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DEPARTMENT OF FISHERIES AND FAUNA LURARY, WESTERN AUSTRALIA.



MARCH, 1968 VOL. XVII, No. 3

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

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DEPARTMENT OF FISHERIES AND FAUNA MONTHLY SERVICE BULLETIN

DEPARTMENT OF FISHERIES AND FAUN

WESTERN AUSTRALIA.

A REPORT ON THE ITEMS DISCUSSED AT THE 1967 ANNUAL STAFF CONFERENCE

Recommendations made as a result of syndicate discussions held during the last Annual Staff Conference were considered by a meeting of Branch Heads. Herewith is a report outlining the decisions made and the action agreed upon :

ITEM I

Submitted by Senior Inspector Mr. N.E. McLaughlan -

"That the controlled use of explosive spearheads by spear fishing enthusiasts should not be prevented by this Department".

The majority of syndicates were in favour that this Department allow the controlled use of explosive spearheads. Section 26 of the Fisheries Act 1905-1967 excludes the use of any explosive substance for the taking of fish. This prohibition would have to be repealed before explosive spearheads could be used. However, explosive spearheads are considered to be a firearm and as such the control of their use comes under the jurisdiction of the Minister for Police. In response to a petition asking for powerheads to be legalised the Minister for Police stated that he would not consider legalising them till a type had been perfected which could not be discharged out of the water. Because of this the Department does not need to reconsider its approach to the use of explosive substances until such time as the Minister for Police is prepared to legalise the use of explosive spearheads.

ITEM II

Submitted by the Assistant Supervising Inspector, Mr. J.E. Munro -

"That it should be an offence for the skipper of a commercial fishing vessel to employ unlicensed fishermen".

Nearly all syndicates supported this proposal. The necessary amendments to the Regulations will be made to give effect to this recommendation.

ITEM III

Submitted by the Clerk-in-Charge, Mr. A.J. Mearns -

"What changes can be made to the present system of issuing licenses to improve and simplify it". A second item relating to the Department's licensing system was submitted by Senior Inspector Mr. N.E. McLaughlan -

"That a system of transferring State fishing boat licenses and cray pot licenses be adopted".

Useful suggestions came out of these discussions and many of the ideas will be kept in mind by this Department's representative (Mr. B.R. Saville) on the Commonwealth - State Committee which has been set up with the objective to design an improved and uniform licensing systems on an Australia wide basis.

ITEM IV

Submitted by the Assistant Supervising Inspector, Mr. J.E. Munro -

"Should an additional moving patrol be used for policing marron streams?"

It was recommended by a majority of syndicates that an additional mobile patrol should be established to police merron streams. Branch Heads were of the opinion that to increase both the fisheries and the fauna staff in Southwest districts would prove to be a more effective use of funds. These increases in staff will depend on the amount of money made available by Treasury for future departmental budgets.

ITEM V

Submitted by Seagoing Inspector, Mr. R. Smith -

"That the closed waters for fish traps within the three mile limit at Shark Bay be extended from False Entrance north to Quobba".

Most syndicates agreed on this proposal. The matter of the ban on fish traps in Western Australian waters, which expired in May 1967, was recently referred to the General Fisheries Advisory Committee and this committee's recommendation was that the total ban should not be reinstated, and that the prchibition to use fish traps within the area of Shark Bay itself remain as it is. Although some fishermen felt strongly that fish traps were damaging snapper feeding grounds, there was no real evidence to support their belief. Only one or two boats are presently using fish traps for the taking of snapper, and these operate outside State territorial waters. Commonwealth fishing authorities are not prepared to impose a ban in Commonwealth waters. The meeting of the Branch Heads was in agreement with the Advisory Committee's recommendations. Considering all aspects of the problem it is felt that no benefit to the fishery will be obtained by extending the ban on the use of fish traps.

ITEM VI

Submitted by Seagoing Inspector, Mr. K.V. Steicke -

"All Departmental patrol vessels should be equipped with pot winches."

Branch Heads were in full agreement that all Departmental vessels should be equipped with pot winches. As funds become available pot winches will be installed on all vessels.

ITEM VII

Submitted by the late Inspector, Mr. I.H. Cardon -

"That anateur crab fishermen working drop nets from boats be restricted to the number of nets they can use, by allowing them to work only drop nets attached to the boat; and that Fisheries Inspectors be empowered to confiscate drop nets not attached to a boat".

