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[MONTHLY SERVICE BULLETIN
(WESTERN AUSTRALIA. DEPT. OF

16(4) Apr 1967

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APRIL, 1967
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DEPARTMENT OF FISHERIES AND FAUNA
108 Adelaide Terrace, Perth, Western Australia

DEPARTMENT OF FISHERIES AND FAUNA

MONTHLY SERVICE BULLETIN

DEPARTMENT OF
FISHERIES AND FAUNA
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COMMONWEALTH FISHERIES ACT

LICENSES TO TAKE FISH

Some confusion has arisen over the issue of licenses to registered companies, says the Department of Primary Industry. The confusion has been created because some licenses have failed to make it clear that the licensee was, in fact, a registered company.

Licensing officers are therefore directed that when issuing licenses the following points should be observed -

- * Licenses to Take Fish issued to registered companies should in each case be made out in the full registered title of the company.
- * A Certificate of Registration under the Companies Act of this State, or a photostat thereof, should be sighted by the licensing officer before a License to Take Fish is issued to a registered company.
- * In cases of partnerships or syndicates which are not registered companies, Licenses to Take Fish are to be issued individually to each member of the partnership or syndicate.

THE MOTIF

We recently had a query about our departmental motif which is now featured on official letterheads and the Monthly Service Bulletin.

The motif was designed by senior students of the Art Department at Perth Technical College in 1964. Two important aspects of the Department's role are featured - the conservation of our fisheries and indigenous fauna.

The numbat, which occupies the terrestrial section of the motif, is an extraordinary animal, even for a marsupial. Charming and harmless, it feeds exclusively on termites and is restricted almost entirely to suitable reserves in the south-western corner of the State.

The western crayfish supports the most valuable unit fishery in Australia. More than 700 boats and 1500 men harvest the catch which earns approximately \$U.S.15,000,000 annually.

SHARK BAY FISHERY

A group of fishermen from the Shark Bay area recently approached the Minister for Fisheries and Fauna, Mr. MacKinnon, expressing concern over the effect of the solar salt industry being established in some of the more southerly inlets of the Bay.

Shark Bay Salt Pty. Ltd. is damming the entrances to inlets to form vast shallow ponds of salt water. The salt water then evaporates and salt is left behind.

The fishermen are concerned because the inlets being used are said to be nursery areas for whiting, mullet and snapper and they maintain that the loss of these will have a severe effect on the fishing industry. Production from fishing in Shark Bay (excluding prawns) amounts to approximately \$250,000 per annum.

Shark Bay Salt Pty. Ltd. plans to achieve a production rate of 500,000 tons of salt per annum in the near future and this could be doubled later on. In this event a chemical industry, based on the bitterns, could operate economically. The value of the industry is expected to rise, initially, to \$5 million annually. The Company expects to employ a workforce of between 30 and 40. It hopes to employ these locally.

While it is impossible to say with absolute certainty that the activities of the saltworks will adversely affect the productivity of the Shark Bay fishery, it is believed that some damage is inevitable.

The Government has investigated the complaint and, after taking into consideration the economic value of a successful salt industry to the State, has decided to allow it to proceed.

AUSTRALIA TO HAVE 12-MILE LIMIT

Legislation has been introduced into the Federal Parliament to extend the fishing limits in Australian territorial waters to 12 miles. At this stage, the Commonwealth Fisheries Act seeks to control fishing by Australian nationals to 200 miles from the territorial sea. When the new law is passed, the Commonwealth Act will control foreign nationals to a distance of 9 miles from the territorial sea. The latter, which extends 3 miles from the coastline, is the exclusive preserve of the States.

If the legislation passes through Parliament Australia will join 75 other countries who have already extended their fishing limits past the three mile limit.

Many people in the fishing industry believe that the protection provided by a 12-mile limit will encourage greater use of our fisheries resources by local fishermen and stimulate investment in the industry.

SO YOU HAVE GOT PROBLEMS?

Do you want a snake (unidentified), a kangaroo, a one-eyed pigeon, a large bird (unidentified), a baby honey-eater (unidentified), a baby kookaburra, a one-eyed, one-winged boobock owl, an echidna, a number of possums or a few bobtail goannas?

If you do, just stay by our switchboard and you will be rewarded with any one or a number of the above.

They represent a fair sample of the subject matter of phone calls to the Department over a couple of days. If we had an army of men we could not keep up with the many pleas for assistance.

The snake apparently took up an offensive position on a certain lady's back verandah and the lady, being somewhat benevolent "did not want to hurt it if it was harmless". Sympathy like this is rare amongst most people, particularly where snakes are concerned. Apparently the snake overheard the conversation because the lady said it was gone when she went to have another peek.

