

3(5) May 1954

DEPARTMENT OF PARKS AND WILDLIFE

MONTHLY SERVICE BULLETIN

Vol. III, No. 5.

May 1, 1954

STAFF NOTES

A Buffet Lunch was partaken at Head Office on Thursday 15th April for the occasion of farewell-ing Miss Shirley Norwood, who resigned as from 5 p.m. to become Mrs. Frank Silva. Various officers extended to Shirley and Frank their best wishes and hopes for the future and the Superintendent (Mr. A.J. Fraser), on behalf of officers of the Department, presented her with an eight piece crystal fruit set. Miss Norwood bravely responded and specially asked that officers who were not able to be present be extended her, and Frank's, appreciation of the gift which they would cherish.

Clerk-in-charge Mr. B.R. Saville commenced annual leave on the 21st April.

The Superintendent and the Clerk-in-charge will attend a meeting of the Trout Acclimatisation Council at Bridgetown on Sunday 9th May.

Assistant Inspector N. McLaughlan returned from leave on 12th April.

Cadet Inspector M.J. Simpson will finish his National Service Training on the 4th May and return to duty on the 5th May.

The Supervising Inspector J.E. Bramley and Inspector A.K. Melsom will shortly be going to the Bremer Bay and Albany areas on special investigation-al work.

P.V. "Garbo" is ready now to go to sea and will operate in the Rottnest area for the herring

season. Assistant Inspectors N. McLaughlan and J. Sinclair will be on board.

Inspector S.W. Bowler expects to go to the Abrolhos Island early in May on inspectorial work.

DUCK BANDING

The Fauna Research Officer, Mr. J. Traynor, accompanied by an officer of the Zoological Department of the University, visited Gingin area early last month to collect blood samples of kangaroos and also to ascertain the possibilities for banding in the Bambun and Nambung Lake districts. Geographical conditions were favourable at one small lake, but the total of ducks present was only about 100 and not worthwhile bringing the traps up from Perth. After the research work was completed Mr. Traynor returned to Perth and proceeded later to Karrinyup where he set up his traps on 6th April.

Up to the date of publication approximately 80 ducks have been banded this month - the majority being black, but including 20 maned geese. Apart from one other, which has been retrapped on a number of occasions at Queen's Gardens, these are the first maned geese banded.

On the 26th April the traps were shifted to Queen's Gardens.

While at Karrinyup Mr. Traynor was able to secure some well conditioned specimens of various birds: some of these have been donated to the Museum and others will be held in the Department which is creating its own series of specimens for display purposes.

Recoveries: Since the publication of the previous Bulletin the following bands have been recovered:-

No.	Date Ringed	Place Where Ringed	Date of Recovery	Place Where Recovered	Distance Travelled
<u>BLACK DUCK</u>					
2182	14.1.54	Karrinyup	1.4.54	Wilson's In-let	232 miles
1872	23.4.53	Queen's Garden	27.3.54	Chittering Lake	40 "
2381	16.2.54	Cook's Farm Moora	6.4.54	3 miles south Beverley	120 "
1752	21.4.53	Queen's Gardens	27.3.54	Chittering Lake	40 "
2201	19.1.54	Karrinyup Lake, Wanneru	15.4.54	1 mile up Avon River from Beverley	65 "
2215	19.1.54	Karrinyup	Feb'54.	24 Mile Peg Wanneru Rd.,	125 "
1304	30.1.53	Yanchep	April'54	Near 18 Mile Peg, Wanneru Rd.	12 "
<u>MOUNTAIN DUCK</u>					
2652	10.4.54	Karrinyup	13.4.54	Found dead (killed by fox) Karrinyup	
2013	13.12.53	Dawson's Lake Dumbleyung	17.4.54	S. end of Lake Preston	120 "
<u>GREY TEAL</u>					
2023	15.12.53	Dawson's Lake Dumbleyung	Not yet known	Between Cape Rich and Bremer Bay, 80 miles E. of Albany	104 "
2050	18.12.53	Dawson's Lake Dumbleyung	Not yet known	9 miles from Coolgardie	265 "
1428	16.2.53	Lake Wardering	18.4.54	Dam 3 miles S. of Borden	65 "

KANGAROOS AND EMUS

As reported in the April issue Mr. H.B. Shugg and Mr. J. Traynor will undertake an investigation of the prevalence of these species in the lower south west road districts, this month.

