DEPARTMENT
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STAFF NOTES.

The Minister for Fisheries (Mr. Hutchinson) visited Geraldton from August 28 to 30 and met representatives of the Geraldton Fishermen's Association and professional fishermen. He was accompanied by the Director, Mr. A.J. Fraser, and the Chief Clerk, Mr. B.R. Saville. The Under Secretary of the Department of Health, Mr. J.J. Devereux, and the Minister's secretary, Mr. J.R. Driscoll, were also in the party.

On Saturday morning, August 29, from the fore-deck of the crayfish carrier boat "Irus", the Minister reviewed a sail past by craft of the fishing fleet based at Geraldton. This was one of the many events organised in connection with the Geraldton Sunshine Festival.

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The Director, Mr. A.J. Fraser, will commence annual leave on September 7. He intends to re-visit Sydney and his old home at Petersham.

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The Chief Clerk, Mr. B.R. Saville, will commence one week's annual leave on September 3.

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Other officers to enjoy annual leave this month will be Technical Officers J.S. Simpson and R.J. McKay, who will commence leave on September 7 and 28, respectively.

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Inspector N.E. McLaughlan, of Shark Bay, will begin biennial leave on September 3. During his absence Assistant Inspector H.D. Kavanagh will be in charge of the district.

Inspector A.V. Green, of Mandurah, commenced annual leave on August 24. Until Mr. Green's return to duty on September 14, Relieving Inspector G.C. Jeffery will be in charge of the Mandurah district.

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The Fauna Warden, Mr. S.W. Bowler, also commenced annual leave on August 24.

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The Research Officer, Mr. B.K. Bowen, has received approval to take two weeks' annual leave on October 12, followed by three months' long service leave and one month's study leave. He will visit kindred departments in New Zealand, New South Wales and Victoria and will attend the inaugural meeting of the Australian Waterfowl Committee to be held in Melbourne next February.

Congratulations are extended to Mr. and Mrs. B.K. Bowen on the birth of their second daughter, Evelyn Ann, at the King Edward Memorial Hospital, on August 18.

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The Fauna Protection Officer, Mr. H.B. Shugg, will also commence annual leave on October 12.

MINISTER ENTERTAINS VISITORS

To give senior officers of the Department and others the opportunity of meeting colleagues and co-workers from the eastern States, who were to attend the thirty-fourth congress of the Australian and New Zealand Association for the Advancement of Science, the Minister for Fisheries (Mr. Hutchinson) gave a buffet dinner at the Palace Hotel on August 24. Visitors from other States included Drs. J.M. Thomson, and A.G. Nicholls, Principal Research Officers, Division of Fisheries and Oceanography, C.S.I.R.O., of Cronulla, N.S.W. and Hobart, Tasmania, respectively; Messrs. J. McNally, Deputy Director, D.D. Lynch, Senior Research Officer, and D.C. Woodland and J. Ling, Research Officers, of the Victorian Fisheries and Game Department; Messrs. F.N. Ratcliffe, Officer-in-Charge, H.J. Frith, Principal Research

Officer, and J.A. Calaby, Senior Research Officer, of the Wildlife Survey Section, C.S.I.R.O., Canberra, A.C.T.; Mr. E. LeG. Troughton, formerly Curator of Mammals, Australian Museum, Sydney, N.S.W.; and Mr. H.M. Hale, Director of the South Australian Museum, Adelaide. Local guests included Professor H. Waring, Professor of Zoology, and Dr. E.P. Hodgkin, Reader in Zoology, of the University of W.A.; Drs. W.D.L. Ride, Director, G.F. Mees, Curator of Birds and Fishes, and R.W. George, Curator of Marine Invertebrates, W.A. Museum; Dr. Keith Sheard, Senior Research Officer, Division of Fisheries and Oceanography, C.S.I.R.O., Perth; Dr. D.L. Serventy, Principal Research Officer, Wildlife Survey Section, C.S.I.R.O., Perth; and Mr. A.R. Tomlinson, Chief Vermin Control Officer, Department of Agriculture, Perth. In addition to the Minister and Director, the departmental officers present were Messrs. B.R. Saville, Chief Clerk; B.K. Bowen, Research Officer; H.E.Shugg, Fauna Protection Officer; Captain H.C.W. Piesse, Master, Research Vessel and Technical Officer; and J.E. Bramley, Supervising Inspector.