One erstwhile hunter decided to bring a live, half grown kangaroo to Perth and found himself shut out until he "got rid of that thing". I don't know how many of you have been stranded in the middle of the metropolitan area with an unwelcome kangaroo, but according to this chap it is not recommended at all. Since receiving this phone call we have had three more people with unwanted kangaroos. Apart from its being illegal to keep them, people usually find that they no longer want them after a time. This is pretty hard on what is by then a tame animal which, if released, would be unlikely to survive.

The one-eyed pigeon was seen partaking among lunch-hour diners in the Supreme Court Gardens and a benevolent soul sought our assistance for its eye. However, this bird's plight could not match that of the unfortunate boobock owl, which was literally left on our doorstep, complete with note. Fortunately, the poor creature has found a home where it will receive proper care.

One young woman caller sounded distressed, and for good reason. Apparently a tiny baby honey-eater had taken over her lounge and ignored her pleadings to leave. Unfortunately, we could not do much for her really. We don't know how she got on. She refused to go within 20 feet of the thing. It could still be there.

We wonder how many young birds are "rescued" each year by well meaning people and also how many parent birds have gnashed their beaks because of them. At certain times of the year about 90% of the calls concern birds that have been unceremoniously dumped out of their nests by their parents. There is a parallel in throwing your young son off the end of the jetty and saying "Now is the time to learn."

There is, probably, a very good reason why many young birds are dumped from their nests and it could, conceivably, be a very bad thing to interfere with this process of eliminating the unfit.

Goannas rank pretty high on the list of things that frighten people and we must confess the sight of an open-mouthed, hissing bob-tail is not a good basis on which to start a friendship even if he is absolutely harmless. However, if some of these people had seen a number of University personnel at the last Tuttanning Field Day they would have probably died of fright. When their car pulled into the reserve from Perth there were close on a dozen hissing bobtails crawling about the back seat of the car. The road between Armadale and Pingelly had been temporarily denuded of bobtails, but this collecting would not harm the bobtail population, which is ever producing many surplus members.

Possoms - don't mention them - there must be one to every house in the outer suburbs. They do cause a rumpus - we had one in our ceiling at one time until we chased it out and bought a small roll of chicken wire to block all possible entry points.

The most unusual has been saved until last. Apparently this man is a back-yard mechanic and to facilitate working under cars he has constructed a pit, commonly known as a grease-pit. It appears that a delinquent echidna strayed and ended up in the pit. Our caller's problem was how to get him out without being spiked. The experts suggest that the only way to pick an echidna up is to roll it over with a stick and pick it up by its front paws or by one back paw.

NORTH ISLAND NAVIGATION LIGHT

The Minister for Works, Mr. Hutchinson, has advised that the Harbour and Light Department has completed the installation of a navigation light on North Island in the Abrolhos Group.

The light came into operation on February 19. Mariners will be advised by the Commonwealth Government.

HARBOUR WORKS

Professional fishermen at Albany will have a sheltered mooring area at Oyster Harbour from this winter.

The Public Works Department has just completed an extension of the small boat harbour at Emu Point to accommodate the commercial fishing fleet of about 12 boats.

The small harbour which was completed last year provides sheltered mooring pens for about 50 vessels up to 30ft. as well as a service jetty and boat launching ramp.

The Public Works Department mobile dredge has now moved to Mandurah to work on the project of a permanent opening of the bar.

NORTH-WEST CAPE

A complaint has been lodged with the Department that insufficient attention is being paid to the conservation of fauna and flora at the North-West Cape United States Navy Communications Station.

The Commissioner of the Shire of Exmouth, Lt. Col. K. Murdoch, has advised that while there has been some destruction of fauna by workmen in the area, the attitude of both civilians and members of the U.S. Naval Force is good and is improving. All incoming personnel are advised of our requirements for the protection of fauna.

A relatively large number of euros, says Col. Murdoch, has been killed on roads by haulage trucks. The kangaroos were attracted by the fresh grass on the road verges. This problem will not now be so great, with the seasonal rains that have fallen recently, as grass will be available generally.

On the flora side the Shire has been most active. Two thousand trees have been planted out and an additional 10,000 seedlings are now available for planting. No native flora is being disturbed, except where necessary on actual construction sites.

Lt. Col. Murdoch is himself an honorary warden of fauna and is keeping a close watch on the area from this angle.

DANGER - TIGER SNAKES

Arrangements have been made to erect warning notices on Carnac Island, in Cockburn Sound. The notices advise that the island is a sanctuary and that all forms of wildlife are protected - in particular tiger snakes.

The tiger snakes are a singular form that are protected for scientific research.

The notices warn that the snakes are highly venomous and that visitors to the island should confine themselves to the beaches.

TUNA SURVEY

The fourth in a series of survey flights being conducted by the Department was completed on March 16 and the following information formed the basis of Tuna Survey Bulletin No. 3.