It is proposed that they should leave Perth on the 3rd of May and proceed through Woodanilling, Katanning and Cranbrook areas, across to Boyup Brook and then to Balingup, Donnybrook and Bunbury. It is expected that the trip will take about 10 days and it is hoped that if their duties permit, Inspector Jeffcry of Albany and Inspector Green from Bunbury will participate in the inspection of the areas which pertain to their districts.

It is intended, if possible, to spend at least two days in the Manjimup Road District owing to the number of complaints that have been received concerning the depredation of emus in that area.

Altogether it is expected that something in the vicinity of 1500 miles will be covered and, apart from field surveys, many local farmers, Farmers' Union Secretaries, and Road Board Secretaries will be interviewed.

KANGAROO SKINS

The table sets out the kangaroo skins sold through licensed dealers from January to December, 1953.

As a considerable amount of reselling between dealers occurs, these figures may not be "spot on" but they should be fairly accurate.

They should not be taken as an indication of the number of kangaroos killed throughout W.A. as it is impossible to determine the number of these animals which are shot and left to rot or the pelts saved but used in the home.

RETURN OF MARSUPIAL SKINS

1953

Month	Reds	Greys	Euros	Total
January	1,536	1,782	10	3,328
February	2,372	516	64	2,952
March	1,688	578	41	2,307
April	1,927	282	22	2,231
May	1,545	497	11	2,053
June	3,770	1,422	112	5,304
July	3,505	2,283	30	5,818
August	10,912	3,968	61	14,941
September	5,588	3,498	227	9,313
October	4,284	2,251	42	6,577
November	3,311	2,811	47	6,169
December	1,586	966	10	2,562
TOTAL:	42,024	20,854	677	63,555

HONORARY WARDENS OF FAUNA

Hereunder is a further list of names and addresses of persons appointed and the road districts in which they are situated.

Road District	Name	Address
Balingup	Ewart, J.	Balingup.
Coolgardie	Crawford, R.J.	Carbine, via Coolgardie.
Cuballing	Counsel, A.	"Riverdale", Popanyinning.
Dumbleyung	Brown, E.E.	Dumbleyung.

(over.)

Road District	Name	Address
Metropolitan	Edmondson, F.C.	56 Mount Street, Perth.
"	Feeney, J.E.J.	29 Landsdowne St, Jolimont.
Narrogin	Higham, J.B.	Narrogin.
Pingelly	Curtis, G.	Pingelly.
"	Gilchrist, J.C.	Pingelly.
Wagin	Bell, L.W.	Box 80, Wagin.

MULLET TAG RECOVERED

Mr. J. Polak of Safety Bay advised that he netted a mullet carrying gill tag No. 29081 in the waters off Mandurah on March 11, 1954. This tag was attached to the fish at Willy's Lake on the 25th November, 1952, the length of the fish from the tip of the nose to the caudal fork then being $12\frac{1}{4}$ ". When recovered Mr. Polak advised that the length of the fish was $18\frac{1}{2}$ " and its weight 2 lb. 13 oz..

CRAYFISHING

Records so far received from Fremantle, Lancelin and Cervantes Islands suggest that the 1954 crayfish catch will be about the same as the 1953 catch in those areas. The monthly totals differ from last year and the Lancelin and Cervantes areas may show a slight increase and the Fremantle area may show a slight decrease, but the overall figures are expected to approximate the 1953 production. Of course, as the figures are only to hand up to the end of February the final months of the season could affect the overall production considerably.

The Metropolitan Inspector (Mr. J.E. Munro) advises that in Yanchep area the present rough seas and the probable bad weather in the future will cause most of the boats to leave although one or two may remain in expectation of improved conditions.