MOVEMENTS OF DEPARTMENTAL VESSELS

The research vessel "Lancelin" will leave at midnight on Wednesday, September 2, to take a scientific team to some of the islands of Houtman's Abrolhos. The party will consist of Professor H. Waring, Dr. A.R. Main and Mr. G.M. Storr, of the Zoology Department, and Mr. D. Churchill, of the Botany Department of the University of W.A. Dr. Mary E. Gillham, a visiting botanist, will accompany the party which will spend some time in the Wallabi Group and will also visit North Island.

Under command of Assistant Inspector C.J. Seabrook with Inspector E.I. Forster as sailing master, and Mr. C.R.C. Haynes as mate, "Lancelin" will return to Fremantle on September 16.

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The p.v. "Kooruldhoo" will be slipped on September 7 to undergo her annual overhaul and refit prior to the opening of the Fremantle crayfishing season.

NEW DONGARA JETTY

The Premier, Mr. Brand, announced in Dongara, on August 8, that a new jetty was to be built to serve the town. He

said it would be 500 ft. long and was expected to benefit both crayfishermen and tourists. It is understood that the cost of the jetty will approximate £10,000. It will be remembered that the need for a new jetty was brought to the notice of the Minister for Fisheries, Mr. Hutchinson, when he visited Dongara in May last.

INTERSTATE FAUNA AUTHORITIES' CONFERENCE

Mr. A.A. Strom, Chief Guardian of Fauna, Sydney, who was chairman of the 1958 Fauna Authorities' Conference, advised recently that Queensland has agreed to be host to the next Conference. It will be held in Brisbane during the week commencing September 5, 1960. Mr. A. Weddell, Technical Administrative Officer of the Department of Agriculture and Stock, Brisbane, which is responsible for the administration of the Fauna Conservation Act of Queensland, will be secretary to the conference. This will be the fisrt time that the fauna authorities have met in Brisbane. Previously the Conferences have been held in Melbourne, Hobart, Perth and Sydney.

W.A. FISH PRODUCTION 1958

The table on the opposite page sets out (in round weight) the production by species in excess of 10,000 lb. for the twelve months ended December 31, 1958. For comparison the 1957 figures are also shown.

Once again Western Australian fishermen reaped a record harvest. While the increase in production was mainly due to the greater crayfish catch, the total of all the other species also increased by over 300,000 lb.

The species showing the greatest increases were cobbler, King George whiting, snapper, salmon, jewfish, trevally (or skipjack) and buffalo bream. The increased production of squid, cuttlefish and scallops reflected the greater attention being paid to these molluscs. Decreases were recorded in the catches of tommy ruff (sea herring), shark, sand whiting, mullet, Perth herring and tailor.

The 1958 snapper catch, although greater than the previous year's, was still less than that of a few years ago when more than 1,000,000 lb. was regularly taken. The use of fish-traps in Shark Bay this year has played a large part in the recent heavy consignments which have reached the metropolitan area. There seems little doubt that the 1959 snapper catch will be well over 1,000,000 lb.