Again most syndicates were in agreement with this suggestion. There are many aspects to the crab fishing problem as the size of the Department file on this subject will testify. Some of these relate to interests of amateur fishermen, to popular misconceptions about the maintenance of crab populations, and of course to the sale of crabs by 'Shamateurs'. The problem pertaining to crabs is under consideration by the Minister, by the Director, and by the General Fisheries Advisory Committee. Such thoughts as were expressed at the Annual Staff Conference have been forwarded for inclusion in discussions and deliberations.

ITEM VIII

Submitted by the late Inspector, Mr. I.L. Cardon -

"That the marron season be opened on December 15".

The majority of syndicates were against an earlier opening date for the marron season. Branch Heads endorsed this view and expressed agreement with the suggestion that it be most advantageous to wait with making amendments until such time as Mr. N. Morrissy, the Department's Freshwater Fisheries Research Officer, reports on the result of his research work.

THE FAUNA OFFICER SPEAKS ON WAYS TO WILDLIFE CONSERVATION

Mr. H.B. Shugg, in his recent radio broadcast spoke on ways the man on the land can assist in the conservation of our wildlife.

Herewith is the text of Mr. Shugg's address :-

"The increasing number of students and scientists coming here from overseas to see and study our fauna is proof of the world interest in our wildlife. By and large, most Australians, too, are sympathetic to the need for wildlife conservation, but sympathy by itself can achieve nothing. We have to take practical steps to retain this natural asset which history has shown is so easily lost, and, once lost, is so impossible to recreate. It is you, the countryfolk, who have the real opportunity to save our heritage.

Wildlife, like all other animals, needs certain things to survive. These include unpolluted air, food and water, cover and breeding and living space.

To provide these things, the first requisite is an adequate reserves system in which the natural habitats may be retained. Such a system calls for reserves ranging down from thousands of square miles to hundreds of square miles and even down to a few odd acres. They must set aside all kinds and classes of land and not just poor and useless areas such as rocky ridges or salt flats. The fauna of the good agricultural lands have to be saved too.

Secondly, we have to ensure that these reserves are not just isolated islands in a sea of farms. An interchange of birds and other animals between the reserves is essential to maintain their health and diversity. This calls for adequate roadside reserves and also for strips and clumps of bush in farms alongside the roads to give cover for the animals moving from one place to another. These communication strips must be properly managed and not incinerated every year as so many are at present by unimaginitive fire control programmes.

We need to allow, and indeed to encourage, more wildlife to persist in the cultivated lands. Maintaining natural vegetation on farms as mentioned previously will help but is not enough. We have to dam the odd creek in isolated reserves to provide water through the dry summers for the sny wild creatures. We need to provide additional dams on farms, or fence off some existing ones to provide watering and sheltering places for those waterbirds which will not mingle with farm cattle. Food and cover must be made available to fauna cut off from their natural feeding and sheltering places. Nesting boxes of different designs and sizes must be erected to provide various birds with the opportunity to breed in security. More flowering trees are needed to augment the nectar supply for insects on which small marsupials as well as birds feed.

We must look too, at our natural resources pool and ensure that it is put to the best long-term community use and not eroded merely for short-term individual gains. We have to restore devastated lands - unnecessarily drained swamps, overgrazed and overcleared properties - before we make fresh inroads into the remaining store of wild areas.

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Finally, we need to form wildlife clubs in which we can teach each other about our fauna of which so many of us know so little. The Busselton Wildlife Club is, I believe, the only one outside the metropolitan area. This is not good enough. Every region must have its club. In conservation as in other things, Governments and public servants can do little without the active and informed assistance and co-operation of the man on the land".

WATERFOWL OBSERVATION AT LAKE MONGER

Acting Senior Warden, Mr. A.R. Marshall, inspected the northern and western shores of Lake Monger during the later half of January. Large numbers of Black Ducks and several Grey Teals were sighted, together with some seventy or more Black Swans, numerous Goots, several Musk Ducks, seven Pelicans, a pair of Crested Grebes and one Little Grebe. Feeding along the northern bank of the lake was a pair of Eastern Curlew. Mr. Marshall found this a most interesting observation as he had not sighted this species in this area previously.

