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(WESTERN AUSTRALIA, DEPT. OF

17(4) Apr 1968

DEPARTMENT OF PARKS AND WILDLIFE

SERVICE BULLETIN

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APRIL, 1968

VOL. XVII, No. 4

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

DEPARTMENT OF FISHERIES AND FAUNA

MONTHLY SERVICE BULLETIN

NOEL MORRISSY - PH.D.



MR. N.M. Morrissy.

Mr. N.M. Morrissy, the Department's Freshwater Research Officer, will be admitted, in absentia, to the degree of Doctor of Philosophy on May 8, 1968. The Academic Registrar of the University of Adelaide informed Mr. Morrissy of this in a letter dated January 31, 1968. Mr. Morrissy, who is 29 years of age and single, commenced work with this Department in May 1967. His present research programmes are on trout and marron.

Trout are a freshwater game fish of world-wide repute. Mr. Morrissy's research will show how successful the efforts of Government and private individuals have been in the acclimatization of Brown and Rainbow trout in the past 30 years. His method of approach is twofold. Firstly, log books have been issued to about 100 experienced trout anglers. Information collected in this manner will include, the number of fish caught, the locality of the catch and the effort expended by the angler in catching the fish. Secondly, data is collected by using an electrical trout catcher in selected trout streams to establish the density of fish.

In his research work on marron, Mr. Morrissy is aiming to establish the commercial pond culture potential of marron. This programme was commenced in ponds at the Pemberton Hatchery. However, upon completion of the Aquarium at Waterman this research will be continued there. Mr. Morrissy's report will show how successful the introduction of marron to farm dams in the wheat-belt area has been.

The marron fishery is considered important, as it provides recreation for a very wide sector of the community. It is a fishery which permits easy access and is therefore under heavy exploitation. Because of this, the fishery needs extensive management to safeguard the resource.

DEPARTMENTAL OFFICER IN SEA ORDEAL

On Saturday, March 2, Assistant Inspector Mr. E. Little was knocked into the sea while the P.V. "Lancelin" was carrying out a routine inspection of crayfish pots. The "Lancelin" was on patrol duties in the waters off Beagle Island at the 30 fathoms line. At the time a fresh southerly was blowing accompanied by a large swell. While seizing a crayfish pot, (no number on floats) it became evident that two pots were fixed to one rope. As the two pots were being landed, the vessel rolled violently in the swell and one of the pots skidded across the trunk cabin, knocking Mr. Little over the side. On attempting to surface, the vessel rolled again and Mr. Little was hit on the head by the rubbing strip of the vessel. Mr. H. Pedersen, the skipper of the "Lancelin", then helped Mr. Little back on board. Mr. Little sustained a cut on his head and a severe jar to the neck. Despite his ordeal he was able to continue with his duties and permit the "Lancelin" to resume its patrol duties.

F.I.N.S.

- A NEW WORD IN FISHING INDUSTRY COMMUNICATIONS

The first issue of "F.I.N.S." (Fishing Industry News Service) was published at the end of March 1968. "F.I.N.S." is designed to provide the means of communication, as is implied by its name, between the Department and the fishing industry. It will be published quarterly and its content will be mainly the reports and findings of various research and survey programmes undertaken by the Department. Because of this, some material which was published through the medium of the "M.S.B.", will in the future be published only in "F.I.N.S."

The "M.S.B.", primarily designed as a means of communication between Departmental officers will now revert to this function. To mark the occasion it has been decided to rename the "M.S.B." the "Monthly Staff Bulletin" as from the July 1968 issue.

As a result of these changes the mailing list for the "M.S.B." has been revised. Commencing with the July issue, the "M.S.B." will be available only to Departmental officers, Committees and inter-state Fisheries Departments.

OIL POLLUTION ON THE SWAN RIVER

When the oil tanker 'Torrey Canyon' came to grief off the coast of Cornwall in March 1967, a report by the Cornwall Naturalists' Trust declared that "sometime, somewhere, another tanker will be wrecked, and oil will contaminate other shores!"

It has happened, less than twelve months later, and right on our doorstep. On Sunday, February 18, the lighter "Norwhale" sank in the Fremantle Harbour after taking onboard about 400 tons of sullage oil from the aircraft carrier H.M.S. Eagle. It was no major disaster in comparison to the 117,000 tons of crude oil spilled by the 'Torrey Canyon', but it was sufficient to contaminate parts of the lower Swan River and its foreshores. It was also sufficiently clear by its occurrence that it can happen, anywhere, and how disastrous oil pollution is.

Inspections made by Departmental officers during the week following the sinking of "Norwhale", revealed that oil polluted parts of the river foreshore as far up as Como. Luckily only a few individual waterbirds were stained by the oil, and these suffered no apparent ill-effects.