"Water conditions (colour) on this survey were better than those sighted on Survey III. In the north-west region muddy conditions existed within about 1 mile of the coast; seaward of this muddy water there was a band of milky green water approximately five miles wide and this in turn began to clear further seaward although typical clear blue oceanic water was not sighted at the extremity of the offshore traverses.

"The inversion layer mentioned in Bulletin No. 2 had almost disappeared except in the area between Broome and Derby.

"The number of bird sightings has increased considerably. The birds were sighted in association with the fish schools.

"Since the series of surveys commenced in December 1966 there has been a noticeable increase in the proportion of medium - size schools of small fish with a simultaneous decrease in the proportion of small schools of small fish. The significance of this change is not known, but it is probable that the schools of small fish are conjoining at this time of the year. There has also been an increase in the proportion of (1) the medium - size schools of medium-size fish and (2) the medium-size schools of large fish.

"The charts show the tracks flown and the number of schools sighted.

"Table I summarises the number of sightings of schools by size and area and Table II shows the analysis of the size composition of the schools sighted."

TABLE I.

Area	Outward Flight School Sightings.				
	Small	Medium	Large	very Large	Unident.
Fremantle-Carnarvon	5	-	-	-	
Carnarvon-Onslow	46	25	17	2	
Onslow-Pt. Hedland	98	53	14	-	1
Pt. Hedland-Broome	14	13	2	-	
Broome-Derby	13	5	-	-	
TOTAL	177	96	33	2	1

Inward Flight School Sightings			Area
Small	Medium	Large	
7	2	1	Derby-Broome Broome-Pt. Hedland Pt. Hedland-Carnarvon Carnarvon-Fremantle
39	14	1(Und.)	
4	6	4	
-	-	-	
50	22	5	TOTAL

TABLE II

Fish Size *	School Size			
	Small	Medium	Large	V. Large
Small	45	175	-	-
Medium	3	116	-	2
Large	-	41	4	-
TOTAL	48	332	4	2

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* Small - 15 lb.
 Medium - 15-40 lb.
 Large - 40 lb.

No. of Baitfish Schools sighted = 56.

POLLUTION OF CAPEL RIVER

In 1964 the question of pollution of the Capel River by effluent from the Laporte titanium works was investigated by the Department in relation to its effect on marine life.

At that time we were able to say that the effluent was completely neutralised by the sea water within a few hundred yards of the point of discharge. In this rather limited area conditions were considered to be unsatisfactory for marine life. A much larger area outside this limited area was observed to extend as far south as "The Cut" into the Leschenault Estuary; this was caused by a small amount of precipitate kept in suspension by wind and wave action

It was considered, on expert advice, that the small amount of material in suspension in this secondary area was not likely to be detrimental to fish life.

Recently the Department has reviewed the situation in regard to the effect on marine life of effluent discharged into the Capel River. Chemical analysis of the waters in the area has confirmed that the effect on marine life is not any greater than it was in 1964.

C.S.I.R.O. - SALMON TAGGING ON SOUTH COAST

Mr. Otto Augustine, of C.S.I.R.O., Melbourne, has commenced a salmon trout tagging programme on behalf of the C.S.I.R.O. Mr. Augustine is being assisted by Inspector Gordon of Albany and has so far tagged fish at Nanarup (Taylor's Inlet) and is at present working at Broke Inlet.

The tagging programme is intended to assist Dr. Nicholls of C.S.I.R.O. in determining what part local recruitment plays in the total Western Australian salmon stocks.

In addition to the tagging programme, Mr. Augustine has been working at Hunt's canning factory in Albany taking measurements and scale samples from fish brought to the factory for canning.

Fisheries Technical Officer Eric Barker spent a few days in Albany assisting Mr. Augustine and brushing up on measuring techniques.

OBSTRUCTION CHARGE

In June 1966 Mr. Justice D'Arcy upheld an appeal by the Department against a magistrate's dismissal of a charge of obstruction against David McGowan, of Cape Leschenault.

The judge referred the case back to the magistrate for further consideration and had its sequel in the Perth Police Court on March 7.

Mr. McGowan was then fined \$20 for having obstructed a fisheries inspector in the execution of his duties.

BLOWFISH

Honorary Fauna Warden W.A. Hassel of Albany has expressed a wish that the thousands of blowfish in the district "go back to Perth". While sympathising with him, I doubt that Perth fishermen would support him.

CRAB OR CRAY

Whilst fishing for crabs near Point Walter recently Mr. Lew Johnson, of Bicton, made an unusual discovery. When hauling his set net Lew was surprised to find, after a long and hard second look, a 1 $\frac{1}{4}$ lb. crayfish floundering amongst his catch.

Old hands on the Swan will tell you this wasn't such an unusual occurrence at one time, but it's not often a cray decides to go for a stroll along the bottom of the "Swanny" these days.