The Eastern Curlew (<u>Numenius madagascariensis</u>) is a summer migrant from the northern hemisphere, occurring singly or in pairs on estuarine flats and salt marshes according to Serventy and Whittell's handbook. It is not very common and is never seen locally in the large flocks which are known in parts of the Eastern States, where sometimes a thousand individuals may be feeding together over a mud flat.

FAUNA WARDEN DEAR REPORTS ON PATROL MADE TO BURRENBAH POOL

During the last week of November 1967, the Department's Warden stationed at Wittenoom made a patrol to Burrenbah Pool which is situated on the Savory Creek just east of Mundiwindi. Water seemed to be present in pools over a distance of $2\frac{1}{2}$ miles. The district has been suffering from very dry conditions and this was reflected in the very low water level. Approximately a hundred and fifty wild ducks were observed and these seemed to be very frightened and hard to approach. They appeared to be mainly Black Duck and some Grey Teal. The area is known to be a favourite shooting place for surrounding stations and other seasonal employees.

Whilst in the area Mr. Dear also made a patrol by vehicle and by foct of Sylvania Station. Observations made during this visit included 14 Bustards either singly or in pairs. These birds did not seem to have been molested as they were very quiet and easy to approach.

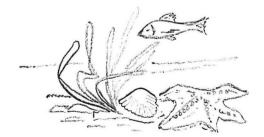
Birdlife in this area was not numerous, as the seasons have been dry for the last two years and food for them is not readily available.

Kangaroos were very numerous. Mr. Dear made comment that a number of them appeared to be affected by some type of paralysis. Those affected moved off reluctantly with the head held to one side as though the neck were stiff. They also appeared to be off balance. It seems to take a few days before they die, but in the last stage they either lie on the water or scratch a hole by a water trough and drown as they lose their balance and cannot stand.

A FISHING GUIDE FOR THE TOURIST

The trovical waters of North Western Australia are indeed a challenge to the fisherman, the professional and the amateur alike. Long renowned for a wide variety of fish, the North is only now being developed as a fishing area. To assist the amateur in his discovery MacRobertson Miller Airlines have prepared a folded leaflet giving a very good coverage of what may be caught in the waters from Shark Bay north to Wyndham.

The fish that abound this marine land are mostly strangers to southern anglers. There is the sturdy Barracouta, the quicksilver high-jumping Queenfish - a dancing dervish with a head like a nuteracker and flat shimmering silver sides; the pink Snapper; the savage Mackerel; multicoloured cods; the bull shouldered northern Skipjack and Trevally; and of course the countless sharks that are too often caught. These are only a few of the species mentioned in the leaflet, there are many more. Other information supplied includes the tackle required, bait, availability of boats and transport, accommodation, seasons, warnings pertinent to a particular area, and some general hints on how and where to catch fish. All in all it should prove a useful guide to the tourist fisherman.



STAFF NOTES.

Mr. A.V. Green who was stationed at Mandurah as a fisheries inspector until his resignation, has written to the Department thanking all for the presentation made to him. In his newly chosen vocation as a school bus operator at Buntine, Mr. Green made the comment that the only fish he is now likely to see will be goldfish in a bowl.

Since the Annual Staff Conference last October there have been a number of new appointments to the staff. A warm welcome is extended to Miss Denise Whicker, Typist, to Mr. R.K. Grose, Clerk, and to Messrs J.C. Van Roon, B.C. Bruse and P.J. Strickland all appointed as temporary Assistant Inspectors.

However, there have been some resignations too, these include Miss Marnie Craig, Cadet Research Officer, Mr. J.J. Mott, Research Officer and Mr. P.R. Rumkorf, Technical Assistant, all from the Fauna Branch.

*

Senior Warden Mr. S.W. Bowler will return to duties early next month after enjoying three months Long Service Leave. Mr. A.R. Marshall is acting as Senior Warden during this period.

Congratulations are extended to Mr. K.J. Anmerer on completing the requirements for the Associateship in Public Administration at the Western Australian Institute of Technology.

Officers will have noticed a familiar face at Head Office during the past few weeks. Mrs. Brenda Gordon (nee Powell) has been relieving as Telephonist whilst permanent Assistants Miss Mary Jolob and Miss Beverly Forsyth have taken their Annual Recreation Leave.

RECIPES FOR COOKING AT SEA

When the Department took delivery of the prawn trawler "Settler" in November 1966, (later named the R.V. Hamelin), four Departmental Officers went over to Brisbane to sail her home north about. During those delightful and memorable days of the voyage, "some good tucker was had by all", according to the skipper, Mr. C.J. Seabrook.