In the Pelican Point area, 2 out of 6 Pelicans and 3 Pied Cormorants were oil stained. Other birds present were apparently not affected. There appeared to be no oil present on the beach or on the water. On the Claremont foreshore oil polluted the area between Point Resolution and Victoria Avenue. One badly oiled Silver gull was captured. It was washed in a weak detergent and warm water solution, and dried. Two days later it seemed recovered, resumed drinking and began to preen itself. Eventually it was released. On the Chidley foreshore oil was present only in the form of a slick on the water. No birds appeared to be affected by it.

On the south side of the river, the area between the Leeuwin boatsheds and Preston Point appeared to be heavily polluted. Despite this, only two Pied Cormorants were observed with oiled plumage. Pollution was also heavy between Blackwall Reach and Point Walter Spit, but only 4 of the 160 Silver gulls present were affected by oil, on the lower body and tail. On approach these birds flew off. Three Pelicans present were slightly stained by oil.

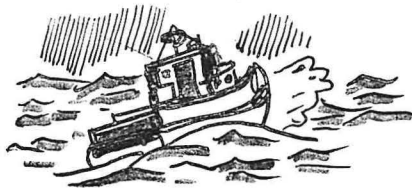
Although many miles of foreshore were affected by the oil, most of the evidence was gone within one week of the mishap. The quick action taken by all authorities concerned, was indeed heartening. The only bird captured by Departmental personnel, a Silver gull, was in an advanced stage of moult. If other birds affected by the oil were in a similar or less advanced stage of moult, then contaminated plumage would soon be replaced.

'VLAMING' LOCATES MISSING VESSEL
IN SHARK BAY.

The Department's patrol vessel 'Vlaming', under the command of Seagoing Inspector Mr. R. Smith, searched for and found the missing Dirk Hartog Island boat during January last. The island boat was reported overdue on a trip from the mainland. During the night trip to the Homestead anchorage, very rough seas were encountered by the 'Vlaming'. At 7.30 a.m. the following morning, (January 18) the missing vessel was sighted in the lee of Quoin Bluff, about 5 miles north of the Homestead. If the vessel had not been located by 8.00 a.m., an aerial search would have commenced. The missing vessel was none the worse, but due to the very adverse weather conditions experienced, the skipper decided to seek shelter at Quoin Bluff. Conditions throughout the trip made by the 'Vlaming' were very rough, with the wind reaching an estimated 50 knots at times.

UNUSUAL HIGH TIDES IN SHARK BAY

In another report Mr. R. Smith says that tides experienced at Denham on the evenings of January 24 and 25, were the highest he had witnessed in the years he has been stationed at that centre. At their peak the water was level with the deck of the jetty. Mr. Smith said that if the tide had been six inches higher, or had the wind blown from the west, the Department's office and laboratory would have been flooded, together with other low lying buildings on the foreshore.



SACRED KINGFISHER AT SHARK BAY

On Saturday, February 3, Mr. R. Smith observed a Sacred Kingfisher in the garden of his residence. The same bird was noticed on one previous occasion. Although not frequently reported upon, the Sacred Kingfisher occurs all over the State, except in the far inland portion. Serventy and Whittell in their handbook "Birds of Western Australia" record that some of these birds migrate to Timor and adjoining islands of Indonesia. During migration (October) nesting birds have been seen at Browse Island and Ashmore Reef, in the Timor Sea.

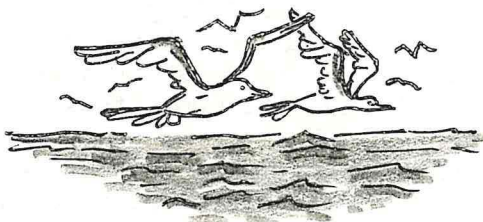
During a visit made to Carnarvon in the first week of February, Mr. Smith saw six black swans at Carnarvon and six sperm whales about one mile off Point Quobba.

WELL KNOWN CONSERVATIONIST VISITS PERTH

We were very glad to see in Perth last month Lt. Colonel C.L. Boyle, the well known international conservationist.

Colonel Boyle was best known to us as Secretary of the Fauna Preservation Society, whose headquarters are in London, and as editor of its journal "Oryx". Colonel Boyle held these appointments for 13 years. He was also chairman of the Survival Service Commission of the International Union for the Conservation of Nature and Natural Resources, a councillor of the International Council for Bird Preservation and a member of the Co-ordinating Advisory Committee on Oil Pollution of the Sea.