THE CLEARING HOUSE

New Insecticidal Resin Wipes Out Insects

Cockroaches, bugs, ants, flies, and similar pests that usually infest ships can now be completely eliminated by one application of an insecticidal resin. This one application will also protect the vessel against reinfestation for two or more years.

Upwards of 80 cargo ships have already been treated successfully with the resin and experiments are being carried out on a number of trawlers, including two belonging to Hudson Bros. Ltd., Hull, and five belonging to Lord Line Ltd., Grimsby.

The story of this remarkable antipest invention started with the experiments of Mr. Paul Bracey of the Colonial Office insecticide committee who went to work to find a resin suitable for holding a powerful insecticide. He found the way to do it and his work was followed up by a young Canadian scientist, Mr. Joseph Lawrence Hitchon of the Agricultural Research Council in London, who proved that an insecticidal lacquer was ideal.

Another young Canadian scientist, Mr. Miles David Price, an entomologist who had worked in research for Imperial Chemical Industries, came to Britain and started his own laboratories to deal with pest infestation, and took up Mr. Hitchon's development of insecticidal lacquer.

"Mr. Hitchon has now joined our company," Mr. Price told Fishing News in an interview.

Held in the Resin

"Briefly the secret of the new insecticidal resin is this," he explained. "By incorporating a highly active insecticide such as Dieldrin in a urea formaldehyde resin, the life of the insecticide is considerably prolonged. The insecticide is present as a supersaturated solid solution within the resin vehicle and from this solid reservoir a bloom of micro-

crystals is precipitated to the surface. These minute crystals are less than 10 microns in length and are much more toxic to insects than are the larger crystals deposited by ordinary insecticide sprays.

A remarkable phenomenon is that the insecticide lacquer may be washed and scrubbed every day but the toxic bloom at once re-appears and will continue to do so for at least two years—perhaps much longer. So it remains absolutely deadly to pests.

"We use Ripolac insecticidal resin," said Mr. Price, "and, usually, it contains Dieldrin, which is about 200 times as lethal as D.D.T. to the German cockroach."

But although the mixture is so deadly it must be used and applied by highly trained operators to ensure that it is really effective and, if this is done, the treatment is effective even after the ship has been repainted. Apart from the fact that, chemically it must be precisely balanced, it must be applied with great care and thoroughness.

"We had to invent our own appliances for spraying the lacquer," Mr. Price said, "and, of course, train teams how to do the job. In fact, I think it fair to say that in this pest control work the direction and control must be exercised by entomologists and similar highly trained technicians. It is essential to have the scientific approach.

"There is one thing I would like to stress," said Mr. Price, "and it is this: pests can now be eliminated entirely, not merely 'kept down' as is usually assumed.

"It is true, that was about all that could be done by the old methods but today we can — and do — wipe out, for example, all the cockroaches in a ship, and they stay wiped out for at least two years, perhaps longer."

The cost of "treating" a trawler is, roughly £25 to £35. An important factor is that the vessel can be treated without being put out of action. A three-man team will complete the job in about half a

day and as the sprayed lacquer dries in about an hour little or no inconvenience is caused to the crew.

("The Fishing News", March 5, 1954.)

Groundfish Investigations in 1953.

by F.S. Ketchum
Scientist, Pacific Biological Station

The Groundfish Investigation involves approximately 20 species of bottom fish (soles, flounders, cods, rockfish, etc.) which are caught by otter-trawl and long line gear. A production peak of 57 million pounds was reached in 1952 by Canadian and United States vessels operating adjacent to the British Columbia coast. This catch was approximately equivalent to the total 1952 production of halibut from the entire Northeast Pacific. The Canadian share amounted to 55% (27 million pounds) and had a landed value of just under two million dollars.

The trawl fishery for groundfish species is of relatively recent origin, having come into prominence only in the last decade. Its rapid expansion was cause for concern in many quarters. There was the fear that this highly efficient type of fishing would compete unfairly with the long established hand-line fishery for lingcod and the long-line fishery for blackcod. There was also the fear that the resources of other groundfish species would be quickly reduced to a state of uneconomical production.