NEW ZEALAND FISHING INDUSTRY DELEGATION TO
VISIT WESTERN AUSTRALIA

A delegation representing the New Zealand Fishing industry will arrive in Western Australia during April for a ten-day visit.

The party consists of :-

- Mr. J.S. Campbell - Leader of the Delegation and General Manager, Fishing Industry Board.
Mr. J. Thompson - Fishermen and Processor.
Mr. J.B. Hayward - Secretary, Bluff Fishermen's Association.
Mr. A.C. Kaberry - Director of Fisheries, Marine Department.
Mr. G.P. Topp - Agriculture Department (quality control).

The Department will be arranging an itinerary looking after the needs of the party while they are in Western Australia. The Minister, the Director and the Senior Research Officer will accompany the members to Geraldton and the Abrolhos.

The purpose of the visit is to inspect methods of crayfish fishing and processing used in this State. Inspections of crayfishing, processing works, fishing harbour facilities and wholesale fish merchandising at Geraldton and Fremantle are included in their itinerary.

Official receptions to the delegation will be given by the Geraldton Town Council and the Minister for Fisheries and Fauna, Mr. MacKinnon.

The delegation will commence its return journey to New Zealand on April 11.

INSPECTION TOUR

Fauna Officer H.B. Shugg and Senior Warden S.W. Bowler will be inspecting the Koolyanobbing area with Dr. Storr and Mr. K.G. Buller of the W.A. Museum, in early April. The party will investigate a request from local residents for a fauna reserve at Koolyanobbing and will also visit Chiddareooping and other reserves whilst in the area.

SEALS

Senior Inspector B.A. Carmichael has received reports of seals being shot on Beagle Island.

Fishermen in the area have been asked to assist the Department by keeping a watch on these animals so that further destructive acts do not occur.

Beagle Island is situated north-west of Snag Island.

FAUNA STAFF GROWS

New additions to the fauna work force this month is enabling the Fauna Protection programme to be stepped up.

Mr. S.R. Hogan and Mr. D. Munro have received appointments as Technical Assistants to Fauna Research Officer Mr. T. Riggert. They will be engaged in the waterfowl research programme, particularly in regard to duck banding and wetland management.

Mr. A.R. Marshall resigned from the Police Force to join the Department and his experience will no doubt stand him in good stead as Metropolitan District Warden.

A sincere welcome is extended to these officers.

TRANSFER

Cadet Warden Peter Lambert has been transferred to Central Wheatbelt District (No. 9), and is stationed at Pingelly where he is assisting Fauna Warden Trevor Evans. District training of cadet wardens is now quickening in pace and visits to other districts at a later date are planned for Cadet Warden Lambert and other cadets.

STAFF MOVEMENTS - HEAD OFFICE

Chief Clerk Jim Mearns has foresaken the office to take two months of his long service leave in the autumn sunshine. Jim says he'll work just as hard at home catching up on the "small" jobs that have been eluding him for some time.

Bob Baker has moved up from the Fauna Section to take over the reins whilst Jim is away. This has resulted in a move up the line for all clerical officers, thus giving them the opportunity of receiving training in other positions.

Adrian Edwards has joined the Department temporarily to assist at the counter during this period. We hope your stay will be a happy one, Adrian.

* * * * *

Three seagoing Inspectors have been appointed to the staff this month and a sincere welcome is extended to them.

Denis Wright is to be Skipper of the "Dampier" and John McCarthy will be an assistant on that vessel.

Haakon Pedersen is to be Skipper of the Misty Isle.

THE CONDOR

The condor is a living relic of the Pleistocene Age. It stems from the time of mastodon, mammoth and sabre-tooth tiger.

A planned dam in Sespe Canyon, California is threatening the existence of this giant bird.

The once numerous condors that Lewis and Clark called "the beautiful buzzards of the Columbia" and which were noted by early Spanish explorers for their immense size and quantity now number approximately 40. They are confined to a small area not far from Los Angeles.

Condors have been known to soar to 15,000 feet, on its 10 foot wingspan, and glide motionless for hours on hot air currents.

In early times in America, Condors were accused of carrying off lambs, calves and even children but, of course, all this has been proved false. But the Condor was regarded as an ill-omen in the early West and was shot from malice and from curiosity.

Even now, although they are protected and a person killing them could suffer a 1000 dollar fine, one or two are killed each year. The legislature has even outdone the Fish and Game Department in conservation efforts. When the department granted a permit to a zoo to trap condors, a few years ago, the legislature rose in protest and instructed the department to grant no more such permits.

Young Condors remain in their nests for almost a year and do not gain adult plumage until the age of 5 or 6. Then the plumage characteristic of the adult, triangular patches of white feathers, appear under the wings, coupled with the white patches on the shoulders and orange red heads.

They mate, probably for life, at upwards of 6 to 7, and may live as much as the four score and ten years allotted to humans, although their average life would be 40 - 50 years.

