has shown that seagulls at least can be deterred by this method even when the wires are disposed at distances of several feet. The wires may be as thin as compatible with their mechanical strength. As seagulls have excellent eyesight, the use of coloured plastic-coated wires is thought to be a possible advantage both for visibility and permanence. One practical application of this method is the mounting of thin tangential rods on some new street lighting lanterns in the city of Wellington. The lamp fittings were fouled by seagulls immediately after installation and it was feared that their acid droppings might corrode the fittings. Phosphor-bronze spikes like small lighting conductors keep these standards clean and prevent seagulls from roosting on top.

BIRD CONTROL - 2

New York has launched a new campaign against pigeons which will result in their temporary sterility as a means of reducing the city's bird population - said to run into millions. By enlisting the collaboration of the American Society for Prevention of Cruelty to Animals, the city authorities hope to convince public opinion that the method is particularly humane. Experiments at the Iniversity of Missouri during a period of five months reduced egg production of birds by more than 80%; the method is being tried in New York for a fortnight, and it is expected that the birds will become sterile for a period of about six months after. Wheat, soaked in 2225 diazocholestanol dihychloride, is being fed to flocks of pigeons in Manhattan. New York, like many cities trouble by an excessive number of pigeons, has long had the problem of keeping the numbers within controllable limits without exciting public indignation, and has used various methods of trapping as well as anti-roosting gels and electrical devices.

(International Pest Control London May-June, 1965)

COLLAPSIBLE CRAYFISH POTS TESTED

In fishing trials in Western Australia, Japanese-made collapsible crayfish pots were outfished by Australian batten-type pots.

Geraldton fisherman Mr. Bob Rylands used two collapsible pots in conjunction with six batten-type pots. The same bait was placed in all eight pots which were set in close proximity to one another.

After 14 nights the collapsible pots had only caught crayfish on two occasions while the batten pots caught crayfish consistently.

Mr. Rylands made these comments on the tests:

1. The collapsible pots were more easily handled on board than the heavier type batten pots.

2. The collapsible pots sank quickly and did not drift on the way to the bottom.

3. Synthetic materials used in the construction of the collapsible pots were stronger than appearances indicated.

4. The collapsible pots stacked well on board and occupied less room than batten pots.

5. Octupus did not enter the colapsible pots. This was probably due to the fact that at most times there were no crayfish in the pots.

6. The collapsible pots were outfished by the batten pots.

Mr. Alan Temple, gear officer with the Victorian Department of Fisheries and Wildlife Department reported that tests undertaken in Victorian waters with collapsible pots were not satisfactory. Only two collapsible pots were available and they were worked with 60 bee-hive-type pots. Fishing at the time was extremely poor and only 25 crays were picked up in one 24-hour set.

Mr. Temple said that 20 collapsible pots were now available and further trials were planned. He noted that the collapsible pots were more expensive than batten or bee-hive-types.

(Fisheries Newsletter Australia July, 1965)