Accordingly an investigation was inaugurated in 1943 to assess the nature and extent of competition between trawlers and other types of gear, and to determine the possibilities of a sustained successful trawl fishery along the British Columbia coast.

In connection with the problems of competition, the Department of Fisheries in 1947 acted on recommendations made by Dr. Hart and closed a large area of the Strait of Georgia to operations by trawlers. Because the recommendations were provisional it was necessary to make further study and suggest modification of those regulations not fully justifiable.

Thus from 1948 to the present, the interests of the Groundfish Investigation have centred on (1) re-establishing the trawl fishery on a controlled basis in Strait of Georgia areas where competition with other types of gear has been found to be light, and (2) continuing the long-term study of the more important groundfish species and fisheries in line with the original terms of reference.

Methods of Investigation

No investigation into the condition of a stock of fish can be accomplished without a good procedure for the collection of statistics of catch and effort. At present we are maintaining two port observers - Mr. Wilson in Vancouver and Mr. St. Clair in Prince Rupert. The trip reports which these men collect from the skippers of vessels as they land, provide us with a wealth of information about changes in fishing conditions. Over a period of years it is possible to follow the changes in stock level. From here we go on to find out the causes of these changes - whether they are caused by fishing or by natural conditions.

We have devoted a great deal of time to the study of age and growth of our important flatfish. This is a tedious job requiring the examination of many thousands of ear-stones or otoliths each year. The effort is well rewarded however, since it provides us with information on the size of broods entering the fishery each year, the effects of fishing and the effects of crowding or thinning of the stocks.

Extensive tagging experiments are being conducted to determine the behaviour of each stock of fish and the proportion removed each year by the fishing fleet.

In the past two years we have undertaken a program of exploration to determine the distribution and abundance of the juvenile and adult segments of the various populations. Most of the work has been conducted on the Hecate Strait and Goose Island banks. Such studies have been used in European waters with considerable success to predict the recruitment several years in advance.

Knowledge of the location of the very young stages of each groundfish species provides us with important clues as to the factors in nature which are responsible for yearly changes in survival. In the sea, there are wide variations in the survival of young each year and a characteristic of sea populations is the occurrence of dominant year-classes or broods. As Mr. Barraclough will show you presently this phenomenon can have a pronounced effect on the success of fishing.

We are currently engaged in investigations of the factors which cause these changes in survival and are depending heavily on such information as water temperature and wind records collected by the Pacific Oceanographic Group and by the Meteorological Service respectively.

Review of the 1952-53 Fishery in Relation to the Research

(a) Strait of Georgia

The annual catch of food fish by trawlers in the Strait of Georgia has risen steadily from 1.50 million pounds in the winter of 1949-50 to 3.27 million pounds in the winter of 1952-53. Much of the catch comes from areas where exploitation has been recommended by the Groundfish Investigation.

In the 1952-53 fishery, 850,000 pounds of food fish (or 26% of the total for the Strait) were landed from the area between Cape Lazo and Nanoose Bay along the east coast of Vancouver Island. The recommendations on this fishery have followed several years of research aimed at determining those areas where trawling could be permitted without serious threat to the livelihood of lingcod line fishermen. The catch of lingcod in the 1952-53 fishery by trawlers was only 2% of the total catch of all food fish taken.

Flatfish stocks (mainly lemon sole and rock sole) are being closely watched for indications of over exploitation. At Cape Lazo where a controlled winter lemon sole fishery has been in progress since 1948, there is evidence that the population level is remaining quite stable.

A thinning out of the dense stock of resident lemon soles in Baynes Sound has resulted from short period fisheries over the past three years. This reduction in the stock has had a number of benefits: (1) It has apparently reduced the competition for food with the result that the lemon soles have increased in size. (2) These fish have also improved measurably in quality. The incidence of milkiness in the flesh (a bacterial infection) was about 20% in the unexploited stock. After the heavy removal in 1952 (250,000 pounds in 3 days of fishing) the incidence of milkiness declined to less than 4%.