Colonel Boyle was accompanied by his wife and during his brief visit he was taken to the two reserves set aside for the Short-necked tortoise and to other sites of natural history interest. Colonel Boyle also called on Dr. D.L. Serventy, the well known ornithologist and on the Director of the South Perth Zoological Gardens, Mr. T. Spence. He discussed with them and with this Department's Fauna Officer, Mr. H.B. Shugg, aspects of conservation in this State. Colonel and Mrs. Boyle left by air to continue their world tour (which had already taken them to New Zealand, and New South Wales) and will visit Thailand and other centres in the Far East before returning to London later next month.



PARRY LAGOONS NOT OPENED TO DUCK SHOOTING

The Governor in Council has approved the Proclamation declaring the Kimberley, North West and Eastern Land Divisions open to duck shooting. The Proclamation is effective until December 31, 1968, inclusive.

The only two changes in the Proclamation from that of previous years is that the Green Figma Goose (*Nettapus pulchellus*) has been excluded from the schedule of waterfowl that can be hunted. The other change is that Reserve 1058, known as Parry Lagoons, and the area within 200 chains of the boundaries of that Reserve were not opened to duck shooting. The Jogalong Billabongs which are known to be breeding areas, are also included in the area not opened to duck shooting.

ANNUAL STAFF CONFERENCE SOCIAL.

Arrangements have been completed by the Social Club Committee for this year's function to be held at the end of the Annual Staff Conference. The Committee has given its assurance that the standard of last year's social is to be greatly exceeded.

Date : Friday, October 25, 1968.
 Time : 8.00 P.M. - 1.00 A.M.
 Venue : Mosman Recreation Centre, Solomon St., Mosman Park.
 Music : Ron Jenkins and his Band.

The most pleasing aspect is that the Management of the Mosman Recreation Centre provides a very good and substantial supper menu. Members are informed that any short-comings that may have been present in the supper last year, will be - after this year's function - a thing of the past and put down to experience.

Another good piece of news for this year's function is that the number of people who can attend is unlimited. Friends, relatives and mother-in-laws may all be invited to attend at the prescribed fee. The fee will be announced in plenty of time by the Social Club Committee.

There is still plenty of time, and a lot of work to be done before the date of the social, however all members are asked to keep the date in mind and to start thinking about forming their party for the night.

FISHERIES RESEARCH OFFICER ATTENDS A.D.P.
"FORTRAN" PROGRAMMING COURSE

Mr. R.J. Slack-Smith was selected to attend an Automatic Data Processing course during the period February 26 to March 5 inclusive. This initial Fortran course, conducted by the Treasury A.D.P. Centre, was designed for officers who are unfamiliar with computer systems and "Fortran" programming. It was further designed to meet the scientific and engineering needs that will arise as a result of the planning by the Treasury. Most of the scientific/mathematical type activities that will be processed on the Treasury computer system will be programmed by professional departmental officers. The mathematically based programming language "Fortran" will be used. Departments, for which major projects are undertaken, will be required to provide at least one officer with a knowledge of the work involved and with the necessary aptitude.

The Automatic Data Processing Centre established within the Treasury Department is located on the second floor of the Superannuation Building. The system to be used will be a 315-502 Rod Memory Computer System. This system is to be installed in two stages; the first stage by May, 1968 and the second stage two years later. The system can be further expanded as required to meet the increasing needs of Departments.

It is anticipated that the Treasury A.D.P. Centre will be operative in June 1968. However, in January 1968, N.C.R. installed alongside the Treasury computer room - but separate from it - an almost identical computer system which the Company will operate as a Service Bureau. This Bureau System provides back-up and support for the Treasury installation. In the period before the delivery of the Treasury system, N.C.R. will make available to the Treasury half of the prime shift and any extra time required in a second shift. Thus scientific and engineering design programmes as well as some commercial applications will be operative from about April 1968.

RESEARCH WORKER COMES TO W.A.

Mr. Denis Saunders, who until recently was with the Australian National University in Canberra, has come to Western Australia. Mr. Saunders will continue research work on the White-tailed Black Cockatoo. This work was commenced by Dr. S.J.J. Davies of the Division of Wildlife Research, C.S.I.R.O.

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"They that go down to the sea in ships, that do business in strange waters; they shall see the works of the Lord and His wonders of the deep".

BE A DEFENSIVE DRIVER

This is the theme of the campaign presently advocated by the Road Safety Division of the National Safety Council of W.A. in the January/February, 1968 issue of "Safety News". Every person who drives a motor vehicle is urged to adopt a system of driving which, when thoroughly mastered, greatly reduces the likelihood of being involved in an accident.

In a nutshell, a Defensive Driver, mastering the system, formulates a driving plan based on the correct assessment of the ever-changing scene about him - what can be seen - what cannot be seen - and possible circumstances which may be expected to develop. He is able to make deliberate and accurate decisions in a methodical manner at any moment.