FISH PRODUCTION

Species	1958	1957
	lb.	lb.
Crayfish	14,500,779	12,295,768
Salmon, Australian	4,091,280	4,027,133
Snapper	922,824	852,782
TommyRuff (Sea Herring)	889,083	956,341
Mullet, River or Sea	859,192	898,823
Cobbler	480,129	309,293
Mullet, Yellow-eye	476,401	457,083
Whiting, Sand	405,224	460,479
Shark (all species)	370,951	435,007
Dewfish, Westralian	289,834	223,839
Trevally (Skipjack)	174,966	121,532
Whiting, King George	151,582	78,721
Tailor	131,618	153,567
Prawns	126,549	126,757
Samson Fish (Sea Kingfish)	91,064	79,794
Mackerel, Spanish	67,251	52,979
Leatherjacket (Silver Flounder)	45,143	21,708
Garfish	44,636	58,137
Bream, Buffalo	43,541	12,739
Crabs	36,689	24,261
Herring, Perth	34,993	61,671
Bream, Yellow-fin	34,525	44,066
Cuttlefish	34,004	(a)
Flathead	27,508	22,537
Mulloway (River Kingfish)	17,961	15,071
Scallops	17,730	(a)
Bream, Black	17,600	16,938
Squid	17,393	11,840
Groper	16,841	13,342
Pike	13,557	24,855
Cod (all species)	13,157	18,408
Others	60,513	69,225
Totals	24,504,518	21,944,696

(a) - Less than 10,000 lb. - included in "Others".

FISHERMEN AND SOCIAL SERVICES

Press publicity was given last month to allegations that some crayfishermen were drawing unemployment relief at Fremantle. Although the Commonwealth Employment Service would not reveal the number of fishermen registered for relief, a spokesman was reported as saying that the number was comparatively small. The Director of Social Services, Mr. F.W. Humphreys, warned that if the regulations were being abused a stringent investigation would be ordered. It was said that, in future, the Department would only pay relief to those crew members whose engagement had been terminated, whose re-engagement was not certain and who were genuinely seeking work and could not find a job.

WHY IMPORTED FISH SELLS WELL

A survey conducted by a metropolitan newspaper revealed that the Perth housewife pays for Shark Bay mullet five times the price that the fisherman received. The following was given as the breakdown of the retail price of Shark Bay mullet on the Perth market.

	Per pound.
The fisherman gets	4d.
Freezer charges	2d.
Freight to Perth	3d.
Shark Bay agent's charges	3d.
Wholesaler's charges	4d.
Retailer's charges	5d.
The housewife pays	1/9d.

Opinions obtained by the press from sections of the fishing industry revealed that the old bitterness between the producer and the middle-man and between wholesalers and retailers was as strong as ever. The reasons for the high prices of local fish were variously attributed. The fishermen were alleged by the merchants to be making so much out of crayfish that they adopted a "couldn't care less" attitude about the local market. Other merchants claimed that some agents were making as much as £75 to £100 per week on fish bought in Shark Bay and marketed in Perth.

Denying allegations that the fish-shop owners made too large a profit, one shopkeeper said that he was faced with this alternative. He could pay 2/3d. lb. for Shark Bay snapper in the round (which must then be filleted and re-frozen before sale) or buy re-frozen Shark Bay fillets for 3/- lb. (knowing

that they would not appeal to the public), or obtain for 2/6d. lb., New Zealand snapper fillets, which kept indefinitely.

As we have often pointed out in this Bulletin, locally caught fish must have eye-appeal, freshness and purse-appeal to win the housewife's attention and create that volume of demand which warrants large-scale production and processing methods. It is to be hoped that the progressive move by the owners of the "Laakunaki", reported in a previous issue, will do much towards increasing the quality and the sales value of local fish fillets.

ANNUAL CONFERENCE OF INSPECTORS

Almost all members of the staff were gathered in the research section's laboratory to hear the Minister for Fisheries (Mr. Hutchinson) officially open the 1959 Inspectors' Conference on August 31.

Mr. Hutchinson said how pleased he was to have the fisheries portfolio. Acknowledging that he had, as yet, no real personal knowledge of the contribution which each member made to the industry, Mr. Hutchinson said he had looked with pleasure on much of the work he had seen. He added that since he had been given charge of the Department he had been impressed with the growing importance of the fishing industry and the enormous strides that it had made in recent years. He was beginning to appreciate, he said, the need for the Government to recognise the importance of the industry to the State and to assist in the provision of harbour and other facilities. The Minister concluded by drawing attention to the potential value to the State of the recently discovered prawn and scallop grounds in Shark Bay and Exmouth Gulf. He cited this as an instance of the way in which research could indicate previously untapped resources.