We have been reasonably successful in predicting the time of appearance of certain runs of flatfish. Last fall it was predicted that the winter spawning of lemon sole at Cape Lazo and Boat Harbour would be late. This was based on several years of observation that the time of arrival of lemon soles on their spawning ground is related to the water temperature history for several months prior to spawning. The Department of Fisheries was informed of this prospect and an extension of fishing was permitted when the fish failed to appear in the regular fishing season.

(b) Hecate Strait

The phenomenon of year-class dominance is very evident in the stocks of flatfish which inhabit Hecate Strait. We have been successful in predicting changes in survival, on the basis of an observed inverse relation between brood strength and water temperature conditions, during the post-spawning period. A strong 1947 brood was predicted several years in advance for both lemon sole and rock sole. The 1947 year-class entered the rock sole fishery in great strength in 1951 and 1952. In the latter year over 40% of the fish making up the catch were of the 1947 brood. We believe that the marked increase in availability of rock sole over the past few years can be attributed mainly to the successful spawning of 1947.

Fluctuations in lemon sole brood strength, although parallel to those of rock sole, are of lower magnitude and hence do not have as noticeable an effect on the success of fishing. Annual changes in the depth at which the fish are migrating northward along the Hecate Strait bank seem to have a greater influence on

production. Prediction of changes in the success of fishing have been made with moderate success on the basis of wind conditions prior to the fishing season in the spring.

These yearly changes in the success of fishing are superimposed on a slight downward trend in the picture for the past 8 or 9 years. The lemon sole of Hecate Strait is enthusiastically exploited by both the Canadian and United States fleets. It is suspected that a decline in abundance is in progress.

("Western Fisheries", Vancouver, B.C.
February, 1954.)

Government Aids Marketing of Canadian Sea Foods.

That the Canadian fishing industry has produced \$180 million worth of fish and fish products a year suggests a great deal of administrative effort on part of the Department of Fisheries.

For the industry to prosper it means that the fish must reach the consumer in prime condition. The fisherman, the packer, the shipper, the wholesaler and the retailer must combine their efforts to market fish products of top quality. A staff of fish inspectors across Canada, in the field as well as in a chain of laboratories across the continent, operate to ensure that fish products meet certain standards of quality.

So provision is made for Departmental inspections of canned fish, salted and pickled fish, oysters, smelts and other species. Canned fish inspection laboratories, located on both the Atlantic and Pacific Coasts, inspect and grade the canned product. Research is carried out by scientists to determine the best canning and processing methods, also fishery conservation programs.

To promote consumption various media are utilised to make known to home-makers and chefs of hotels, restaurants and railway diners: to those responsible for diets and meals in hospitals, schools and other establishments, fish cookery methods worked

out by test kitchens of the Home Economic Section.

All branches of business feel the need for vital statistical information about the fisheries, which is compiled by the Federal Government.

Here in British Columbia we have fishery inspectors in all major ports assembling catch statistics, which of course is carried on similarly across Canada.

Canada maintains contact with other nations in the matter of fisheries conservation through the International Pacific Salmon Fisheries Commission; The International Pacific Halibut Commission; North Pacific Fisheries Treaty; International Commission for the Northwest Atlantic Fisheries; Alaska Fur Seal Agreement, and the International Whaling Commission.

In this way Canada's commercial fisheries, yielding an annual catch of about 2 billion pounds annually, comes under the watchful eye of the Canadian Government.

("Western Fisheries", Vancouver, B.C.
February, 1954.)

Thailand's Tilapia Called "Mad Fish"

The fish known in Thailand as the Tilapia is known to western observers who have studied its habits as the "mad fish", the fish that "eats like mad, grows like mad, and reproduces like mad."

This odd-looking and somewhat odd-behaving fish was unknown in Thailand until it was imported by FAO two years ago. Originally only 20 of these fish were supplied, all tiny little creatures about 1½ inches long. They were consigned to a single pond and almost forgotten by the owner.

By the spring of 1952, several hundred big tilapia were swimming about the pond, and much to the owner's surprise, were found to be good eating.