Here is the recipe used for preparing a Baked Stuffed Fish (mostly tuna) that graced the table more than once during the five week's voyage.

Clean the fish by removing the viscera, scales and fins. The head and tail may be left on if desired.

Wash and dry the fish.

Sprinkle it on the inside with salt.

Stuff it loosely with the stuffing of your choice, allowing about $\frac{3}{4}$ cup for each pound of dressed fish.

Fasten the opening with small skewers or toothpicks and loop string about them as you would lace shoes; or sew the opening with a large needle and coarse thread.

Place the stuffed fish on a greased baking pan and brush with melted fat or oil.

Measure the stuffed fish at the thickest part.

Bake in a hot oven $(450^{\circ}F)$.

Allow ten minutes cooking time for each inch of stuffed thickness.

ORIENTAL PRATINCOLE

Whilst travelling towards Roebourne on the road from Wittenoom Mr. R.F. Dear, the Department's Warden stationed at Wittenoom, observed flying in open plain country, a large flock of Oriental Pratincoles (<u>Glareola pratincola</u>) The birds were flying up to a height of twenty feet over the grassland and resting on the edge of pools of water along the road.

Mr. Dear said that positive identification was made from a specimen apparently killed by a motor vehicle.

Flying with these birds were a number of Marsh Terns (Chlidonias hybrida), some being in juvenile plumage.

Serventy and Whittell in their handbook, record that the Oriental Pratincole is a summer migrant from the northern hemisphere, occurring as far south as Point Cloates. The birds visiting Australia belong to the race breeding in Eastern Asia. Its upper parts are coloured olive-brown, with the wings slightly darker. The tail and covert are pure white, with dark brown tips on the tail. A black line passes from the lores below the eye, meeting its fellow across the breast, enclosing the buff throat. The rest of the breast is rufous-buff with the abdomen white. It is nine inches overall in length with short legs and has a tail that is long and deeply forked.

WESTERN AUSTRALIAN PRAWNING POLICY

There has been an increased interest in prawn fishing by Western Australian fishermen. In commenting upon recent policies established by Cabinet for the prawning industry Mr. Brand said that only four boats were operating in 1962 with a total catch of 320,000 lbs. Today some 74 boats are engaged in prawn fishing, catching in excess of $4\frac{1}{2}$ million pounds annually.

It was the Government's belief that steps should be taken to conserve the resources by rational exploitation and that the first course of action would be to introduce a system of area limitations along the coast. This would be done by dividing the coast up into a number of zones, entry into which by prawn fishermen would be limited.

The Minister for Fisheries and Fauna, Mr. G.C. MacKinnon, said the Department had become aware of the large number of boats moving into the waters between Onslow and Port Hedland. Because of this, and so that the area is exploited in a rational manner, the Department has decided to develop it into a limited fishing area between Onslow and 19 S latitude. He realised that the necessity for this action had eventuated sooner than had been anticipated when Cabinet policies were defined in November 1966.

Mr. MacKinnon said he recognised that a number of fishermen who had not previously fished the area will now be making plans to go prawn fishing and that these people must be taken into account in deciding the details of the limitation policy. He advised that all companies or fishermen who have commenced fitting their vessels for prawn fishing in this particular area should communicate in writing with the Department before May 31, 1968.

The area north of the 19[°]S latitude will remain open unless it too becomes so heavily exploited that limitation is required to ensure rational utilization of the resource.

Explaining other aspects of the policies Mr. MacKinnon said that associated with the control of the fishing effort will be a control on the total processing capacity for prawns. This will be done under recent legislation passed by Parliament (see monthly Service Bulletin Vol. XVI, No. 12) which gives the Director power to refuse a processing license if he considers it to be in the better interest of the fishing industry to so do.

Every encouragement will be given to freezer boats already engaged in the crayfishing industry to move into the prawning industry and process their catch.

However, mother-ships will not be permitted to produce a final packed product on board. The Department will permit them holding the catch, in a frozen condition, prior to being transported to a shore based plant for final processing. These vessels will be regarded as an extension of the shore based plant. Mr. MacKinnon said shore based plants in the prawning industry will have to be approved by the Department to ensure that it is in the better interest of the fishing industry.