The history of man and the condor are closely linked. Cave relics and ceremonial traditions bear witness that condors were known and used by North American aborigines living in what we now call Florida, Texas and North California. The birds were worshipped as god symbols by later Californian and Western Indian tribes. Spanish explorers, such as Portola, who discovered San Francisco Bay in 1769, found Indians keeping Condors that were later sacrificed in rituals and sometimes stuffed and preserved.

(Cont. on page 13).

WESTERN AUSTRALIA THE GREATEST

Western Australia has gone further ahead as the leading fishing State of the Commonwealth.

Preliminary figures released by the Commonwealth Bureau of Census and Statistics show the value of W.A.'s 1965-66 production at \$13,711,000.

New South Wales harvested \$10,141,000 from the sea in the same period.

South Australia's fisheries products were worth \$6,234,000—a rise of more than \$1 million on the previous year.

Overall, the value of Australian marine and freshwater fisheries production for 1965-66 rose from \$38,378,000 to \$41,445,000 - an improvement of 7 per cent on the 1964-65 figures.

It seems, therefore, that overall, the fishing industry IS progressing.

(Fish Trades Review

February 1967.

CRAYFISH SALES - SYDNEY

A moderate supply of Tasmanian crayfish was received in Sydney during the week ended Tuesday 14th February. The supplies available comprised consignments received direct by sea, by road via Melbourne and live crayfish by air.

The bulk of the sales of Tasmanian crayfish effected during the week were at 75c per lb. However, a few sales were at slightly higher rates. Sales were also known to have been effected at from 70c per lb. Present indications are that the market would firm, particularly as there is an amount of uncertainty surrounding the activities of the fishermen in southern Tasmania.

Some South Australian crayfish were also known to be on offer in Sydney during the week and, in addition, the supply of crayfish available from N.S.W. fishermen increased from 1,050 to 12,500 lbs. weight.

(Fish Market Bulletin

February 1967)

AUSTRALIAN-JAPANESE FISH VENTURE

Mr. Seiichi Fujinaga, Senior Deputy Foreign Manager of the Industrial Bank of Japan, said in Tokyo last month that a joint Australian-Japanese venture in fish processing could be expected at a future date.

Japan would supply the finance and the technical know-how for the venture, he said.

Mr. Fujinaga was with a party of three bank executives sent to make an investment survey in Australia recently.

(Fish Trades Review

February 1967)

(Cont. from page 11).

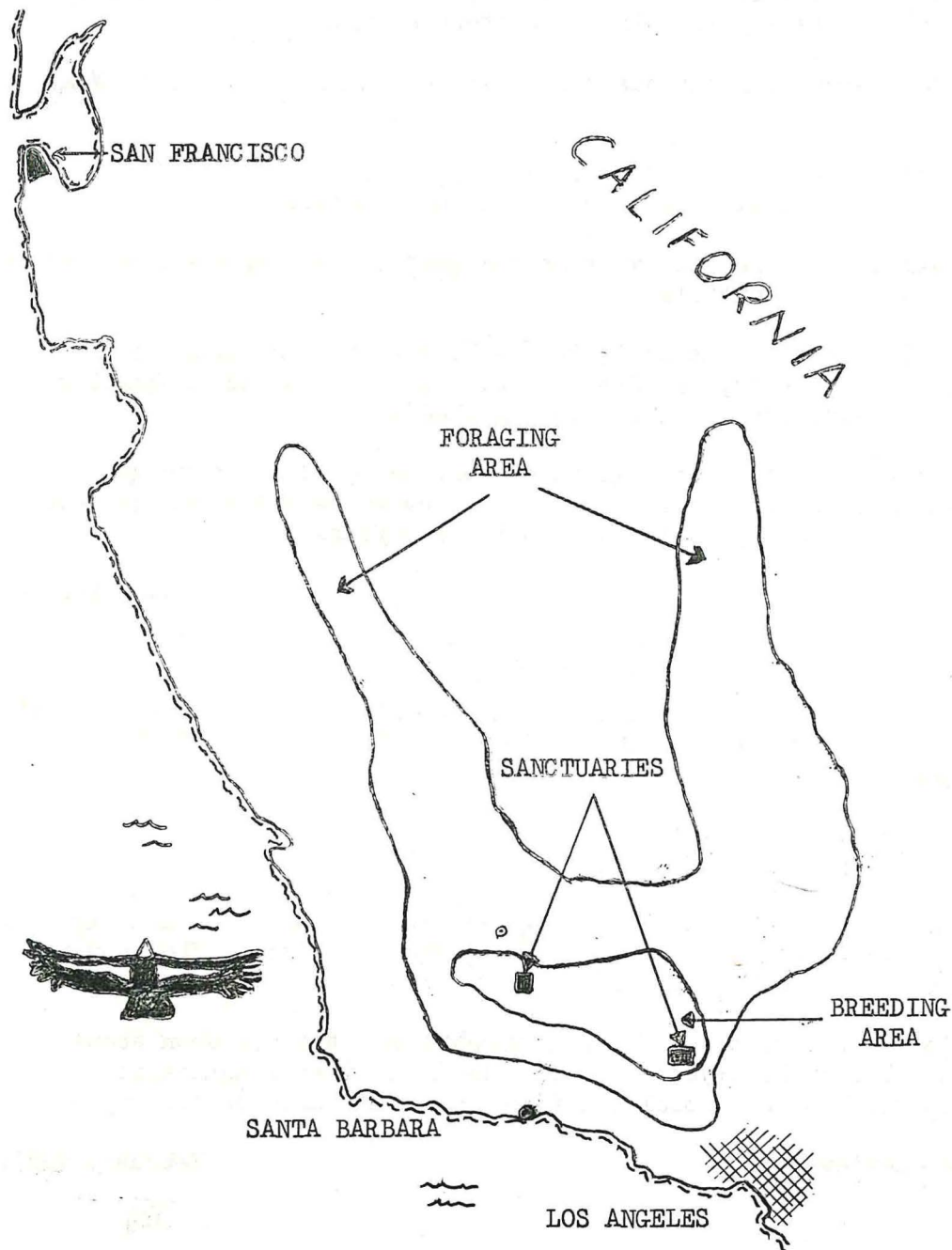
As the condor became rarer, demand increased. Museums and collectors became potential markets and the protection laws were disregarded. By 1932 the bird was reported to be down to 10 in number. But they have rallied slightly. Sanctuaries established in Santa Barbara and Ventura County have helped. The proposed dam now threatens one of these sanctuaries - the largest.