Up to the present time, over a thousand

pounds of tilapia have been taken out of the pond for food, and over two thousand fish given to other ponds for culturing.

("Western Fisheries", Vancouver, B.C.
February, 1954.)

The Call of the Mobile Fish Shop.

How much fish does a farmer eat? That pointed question started some furious thinking in Denmark. Supplying large cities, whether they are near to the sea or not, is an easy matter. All the necessary equipment for keeping fish fresh is available and the high cost is worth while because fish-consumption is considerable.

But how much fish does a farmer or a peasant eat? The disappointing answer was, of course, almost none. Getting fish to the out-of-the-way rural areas is tricky and costly.

The Danes, however, have found a way which might be worth studying. Its main features are publicity, mobile fish-shops and a carefully selected variety of fish.

The mobile fish-shops are well designed vans, generally painted white. The interior is like a normal fish-shop - white-tiled with tanks for fresh-water fish and refrigerated working-table. Running water is provided by a tank of fresh water installed on the roof. Since it is not possible to transport the same variety as the town dweller would find in his fish-shop, the fish supply is varied each time the shop calls - generally two or three times weekly.

Publicity is considered essential and is carefully planned. Leaflets are handed out and each mobile shop is fitted with a loudspeaker so that outlying farms and houses can hear the cry "fresh fish" announcing the arrival of the fishmonger.

The fish-shops always arrive at the same time on the same day in different parts of the country, so that inns which served very little fish can now put it on their menus regularly.

("Fish Industry", London, February, 1954.)

Sustained High Seas Harvesting

Three Nations Collaborate to Conserve Fisheries of North Pacific Ocean.

Building on a new concept of international responsibility for conservation of the fishery resources of the high seas, commissioners from the United States, Canada and Japan, backed by their staffs of advisors, labored in Washington through early February to bring into active and effective function the International North Pacific Fisheries Treaty.

The three nations recognize in the treaty two philosophies for ocean fishing:

1. That the use of a resource of the international seas carries with it a responsibility for research to the end that the use may be wise use, which will not destroy; and that the nations, working jointly, can make their research most effective.
2. That where a fishery is used to its capacity, is under scientific research designed to determine the wise degree of use, and under regulations provided for its protection, a nation which has not previously engaged in the fishery should abstain from it.

The recognition of these philosophies, and their application by the North Pacific commission whose labours began last month, may prove of the utmost importance in the future of the Pacific Basin, whose fisheries are among Man's great food resources, one of the Earth's true reserves. Great as they are, intense, unbridled international competition, employing modern technology, could destroy them.

To protect international resources without sacrifice of national interests is the fundamental objective of the North Pacific Treaty.

To shape and energize a means by which this can be done wisely, fairly and effectively was the objective of the commission in its initial meeting.

With the commissioners of three nations facing a new task, subject to the formalities of international usage, and under the handicaps of two languages and the necessities of translation, progress naturally was slow; and procedure sometimes perplexing. Nevertheless, at the end of a week it became apparent that large progress had been made, and that the commission was laying down a broad and basic foundation on which to build a body of scientific knowledge through which wise use could be gauged and the basic philosophies of the treaty fairly applied.

Problems Approached Studiously

Pitfalls of precipitate programming and projects were evidently avoided as the commission established a Biology and Research Committee to bring into being a scientifically sound, studiously determined approach to the researches with which it is charged under the treaty. As one scientist put it: "To prepare a research program of this scope is a piece of research itself."

This committee, composed of one commissioner and two scientists from each national section, is expected to report to the commission late this year.

Determination of the commission to proceed carefully in the development of a research program which can be expected to be productive, as well as scientifically sound, stands as the most important of the commission's actions at its initial meeting.

("Pacific Fisherman", Portland, U.S.A. March, 1954.)

Prehistoric Female - They Hope.

Three coelacanths, prehistoric fish, have been caught recently off Madagascar. One of them, described as "well preserved," weighed about 70lb. and was nearly 4 feet in length. The new specimens have been put in preservative and sent to Paris by plane for scientific study. French naturalists are hoping that one of the new arrivals will prove to be a female, so that they may find out how this "missing link" fish reproduces.