A vote of thanks to the Minister for opening the conference, and for the confidence he had expressed in the industry and the staff, was moved by the Supervising Inspector, Mr. J.E. Bramley.

Mr. D.D. Lynch, Senior Research Officer of the Department of Fisheries and Game, Melbourne, in an interesting address, outlined the work done by his department. He epitomized its administration and the general organisation of research programmes concerned with Victoria's inland and marine fisheries. He also spoke on the wildlife research carried out to guide his department's game management programme. Mr. Lynch illustrated

his talk with an attractive selection of coloured slides. The interest his address aroused was indicated by the volume of questions he subsequently received. A vote of thanks to Mr. Lynch, ably moved by Technical Officer J.S. Simpson, was carried with vigorous applause.

The conference was also enthralled by an address by Mr. H.J. Frith, Principal Research Officer of the Wildlife Survey Section, C.S.I.R.O. Mr. Frith outlined his section's and his personal studies of the natural history of mallee fowl and wild ducks. He also described the difficulties likely to be encountered in his projected survey of the red kangaroo problem. A vote of thanks moved by the Fauna Warden, Mr. S.W. Bowler, was endorsed with signal acclaim.

WILD LIFE SHOW

The annual show organised by the W.A. Naturalists' Club, in collaboration with the Gould League of W.A., will be held in the Perth Town Hall during the week commencing Monday, September 14. It will be officially opened by the Minister for Education, Mr. Watts, that evening.

Due to staff problems the Department's exhibit will be restricted to a token display this year.

The Australian Inland Mission's Wildflower Show and General Exhibition will open in Kalgoorlie on September 21 and Senior Inspector J.E. Munro will again organise the Department's exhibit there. Requests for active Departmental participation in other wildlife shows at various country centres have had to be refused this year due to the restriction of staff and associated problems.

ABROLHOS CRAYFISHERY

At page 127 is published a table comparing the production of crayfish per island group of Houtman's Abrolhos in 1958 and 1959 during the month of July

It will be noted that there were, this year, increases in the overall number of men, the total catch and the mean catch-per-man, compared with 1958. The increases were probably connected with the more kindly weather conditions which allowed a greater and

more consistent fishing effort.

As a further comparison, the production figures for the first five months of the last four years are also published. These show that the previous record Abrolhos catch of 3,276,132 lb. for the full season, established last year, has already been exceeded. This marked increase is probably due to the continued expansion of the area being fished and the increased fishing effort generally. Actually, production has declined in what is known as the "inner area". Whether the decline in the catch "inside" is a direct result of the increased fishing on "outside" reefs is not known. It could be a natural fluctuation in the "inside" population.

ABROLHOS CRAYFISHERY PRODUCTION

Area	JULY 1958			JULY 1959		
	No. of Men.	Total Catch.	Catch per Man.	No. of Men.	Total Catch.	Catch per Man.
		lb.	lb.		lb.	lb.
North Island	21	21,634	1,030	31	55,600	1,793
Wallabi Group	40	50,257	1,256	49	61,826	1,262
Easter Group	58	93,785	1,617	51	91,125	1,786
Southern Group	34	43,049	1,266	36	48,507	1,347
Total :	152	208,725	1,364	167	257,058	1,539

Total for five months (March - July) -

1956	2,327,232 lb.	1958	3,138,451 lb.
1957	2,828,212 lb.	1959	3,438,107 lb.

WHALING

Writing from Albany, Inspector B.A. Carmichael advised on August 22, that the Cheyne Beach Whaling Company had decided to cease whale-chasing for a period of two weeks. Up to that time the Company had taken 165 whales, 78 were males and 87 females, and including 6 blue whales. As a blue whale counts as $2\frac{1}{2}$ humpbacks, the Company had caught the equivalent of 174 humpbacks. They thus needed two humpbacks to fill this year's extended quota. The Company hoped, Mr. Carmichael said, that two would be taken shortly after resuming operations. In any case the Company would continue to operate on sperm whales (of which it has taken 11 this season) until it became uneconomical to operate.