The National Audubon Society's research report indicates that the condor can be saved - if Man will save him.

(Animals

America

January 1967)



DEMAND FOR SHRIMPS "INSATIABLE"

The world demand for shrimps appeared to be increasing. Mr. Eric Waller, director of the Ross Group, said in Sydney this month.

"The market in the United States seems to be insatiable while other countries are eating more and more shellfish as their standards of living improve. All nations can sell all the shrimps they catch", he said.

Mr. Waller was in Australia on a routine inspection of his company's interests and, as he said, "on the look out for further opportunities for investment in the fishing industry in Western Australia."

The Ross Group already has more than \$2 million invested in W.A. fisheries.

He spent a hectic four days in Sydney under the wing of Len Johnson whose marketing organisation is part of the Ross setup.

Mr. Waller said he was "very encouraged" by the improved results of trading by the Johnson outfit.

He said Ross was constantly on the lookout for new sources of shrimp supply. This year, the Arabian Gulf operation would be greatly expanded by the addition of a big fishing fleet.

He expects improved results this year, also, from the group's Western Australian operations. This is a comparatively new venture for Ross which began prawning in the West only last year.

(Fish Trades Review

February 1967).

PRAWNS A LUXURY

Before the end of 1967, prawns will be a "luxury" in Australia, is the forecast of Mr. Max Butel, general manager of a national fish marketing organisation.

Mr. Butel said the world shortage of prawns is becoming more acute because supply can't catch up with demand.

He believes that Australian king prawns, most of which are exported headed-green, will reach \$1.60lb. f.o.b. by November 1967. The buoyant price will encourage more exports.

Of the prawn substitutes, the Alaskan crab catch is down about seven million lb. on last year's total; the lobster tail market is improving in the U.S. and local crayfish prices are also on the way up.

(Fish Trades Review

February 1967)

RUSSIANS GOING BIG IN SHRIMPS

Russia is expected to become a very big wheel in the world shrimp trade in the near future, according to Mr. John P. George, managing director of Islands Seafoods Ltd., of India.

In a recent survey of the potential market for shrimps in Japan, Mr. George said that Russia did not appear on the scene as a major supplier until 1966.

Almost overnight, the Russians nudged Mexico out of second place on this rich market. With several well-equipped trawler-factory-ships scouring the seven seas, Russia is bound to become a leader in world shrimp production, he predicts.

Already the Russian "fresh-frozen-at-sea-shrimps" have made a big impact on the U.S. market.

Mr. George visited Australia about two years ago with an Indian export mission to survey the potential here for shrimps. His recent Japanese market survey was made for the same purpose.

Indicative of Japan's rising standard of living, he points out that in a matter of only a few years, Japan has changed from a shrimp exporter to one of the world's principal shrimp importers. At times Japan pays higher prices for shrimps than the U.S.A.

Japan's own production of shrimps (mainly from October to March each year) is insufficient for the domestic demand. She buys most of her requirements from China. Until Russia bobbed up last year, Mexico ran second to China followed by Hong Kong, Thailand and South Korea.