LET'S KEEP THEM NATURAL !

It is gratifying to learn that gradually the public of Western Australia is beginning to be more active in the task to preserve our rich wildlife heritage. Interest in native animals and birds is generally deeply rooted in the minds and emotions of a broad cross-section of people. It manifests itself in such widely different individuals as those who enjoy hunting anything and those who are ardent naturalists and desire total protection for all living creatures. In a normal community a conservation plan between these two extremes is desirable.

The term "fauna" applies to all vertebrate Western Australian fauna, whether indigenous or introduced and whether aviary bred or not. It includes in its definition, frogs, reptiles, birds and mammals, alive or dead and any part of them, their nests, eggs and young.

Fauna conservation means the wisest possible use and management, over a long term of all our wild birds and other animals for the benefit of all the people. The basic needs of fauna are adequate food, water and cover to meet their specific requirements and protection from decimating factors which reduce their numbers. These needs can be met only, by proper management and control of the land or the waters the fauna inhabit. To partly meet this responsibility, certain areas of land and water are set aside for the conservation of the fauna and flora. The importance of such wildlife reserves, in the past, was not widely appreciated and was too often under-rated by persons unaware of, or out of sympathy with, the value and requirements of our remarkable fauna.

It is gratifying to learn that Shire Councils, and the people individually, are gradually learning that reserves set aside for the conservation of fauna and flora are not to be used to dump rubbish.

A recent example was where a long established practice of dumping rubbish on a reserve which had been set aside for the conservation of flora and fauna, in the Kondinin Shire, was brought to a close with the full co-operation of the Shire Council. Action was taken by the Kondinin Shire Council to clear up the area previously used as a rubbish dump. Notices were then erected prohibiting the dumping of rubbish on any part of the reserve. The Shire Council's appreciation that conservation reserves need to be kept clear of rubbish and that they be disturbed as little as possible, is encouraging.

Mr. T. Evans, the Department's Warden of Fauna stationed at Pingelly, must be complimented for his campaign to keep litter out of sanctuaries. It is due to his efforts that the co-operation of this Shire Council was gained and the case for conservation upheld.

FURTHER NOTES ON THE MANTIS SHRIMP

Dr. R.W. George, Curator of crustaceans at the Western Australian Museum advised that he has carefully examined the mantis-shrimp, caught in a crab net at the Derby Jetty, and submitted to him for positive identification. According to a recent publication by Raymond Manning of the Smithsonian Institution, Washington, dealing with Australian stomatopoās, the Derby specimen is (<u>Harpiosquilla</u> harpax.) Other specimens of the species have been previously recorded in Australia as (<u>Squilla raphides</u>) but according to Manning the two species are separate and both occur in Australia. Dr. George said that Manning pointed out that the number of specimens he has seen is few and that more specimens would facilitate clarification as to just how many species of these large stomatopods do occur in the Indo-Pacific regions.

WESTERN AUSTRALIA LEADS IN THE VALUE OF FISH, CRUSTACEANS AND MOLLUSC & FRODUCED

Information published by the Commonwealth Bureau of Census and Statistics shows that the Western Australian fishery was the leading money earner of all the States within the Commonwealth for the year 1966-1967.

The following table gives an indication of the importance of the W.A. fishery when considering the total value of the Australian fishery.

	N.S.W	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.
Fish	4,360	1,930	1,876	2,852	1,013	514	73	12,618
Crustacean:- Crayfish	383	1,007	5	3,249	11,344	2,426	0 0	18,415
Prawns	1,902	6	2,492	@ 0	1,778		1	6,179
Crabs	99	00	165	2	18	60	2	285
Molluscs-					and the		4 . G	
Oysters	3,449	· · · 1	38	ÓÓ	noao	00	όό	3,488
Scallops	90	1,494	21	ଦେତ	noao	72	ē ē	1,587
Abalone	(a)280	416	00	63	1	642	0 é	l,402
Other	00	63	13	. 9	4	00	००	89
Total Value	10 ,473	4,917	4,610	6,175	14,158	3,654	76	44,063

Value in \$'000 of Fish, Crustaceans & Mollusos produced in the year 1965-1967

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- n.a. Not available
- (a) Estimated

Western Australia's crayfishery is unchallengeably Australia's most valuable fishery. Some eight hundred and thirty odd boats were licensed to fish for crayfish during that year. It must be rewarding to the industry and to the Department that production has been maintained since the measures to protect the fishery from overfishing were introduced.