The Nor'West Whaling Company, up to August 31, had taken a total of 477 whales, including 6 blue whales, 1 fin whale and 1 sperm whale. As at the Albany station, females predominated in the catch (251 compared with 226 males), but this was not unusual for that part of the season. The average length, however, of approximately 38ft. 9in., was much lower than that of recent years, and was a rather disturbing sign.

TURTLES

Two local firms this year have sent trial shipments of frozen turtle meat overseas. In February six cases, totalling 732 lb., and in August eight cases, totalling 916 lb., were sent to importers in London and Hamburg. It is understood that one company considered the re-action to the February consignment was not encouraging. Although reports on the reception of the August shipments are not yet to hand, it may reasonably be assumed that there will be a solid demand if the price and quality are right.

The flesh of the green turtle (the genus Chelonia is common on our north-west coast) has been a valued dietary item in many parts of the world for more than a thousand years. Indeed Pliny, the Roman naturalist and author, mentioned it in his writings during the first century. It appears to have been first introduced into England as an article of food about two hundred years ago, for the "Gentleman's Magazine", in its issue of August 31, 1753, refers to it as a rarity.

CLEARING HOUSE

Antarctic Fish Has White Blood

Russian scientists have discovered unique "white blooded" fish in the Antarctic. According to preliminary reports published by the Oceanographic Institute in Moscow, the research ship "Ob" during the second expedition in the Antarctic, has made a discovery of extraordinary interest for zoologists: the scientists on board the "Ob" caught 18 fish whose blood contained no haemoglobin.

The 18 fish belonged to 8 different species and in four of these species this colourlessness or "whiteness" of the blood was encountered for the first time. Four of these species were entirely new to science. It is pointed out that this condition among vertebrates is unique since the presence of haemoglobin in the blood as carrier of oxygen is commonly accepted to be absolutely necessary for the sustaining of life. The Russian scientists have taken samples of this "white" blood of the fish to Russia in order to carry out further biochemical analyses and histological investigations. No explanation of this phenomenon has yet been given.

("Shipping News" Cape Town June 1959.)

Fisheries Biologists Form Professional Association

Growth of population throughout the world is placing heavy demands upon the earth's natural resources, including fisheries. Maintaining stocks of fish has become a critical necessity for many nations. The biological sciences must be directed to fisheries problems to answer this challenge and provide a sustained supply of fish for both the economic and recreational needs of the people.

To give substance and distinction to the vital field of fisheries biological research a professional society known as the American Institute of Fishery Research Biologists was established and incorporated in the State of Washington in December 1956, by a group of nationally known fishing scientists of Canada and the U.S.

The institute is organised like those representing other professions, such as the American Bar Association and the American College of Physicians. It provides for the election of Fellows, Members and Candidates.

The bylaws of the Institute provide for the regionalising of Canada and the United States, each region having a vice-president. Within each region there will be districts, each with its director. The regional vice presidents and district directors are members of a national Board of Control.

The purposes of the Institute are :

(1) To promote the conservation and proper utilisation of fishery resources by advancing the theory and practice of scientific fishery biology.

(2) To maintain high professional standards; to recognize achievement; and to adhere to a code to be known as "Principles of professional conduct for Fishery Biologists."

("Western Fisheries" Vancouver July 1959.)

Pet Food Packing in Japan

Pet food produced from fish and canned for the United States market is exerting a marked effect on several facets of the Japanese fishery economy.

First - The product offers a new source for increasing the economic recovery from the gross fish catch by raising through manufacture the value of otherwise low-price material.

Second - The pet food goes to the export market, selling foreign for much-sought exchange, material which otherwise would be utilized domestically, and at a lower level of economic return.