Australia is listed in the first 14 suppliers to Japan. Our best export was 736 tons in 1964. This was the year that India decided to have a crack at the Japanese market. So far India has not matched Australia in yearly total sales of shrimps to Japan.

Japan levies a duty of 10 per cent of value in shrimps from Communist nations and 5 per cent from the Free World.

The Indians are being urged to supply Japan because the demand there is for headless shell on shrimp (an advantage to packers in weight-loss and processing) and because the freight is 3c lb. cheaper than to America.

Mr. George said that America is the world's biggest consumer market for shrimps and China is one of the largest producers.

FRANCE WIDE-OPEN FOR LIVE LOBSTERS

France is wide-open for live lobsters from Australia, says Mr. J.P. Pupazzoni, the general manager of the Fremantle Fishermen's Co-op. Society.

Mr. Pupazzoni attended the recent International Food Fair in Paris, where he booked orders for W.A. seafoods.

He said France imported more than 2,000 tons of live lobsters a year, mainly from South Africa and Canada. W.A. crays were now taking a share of this market.

The Fremantle Co-operative sent seven experimental consignments by air to France last season and has now decided to keep the lobsters in ponds, before transport, to increase their chance of survival.

Last season lobsters had been packed direct from the boats. The long boat trip and multi-handling had been severe on them.

Three holding ponds have now been built at Fremantle.

Lobsters will spend three or four days in the pond to allow them to settle down before being put in special containers for the air trip to France.

"Even with this system it is touch and go," Mr. Pupazzoni said. "Lobsters will live 36 to 48 hours out of the water and the plane journey takes about 32 hours, excluding handling in France.

Indirect flights were a big problem. At present lobsters were taken to Rome and transferred to another plane during a four-hour halt before being flown to Paris.

He said the Australian trade display in Athens and the Paris International Food Fair had aroused tremendous interest in Australian seafoods among buyers and the public.

Meanwhile, jet cargo services by Pan American Airlines have opened new markets in Europe for American live lobsters. About 2,000 lb. of live lobsters leave Boston every week for Europe.

Hines and Smart, of Ottis Wharf, Boston Harbour, use a special 50lb. container, which has cut lobster mortality to almost zero.

This leak-proof container has an inside layer of Styro-foam, similar to the material in an ordinary picnic kit. After the lobsters are placed in this container, they are packed with seaweed and a material called zero pac, which resembles dry ice.

Lobsters reach world markets by jet in a healthy and lively condition.

FISH MEAL PLANT PLANNED FOR N.Z.

Plans for a \$400,000 fish meal plant, which could be operating in the Bay of Islands in the North Island of New Zealand before the end of next year, have been put before the Government.

The plant would be capable of processing 2,000 tons of fish for meal and oil a day, but initial plans are for half this quantity. The proposal is for three other plants to be established progressively over a period of six years at three other centres - tentatively suggested at Gisborne, Nelson and the west coast of the South Island.

Each of the factories would be highly mechanized and would be built in areas where they would be no threat to hygiene or scenic beauty.

(Fishing News International

England

January 1967)

JAPANESE AID FORECASTS

Japanese fishing boats in the Indian Ocean are providing weather reports which are proving very helpful to Australian weather analysts and forecasters.

The boats, operating hundreds of miles off the W.A. coast and as far south as Kerguelon Island, are sending regular reports from areas where previously no information was available.

Negotiations to get the reports were started by the Commonwealth Bureau of Meteorology's regional director in W.A., Mr. G.W. Mackey.

At the request of the Australian bureau, the Japan Meteorological Agency arranged to equip the boats with recording instruments and train seamen as weather observers.

Some fishing companies have put radio operators on their vessels so that regular reports can be transmitted.

The weather information from the boats is passed to the bureau's central analysis office in Melbourne, where it is processed and master charts are prepared of the weather systems over the Australian region.

The master charts are then sent to Perth, where forecasts and warnings are prepared and broadcast.

(W.A. Current News Topics

January 1967)

SAFCOL CLOSES VICTORIA CANNERY

Safcol (South Australian Fishermen's Co-op) has closed its \$140,000 cannery at Portland following accumulated losses, over the past five years, of more than \$90,000.

Since its establishment in 1961, fishermen have not been able to supply more than a quarter of the factory's capacity.

The cannery was Portland's fourth most important industry with an annual payroll of about \$50,000. It employed 28 permanents who have found work in other industries.

Safcol's general manager (Mr. R.M. Fowler) said attempts would be made to sell or lease the cannery.

The cannery was established on data suggesting that around 1,000 tons of barracouta and lesser amount of tuna and abalone would be available annually.

The cannery, designed to handle up to 1,000 tons of 'couta a year, had handled only 256 tons in its best year.

Only 40 tons of 'couta had been processed since September last year, when the plant expected - and needed - at least 100 tons. Mr. Fowler said although the factory took 'couta from Portland's fishermen and others as far east as Lorne, there were just not enough fish to keep up supplies.