FISH MEAL PLANTS ON BOARD

Shrimp fishermen have long been plagued with the problem of how to dispose of the unmarketable fish often caught in large numbers by their trawls. In the past the shrimpers simply shoveled them over the side, but recently three Mexican firms have devised a more profitable solution in the form of portable fish meal plants. Several of these plants are operating aboard vessels of the Mazatlan shrimp fleet and each produces 1.5 tons of fish meal per day. The meal appeared to be of high quality and was being bought by one of the largest poultry food manufacturers in Mexico.

How many times i gotta tell ya to be careful comin' aboard She's kinda old

Sea - Frontiers (University of Miami-Florida) Sept.-Oct, 1967.

BOURKE PARROT OR NIGHT PARROT?

In volume I No. 5, the December 1967 issue of the "Fauna Bulletin", on page 21, we published a report which claimed that the Night Parrot was quite common in certain regions of the State.

The Bourke Parrot (<u>Neophene bourkii</u>)like the real Night Parrot (<u>Geopsittacus occidentalis</u>) feeds and waters after dark. This is why the Bourke Parrot is also known in some areas as the Night Parrot. This duplication of common names lead to much confusion, and we suspect that the warden who made the report referred to was really talking about the Bourke Parrot.

The Bourks Parrot was also considered to be very rare apparently a few years ago. It had suffered a population decline over most of its range throughout Australia. In recent years, however, it has recovered and, as the controversial report suggests, it is now comparatively common at least in some areas.

The bird more properly known as the Night Parrot is still extremely rare if it does, in fact, still exist. There are continued reports of its presence, but these have not been confirmed and one is always in doubt about their validity because of this common confusion between the two species due to their nocturnal habits.

TROUT ACCLIMATIZATION - 40 YEARS AGO

Most officers of the Department will recall that our recently retired Director, Mr. A.J. Fraser had, a deep-embedded fondness of trout country that led him on frequent trips to the lower South-west.

Here, reproduced from the December 1967 issue of "The Fisherman", is an article written by Mr. Fraser giving an account of one of his earliest trips to now well established trout country in New South Wales.

"Recently I was discussing with Dr. D.D. Francois, N.S.W. Director of Fisheries, some of my early experiences as a member - a relatively junior one of the staff of N.S.W. Fisheries. Most of them dealt with trout acclimatization activities, and I recalled visits to various parts of the State to liberate fry.

Some of the places about which memories persist are Mount Kosciusko, Khancoban (Upper Murray), Robertson, Tarana, Dorrigo and Manilla. Dr. Francois was especially interested in the occasion on which I travelled to the summit of Mount Kosciusko to release fry in the uppermost waters of the Snowy, and he asked me to prepare a note for The Fisherman.

At the time I was an officer of the inland fisheries section, and part of my duty was to arrange the transport of newly-hatched fry from Prospect Hatchery into selected waters in many parts of New South Wales. This involved rail and road transport and liberation of the young fish at the receiving end.

In those early days all consignments of fry during their journey by rail had to be accompanied by a Departmental officer, who saw that the cans were unloaded at their proper destinations. It was stipulated that each can be shaken thoroughly every 15 minutes or so when the train was stationary; so that the water would be properly cxygenated. The Railways Department provided free a brake van in which the trout were carried, and the officer in charge had the guard's compartment, with its 18 in.x 18 in.seat, all to himself. He attached a label to each can.

The labels were made of real parchment and the consignee's name and address written in water-proof ink; because of these precautions, if labels became wet they would not disintegrate nor would details become obliterated.

Fisheries inspectors usually undertook these tasks, but Mr. A.W. Wood, director at the time, thought it would be good "workshop training" for me, and quite often I was appointed guardian of the fry.

In the spring of 1927 it was decided to liberate 30,000 Rainbow fry in waters in the vicinity of Mount Kosciusko. This was the first time, as far as we knew, that trout were to be liberated at such an altitude in Australia and I was given the job.

Most of the day on which the trout were to leave Sydney I spent at Prospect Hatchery with the late Sid. Foster, who was then the curator, and his assistant, Bill Allworth. First, the fry were taken from the hatching races (at that time the races were let into the floor of the building) and placed in large galvanized buckets. We lifted out the fry by hand dip-nets and transferred them to the cans in which they would travel to their destination. The cans were similar to milk cans, but painted black inside and out to simulate night for the fry; this was thought to be better for the fry in transit.