Third - This diversion of red meat tuna to pet food for export is having an effect on the supply of tuna flakes canned in soy sauce for the domestic trade. While the use of dark meat for pet food is the prime reason for this domestic shortage of flakes-in-soy, the reduced canning of Albacore in brine contributes to the effect, as this trade normally is the principal source of the material for the soy specialty.

Fourth - Future packs of pet food packed from fish in Japan will be fortified with Vitamin E to supply the dietary deficiency which has been detected in the United States as resulting in cats whose diet is primarily the red meat of tuna. Japanese packers thus far has been using imported Vitamin E, but will soon have a domestic supply available.

Fifth - If the supply of material suffices, informed observers believe that the 1959 pack of fish-based pet food in Japan will attain 500,000 cases this year. (Presumably this is on the basis of 48 halves per case.)

Sixth - Use of saury for packing pet food for export is being considered by some packers who have their technological departments studying the matter. This species during the fall months sometimes is available in such quantities that not all of it can be utilised for food. Large amounts are sold fresh; some are frozen; and a substantial volume is used for canning after the manner of California sardines in oval and tall cans; but much of it is dried in primitive manner for fertilizer. (Note - Saury is a species related to the mackerels, although smaller than the Pacific mackerel, and has similar characteristics of flesh and flavour. It is perhaps significant that the largest-selling cat food in the United States is based primarily upon whole mackerel.)

Seventh - Japanese salmon canners this year are expected to utilise a portion of the edible waste from the canning process as the base for canned pet food.

("Pacific Fisherman" Portland, U.S.A. June 1959.)

Interior Department Endorses Research Programme On Effects Of Pesticides On Fish And Wildlife

Endorsement of legislation to increase the scope and value of the research now being conducted to determine the effect of insecticides and pesticides upon fish and wildlife resources was announced by the U.S. Department of the Interior on June 21.

Investigations which have been made under existing legislation clearly indicate a problem of much greater magnitude than originally contemplated and show that the existing authorisation is inadequate, the Department report stated.

In letters to Chairman Warren S. Magnuson of the Senate Committee of Interstate and Foreign Commerce and to Chairman Herbert C. Bonner of the House Committee on Merchant Marine and Fisheries, Assistant Secretary Ross L. Leffler cited some of the known harmful effects of current practices in the use of pesticides on wildlife and on freshwater and salt-water fish. Four major objectives of the research programme listed in the report are :

(1) To determine the acute and chronic toxicities of some 200 basic pesticidal chemicals on the market, plus the many which are in various stages of development;

(2) To conduct chemical analyses of plant and animal tissue to determine the presence of pesticide residues, to develop diagnostic procedures for determining suspected poisonings, and to measure the degree and duration of toxic conditions in fish and wildlife habitats;

(3) To carry out field appraisals of immediate and long-range effects of pest control operations upon fish and wildlife populations;

(4) To facilitate the compilation and dissemination of findings from research studies so that chemists, entomologists, and others may apply such knowledge in the development of new pest-control materials, formulations, and techniques of application to minimise hazards to desirable forms of animal life.

The Assistant Secretary for Fish and Wildlife pointed out that while in 1940 the wholesale value of the pesticides then being used in this country was $40 million, this had jumped to $290 million in 1956. By 1957, it is estimated that the wholesale value of such materials will approach the billion dollar mark. One-sixth of all the croplands and millions of acres of forests, rangelands, and marshlands are treated annually with these chemicals. Most of these areas are important wildlife and fish habitat.

Some of the chemicals persist in the soil for periods of three to five years or longer. Certain food chain organisms, such as earthworms, living in treated soil or water, tend to concentrate the poison in their body tissue. Hence, birds like the woodcock or robin, as well as aquatic creatures - fishes, crabs, shrimp and oysters - are effected when they feed upon contaminated organisms.

Studies made to date have shown that DDT may kill fish and other aquatic life when applied at dosage rates in excess of one-quarter pound per acre; two pounds per acre will kill birds; five pounds will cause heavy mortality among mammals. Other insecticides, such as heptachlor, dieldrin, aldrin, and endrin, have acute toxicity ranges of 15 to 200 times that of DDT.