("The Fishing News", London, February 5, 1954.)

DISTRICT PRODUCTION FIGURES OF

Inspectorial District	Australian Salmon	Ruff	Mullet	Y. Eyed Mullet	Jew-Fish	Snapper
	lb.	lb.	lb.	lb.	lb.	lb.
Hopetoun - Esperance X	-	1,920	112	-	-	-
Albany	3,184,373	609,054	24,761	91,523	923	13,879
Bunbury	495,396	208,910	25,230	80,292	60,430	6,281
Mandurah	-	4,443	94,646	139,517	-	-
Fremantle	1,164	236,846	5,368	6,014	40,229	10,462
Perth	-	500	44,070	5,995	-	-
Lancelin - Cervantes	-	1,223	20	-	48,570	40,417
Geraldton	-	193	2,588	-	75,784	166,368
Shark Bay	-	-	262,129	-	352	440,116
North West +	-	76	6,495	-	216	114,209
Totals:-	3,680,933	1,063,165	465,419	323,341	226,504	791,732

X Hopetoun and Esperance are now included in Albany District, but separate figures are published to give a clearer picture.

+ Includes all areas north of Carnarvon.

PRINCIPAL COMMERCIAL SPECIES - 1953.

Shark	Sand Whiting	Tailor	Other Species	Crayfish	Crabs	Prawns	Total
lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
140	12	42	7,770	-	-	-	9,996
30,538	5,555	1,789	212,474	-	-	-	4,174,869
80,947	11,371	15,349	64,536	370	388	20	1,049,520
-	11,503	12,223	460,717	Ø	1,136	35,197	759,382
57,089	7,314	9,103	50,566	2,375,703	-	-	2,808,858
796	-	4,784	10,740	-	36,918	189	103,992
2,550	-	118	1,879	2,725,317	-	-	2,820,094
2,500	474	318	21,818	2,884,001	-	-	3,154,044
10,531	254,110	72,896	92,090	-	-	-	1,132,224
238	5,003	2,678	23,528	-	-	-	152,443
185,329	295,342	119,300	955,118	7,985,391	38,442	35,406	16,165,422

Ø Includes 438,140 lb. of Cobbler.

NEW HOPE FOR PEARLING INDUSTRY.

The long suffered shortage of competent labour in the pearling industry may at last have been solved. Through the agency of the Inter-Governmental Committee on European Migration, arrangements have now been finalised to bring a ten-man crew of Kalymnos Island sponge fishers from Greece to Darwin to test the ability of these people as divers for pearlshell.

From reports received they should be ideal. Kalymnos Island is one of the Dodecanese group in the South Aegean Sea, and has an honourable record in history from the days of Homer right up to the present. It is a small rocky island comprising about 96 square miles with an arable area of less than 200 acres. The principal products are sponges, tangerines (mandarines) and children. The 15,000 inhabitants are honest, clean, upright, and independent, but above all they are hardy - thousands of years on their rocky island-home inured succeeding generations against the most rigorous conditions.

The sponge fishers operate from Kalymnos in 8 - to 10 - ton caiques which are serviced by mother ships of from 40 to 100 tons. Some of the divers use extremely simple equipment consisting of a face-mask extending from the forehead to the chin to which is fitted a very light air hose. With these aids the divers are said to be sufficiently expert to operate in depths up to 35 fathoms for quite long periods. Other men use the full diving gear to which we are accustomed, and while they are able to stay down for longer periods, the others claim that their greater freedom of movement enables them to collect as much in their shorter "dips" as the full dress divers do.

It is claimed that these Kalymnians may oust the Japanese from their recognised ascendancy as class divers - we can only wait and see. If they do the pearling industry will receive its long needed shot in the arm. Being European they could settle here as migrants and build up a pool of first-class labour for this industry which, rejuvenated, could bring Australia hundreds of thousands of badly needed American dollars each year.