An attempt last year to import tuna from N.S.W. and eastern Victoria failed because of the unusually poor tuna season.

There was no prospect of developing tuna fishing in Victorian waters because the fish appeared in quantity once every five years only.

Although it was estimated there was five years supply of abalone in local waters - and unlimited markets in Asia - it had been uneconomical to catch the shell fish for more than 30 days during the whole of last year.

Safcol will continue to take fish from Portland's 25 fishermen members and will keep open its freezing and crayfish cooking works. These provided full time work for two men.

Fish Trades Review

February 1967.

TUNA RECORD

A record 3,000 tons of tuna, valued at about \$1,500,000 will be exported from South Australia this season, says the general manager of Safcol, Mr. R.M. Fowler.

It was expected that 2,000 tons would be shipped to the United States and 1,500 tons to Italy, he said.

"There is a very strong world demand for tuna", said Mr. Fowler.

(Fish Trades Review

February 1967)

MORE FISH FOR MEXICO

Although the number and size of the vessels, and even the permitted investment of up to ten million dollars a year for five years, may seem modest for a country the size of the United States, the introduction of the Fish Boat Programme does indicate that the world's fifth fishing nation is becoming aware that it will not hold this place with an outdated fleet of small boats.

Mexico is another American country showing concern over the slow rate of development of its fisheries. Early last year an advisory commission of fishing pointed to the slow increase in the Mexican catch. Acting on its recommendations, the Mexican Government has announced a national development programme aimed at raising landings by more than 160 per cent to nearly 500,000 tons a year.

As the commission observed, Mexican fishing progress has been haphazard and poorly balanced and the industry is too dependent on export markets for shrimp and a few other species.

Shrimp will feature in the programme which plans for an increase in fish product exports from 66,000 tons in 1964 to 144,000 tons. But it is also hoped to stimulate a large increase in the output of non-food marine products, from 7,000 tons to 61,000 tons. Fish meal is to make up nearly 50,000 tons of the 1970 total.

With the drive to increase the catch, Mexico will also encourage its people to eat more fish and it is estimated that by 1970 per capita consumption will have reached at least 5.8 kilos.

To achieve its 1970 targets Mexico is planning an investment in fishing of 334 million to 396 million pesos (35 pesos = £1) in the next four years. Of the higher sum, 234.3 million pesos will be drawn from current revenue provided by the State; of the remaining 161 million pesos, about 60 per cent is to be sought outside the country and 40 per cent will be found locally.

The investment will go into the building of larger vessels able to work well out to sea; into new processing plants and better facilities for handling wet fish; into improving export and domestic marketing methods; into the application of improved fishing techniques; and into the training of fishermen.

Another interesting aspect of this Mexican programme is that it is to undertake the reform of laws governing fisheries and fishing co-operatives, and of regulations which presently tax commercial fishing and the fish trade.

It also envisages the co-ordination of the various Government agencies dealing with fishing under the National Advisory Commission of Fishing which, it seems, is to be given executive powers, to direct the development plans it has outlined.

(Fishing News International

England

January 1967)

SHRIMP STUDY

The Marine Laboratory at Galveston, Texas, has reported new progress in its studies of shrimp culture. Both white shrimp and seabobs have been successfully reared to post larvae stage from eggs spawned in the laboratory. This followed the successful rearing of brown and pink shrimp and rounded out the rearing of the four most important commercial shrimp species.

Galveston biologists have developed techniques for mass culture which permit large numbers of shrimp larvae to be grown under controlled conditions for either detailed physiological studies or the stocking of enclosed brackish-water ponds.

Current studies underway are concerned with the feasibility of growing shrimp in ponds under semi-natural conditions. In one experiment, brown shrimp grew from an average size of one-half inch to three inches in 120 days. White shrimp in the same experiment grew to five inches.

(Fishing News International

England

January 1967)

COATING FOR LOBSTERS

The United States magazine "Food Engineering" reports development of an edible protective shield that inhibits transfer of air and moisture during freezing and storage of deep-sea lobsters.

The Shield, called Myvacet is distilled acetylated monoglycerides, and is marketed by Distillation Products Industries, of Rochester, New York. Applied by spray or dip, it is claimed to reduce loss of weight during shipping and prevents ice crystals forming on the transparent part of the package containing the lobster.

(Australian Fisheries Newsletter

March 1967)

FIBREGLASS CATAMARANS

Two fibreglass catamarans, one for lobster fishing off the west coast of Scotland and the other for similar work in the Channel Islands were delivered recently.

The boats were 27'3" O.A. with a beam of 12'6" and draught of 15". They can carry 1 $\frac{1}{2}$ tons of cargo without appreciable loss of speed.

(Fishing News International

England

January 1967)