Considerable aerial spraying is carried out over salt-water marshes, particularly in the East, and control chemicals applied to land areas adjacent to inshore water reach important fish-producing water by drainage. There is thus need to determine the effects of pesticides on inshore aquatic life - fish, shrimp and shellfish - which live in these waters as adults and on these species for which the marshes and estuaries are essential nursery grounds. Menhaden, shad, striped bass, croakers, and sea trout or weakfish are reared in those areas during their early stages. Shrimp, crabs, oysters, and clams which support major commercial fisheries, spend a part or all of their lives in inshore environments.

Findings from limited studies carried out at the Galveston Laboratory show that lindane, an insecticide employed for the control of mosquitoes, is very toxic to shrimp. A total kill of laboratory test animals resulted within 24 hours after exposure to concentrations of the chemical as low as five parts per billion. Other findings reveal that crabs may be killed by eating fish containing low levels of malathion.

The proposed legislation H.R. 5813 (S.1575), would raise the authorisation from $280,000 to $2,565,000 a year. The Assistant Secretary stated that while the present appropriation authorisation was inadequate, no specific authorisation should be listed in the Act. He recommended that the research programme be permitted to expand on a logical and scientific basis and that funds be requested from Congress as required by circumstances and in accordance with established budgetary procedures.

("Market News Service" New York July 9, 1959.)

Aluminum Gillnetters

Aluminum vessels entered Pacific fishing this summer, laden with possibilities for the future.

Those who know them best are convinced they will prove one of the significant answers to the Alaska problem of reaping the salmon crop without traps, economically, effectively, and with quality fully protected.

The boats are built of Kaiser aluminum Alloys 5083 and 5086, which are (1) highly resistant to saltwater corrosion and (2) specially adapted to welding fabrication. Corrosion-resistant alloys of aluminum have been available for some time, but only in recent years have the problems of aluminum welding in boat construction been overcome.

Seven years of testing the naked metal in saltwater conditions have proven experimentally that corrosion of these alloys can be negligible.

From light weight resulting from use of aluminum you get : speed, approximately 15 knots; capacity, which is calculated at 27,000 lbs. in the hold with 8" of freeboard remaining, almost twice that of the standard Bristol Bay gillnetter.

Upkeep savings derive from : rot elimination; use of material which is corrosion-resistant; a hull which renders re-

caulking unnecessary; a boat on which there is no painting; save a little inside the house for appearance sake.

Above are advantages which derive from the physical characteristics of Kaiser aluminum in its weldable, corrosion-resistant alloys.

Add to them many others which stem from Marco engineering and design, or in part from the products of thought and know-how and in part from the physical characteristics of the material with which they work.

Outstanding here are the sanitary fish holds, where Marco has added to the obvious advantage of a smooth, impermeable material by design which eliminates gurry-catchers and hard-to-get-at corners, permitting the entire hold to be swept with a hose, and a provision of a pumping system to clear it as well as clean it.

Safety is another point. Tests show that the aluminum alloy employed, in the gauge used, is more ductile and resistant to puncturing than steel of any gauge which could possibly be used for craft of comparable character. Furthermore, the Kenai craft carry two flotation cells; one in the bow, where it provides reserve strength for the stem; and the other under the net deck aft. They will keep the boat afloat in swamped condition.

("Pacific Fisherman" Portland, U.S.A. July 1959.)

Japanese Whaling Proposal

A proposal that the whaling fleets of Britain, Russia, Japan, Norway and Holland should reduce the number of their catcher boats operating in Antarctic waters by one ship each, was received in London this week, from the Japanese whaling industry. The proposal was made to the British whaling industry, which was asked to convey it to Russia, Norway and Holland. A spokesman for the whaling firms said that the proposal was designed to limit international competition as far as possible. Early in July, Norway and Holland withdrew from the International Whaling Commission which limits the total Antarctic whaling catches in one season to 15,000 whales.

("Fishing News" London August 7, 1959.)