Camel

Thirty thousand fry were carefully and laboriously counted into the cans, four or five at a time, as they were lifted out of the bucket by the small dipnet When counting finished, and this took several hours, one's back was very like that of the camel after the last straw had been added.

The cans were then loaded on a T-model Ford wagon, supplied under contract by the local carrier, and transported to Parramatta railway Station about 8 miles from Prospect. I do not remember the truck's capacity, but sometimes more than one trip was necessary. At Parramatta the cans were transferred to the railway brake van in a siding. Later in the afternoon the van was attached to a train and taken to the marshalling yards at Central Station. Finally, the van was hitched to the Cooma-Bombala Mail, just before its departure into the night.

Cooma was reached not long after first light, and was very much smaller than it is to-day (this was more than a quarter of a century before the Snowy Mountains Authority went into action). Here I was met by Balmain Bros. service car and trailer, with one of the Balmains at the wheel.

The capacity of the trailer was probably not more than 25 cans - I don't recall the exact number. But I have a very vivid recollection of pouring water out of what, in the early morning sub-zero temperature which is the rule in Cooma in October, seemed to me an endless number of cans, using a piece of mosquito netting over the mouth of the cans to prevent fry escaping.

At last the job was finished and the trout fry concentrated into the number of cans the trailer could carry. Messrs Balmain, incidently, always provided free transport for trout fry for Kosciusko and for eggs for The Creel hatchery.

Snow

The heavily laden vehicle took until midday to cover the 50 miles from Gooma to the Hotel Kosciusko. The weather was bitterly cold, and it must be confessed that we stopped at the hostelry at Berridale for a couple of "shots" of what in those days was commonly known as "Nelson's Blood". Thus warmed and fortified, Mr. Balmain and I set off feeling that we were better able to cope with the heavy snow which we had been told was falling on the mountain not far up from The Creel.

The sight from the hill over-looking the tiny hamlet of Jindabyne, nestling far below on the banks of the Snowy, was one of the most beautiful I had seen, or, indeed, have seen since. Recalling the thrill of that long-ago sight, I feel it is a great pity that travellers along the road to Kosciusko are now denied the sight, because of the Snowy Mountains hydro electric project. This is just another part of the price we have to pay for progress. Soon after we left The Creel it began to snow quite heavily, and gradually it grew worse as we ascended the road towards Hotel Kosciusko. By the time we reached Smiggins' Holes (we did not stop at the hotel) snow-drifts 3 ft to 4 ft deep along the road made our progress extremely slow. In fact, Smiggins' was as far as we could take the vehicle.

Peter Speet, the manager of Kosciusko Hotel, knew that we must soon get the fry into stream water and sent out to meet us three hacks and two pack horses. The pack horses could carry four cans each for the journey to the summit. The number of cans had to be reduced to eight, and after a quick snack the convoy which now consisted of the two grooms Peter had made available, myself and the horses - set off to cover the remaining miles.

It snowed all the way, although fortunately the weather did not deteriorate to the extent that it was too hazardous to go on. It was nevertheless bitterly cold and I felt like what I imagine a frog must feel.

Furthermore, I had not ridden for some time and the unaccustomed exercise, not to mention the rarity of the atmosphere at around 7,000 feet, caused me considerable inconvenience - despite the fact that I was at the time only 24 years of age and in good physical condition.

Blue Lake

We reached the summit at long last and faced up to the task of liberating the fry. Earlier it had been intended to release some in the Blue Lake, right at the summit, but as a result of an appeal by the Professor of Zoology at the University of Sydney (who pointed out that this was thought to be the sole habitat of some little known organism which was being studied at the time) it had been decided not to plant fish in the lake.

The tiny headwaters of the Snowy, many of them no larger than an ordinary street gutter, were frozen over and we had to break the ice before we could liberate the fry.

By this time it was rapidly becoming dark and we could not distribute the fry as widely as we would have wished. Nevertheless, the operation could be regarded as quite successful. Of the 30,000 fry which left Prospect more than 24 hours earlier, not more than two or three dozen were dead when placed in the streams.

The return journey of some 24 miles to the hotel was made almost entirely in darkness, although it was not pitch black because snow covered the landscape. We did not reach the hotel until after 8 p.m., and I say without any exaggeration whatever that the hot shower I took when I got to my room, and the many-blanketed bed which awaited me after more than 36 hours with practically no sleep, were the best things that had ever happened to me in the whole of my 24 years".

LIBRARY ACCESSIONS for FEBRUARY, 1968

Books

- KEPPLER, H. The Asahi Pentax Way. The Asahi Pentax Photographer's Companion. 2nd ed. London/New York. Focal Press. 1967. 352p. diags. pls.
- MARLER, Peter and HAMILTON, William J. III Mechanisms of Animal Behaviour. New York. Wiley. 1966. 771p. figs. graphs. refs. tabs.
- MUNRO, Ian S.R. The Fishes of New Guinea. Port Moresby. Dept. of Agriculture, Stock and Fisheries. 1967. 640p. figs. pls.
- RUSSELL, Sir Frederick S. ed.. Advances in Marine Eiology. Vol 5. Marine molluses as hosts for symbiosis with a review of known parasites of commercially important species. London/New York. Academic Press. 424p. figs. refs. tabs.

Publications

Allan Hancock Monographs in Marine Biology No. 2. Polychaetous Annelids collected by the USNS Eltanin and Staten Island cruises, chiefly from Antarctic Seas, by Olga Hartman. 1967.

Scotland, Agriculture and Fisheries, Dept. of. Fisheries of Scotland. Report for 1966.

<u>Marine Biological Association of India</u>. Symposium on Scombroid Fishes. Proceedings Part III. (Parts I & II already in library)

LIBRARY ACCESSIONS (Cont'd)

NOTICE

The Wildlife Preservation Society of Australia will discontinue publishing both "Nature in Australia" and "Australian Wildlife". Its publication in future will be "Wildlife in Australia", which is also the official publication of The Queensland Wildlife Preservation Society. There will be four issues per year. The W.P.S.A. will continue to issue a Newsletter (to date this has appeared bi-monthly) and an Annual Report.

"RICH FISHING GROUND"

Australian and American marine scientists believe that the vast fishing grands they have discovered off Australia's southern coastline could be among the largest in the world. The scientists were making an oceanographic survey of the continental shelf in the U.S. Vessel "Oceanographer", when they found the fishing grounds near the mouths of huge submarine canyons. The canyonssome of them among the biggest in the world, fall away from the continental shelf about 20 miles to 30 miles off the coast from Esperance in Western Australia to Kangaroo Island in South Australia. In them are layers of fish so dense in places that modern echo sounding equipment could not penetrate the bottom. Dr. C.C. Von Der Borch said that because of the rugged topography, the canyons would be hard to trawl by present methods. It might be necessary to develop new methods.

World Fishing

December 1967. Vol. 16 (12)

"SUCCESS OFF AUSTRALIA"

Five Japanese fishing fleets are fishing very successfully for tuna and prawns off the Northern Territory coast. Captain Yaizu Shizoku, of the mothership "Suruga Maru" said "Fishing in the Arafura Sea and the Gulf of Carpentaria is excellent. They are as rich in fish as any area I have seen". The Japanese are surprised that Australia is not taking advantage of the rich grounds. The Japanese visit Darwin, N.T. for supplies and servicing of ships.

They are developing their fishing activities off the North Territory coast and the operation is already much bigger than when it was begun 18 months ago.

Captain Shizoku said that the chief problem was the large number of swordfish and tiger sharks which attacked the nets and became entangled in them.

The Japanese are fishing off North Australia under an agreement with the Australian Government. They are under orders not be encroach on territorial waters, or to fish outside specified areas.

World Fishing

December 1967, Vol 16. (12)

PRAWN SORTING WITH LOW-SALINITY WATER

A simple method of sorting prawns from small fish has been devised by two crew members of a Soviet trawler. The process requires only a pool containing water at a certain reduced salinity.

When the trawl has been hauled aboard the contents are emptied into the pocl. Prawns, being heavier than the other fish, sink to the bottom and are easily removed for processing.

The crew members, one a Chief Fisherman, and the other a Chief Engineer, work aboard the trawler No. 8405. It is operated by the State-owned Dal'nemoraprodukt combine which handles the catches of distant water vessels fishing in the Soviet far east.

"Fishing News International"

December 1967, Vol. 6. (12)