Even if you are, by practice and temperament a perfect driver, remember that most other drivers are not so well endowed. You should, accordingly, have compassion for them. Don't "hustle" them by following too close, cutting corners, or "beating" them to the traffic lights. Being the expert, you should be sporting enough, and polite enough, to make allowances for the great majority of drivers who will never attain the giddy eminence in driving that you have attained!

Remember - the Doctor, or the Undertaker, is not interested in who had the right of way.

PUBLIC SERVICE ALLOWANCES (MISCELLANEOUS) AGREEMENT, 1967
REVIEW OF TRAVELLING, TRANSFER AND RELIEVING ALLOWANCES

Following a review of the above allowances, the Public Service Commissioner has agreed with the Civil Service Association of Western Australia (Incorp.) that the current rates of reimbursement should be varied on and from the 1st January 1968, as follows :

Clause	Item No.	Daily Rate	
		31/12/67	1/1/68
6. Travelling Allowance	1	\$7.35	\$8.00
	6	9.05	9.70
7. Transfer Allowance	1	7.35	8.00
9. Relieving Allowance	1	7.35	8.00

CUTS BY THE SCORE

In 1967 Mr. A.J. Mearns, the Clerk-in-Charge, attended an in-service training course in Organization and Methods during which he carried out a survey and reported on the Department's licensing system. This report is being considered in conjunction with the proposed uniform Commonwealth-State licensing system to be established with the aid of the Fisheries Division, Department of Primary Industry.

Some of the reductions in effort and procedures proposed by Mr. Mearns have been thought to be a little too drastic. However, he has defended himself by saying that others are prepared to go further and has offered the following Organization and Methods Survey of the activities of a symphony orchestra as an example :-

"For considerable periods the four oboe players had nothing to do. The numbers should be reduced, and the work spread more evenly over the whole of the concert, thus eliminating peaks of activity.

All the twelve first violins were playing identical notes. This seems unnecessary duplication. The staff of this section should be drastically cut; if a large volume of sound is required, it could be obtained by means of electronic amplifier apparatus.

Much effort was absorbed in the playing of demi-semi-quavers. This seems an excessive refinement. It is recommended that all notes should be rounded up to the nearest semi-quaver. If this were done, it would be possible to use trainees and lower grade operatives more extensively.

There seems to be too much repetition of some musical passages. Scores should be drastically pruned. No useful purpose is served by repeating on the horns a passage which has already been handled by the strings. It is estimated that if all redundant passages were eliminated, the whole concert time of two hours could be reduced to twenty minutes, and there would be no need for an interval.

The conductor agrees generally with these recommendations but expresses the opinion that there might be some falling-off in box-office receipts. In that unlikely event it should be possible to close sections of the auditorium entirely, with a consequential saving of overhead expense - lighting, attendants, etc.

If the worst came to the worst, the whole thing could be abandoned, and the public could go to the football instead".

S. TONE-DEAF.

CONDITIONS APPLYING TO PRAWN TRAWLING 1968

1. Boats authorised to trawl for prawns in Shark Bay - Carnarvon area and also having crayfishing rights
 - 1.1. January 1 to April 30 may operate in Shark Bay - Carnarvon area and in other waters lying north of the 20th parallel of south latitude.
 - 1.2. May 1 to August 15 must trawl in the Shark Bay - Carnarvon area.
 - 1.3. August 16 to September 30 may operate in the Shark Bay - Carnarvon area and in waters lying north of the 20th parallel of south latitude.
 - 1.4. October 1 to December 31, may operate in any locality other than Exmouth Gulf.

2. Boats authorised to trawl for prawns in Exmouth Gulf and also having crayfishing rights
 - 2.1. January 1 to April 30 may operate in Exmouth Gulf and in other waters lying north of the 20th parallel of south latitude.
 - 2.2. May 1 to August 15 must trawl in Exmouth Gulf.
 - 2.3. August 15 to September 30 may trawl in Exmouth Gulf and in waters lying north of the 20th parallel of south latitude.
 - 2.4. October 1 to December 31 may operate in any locality other than the Shark Bay - Carnarvon area

3. Boats having crayfishing rights and not authorised to prawn in the restricted areas of either Shark Bay - Carnarvon or Exmouth Gulf.
 - 3.1. May trawl for prawns in any locality during this year with the exception of Shark Bay - Carnarvon and Exmouth Gulf.

4. Boats authorised to trawl for prawns in the Shark Bay - Carnarvon area and not having crayfishing rights.
 - 4.1. January 1 to April 30 may trawl in any waters with the exception of Exmouth Gulf.

- 4.2. May 1 to August 15 must trawl for prawns in the Shark Bay - Carnarvon area.
 - 4.3. August 16 to December 31 may operate in any waters with the exception of Exmouth Gulf.
5. Boats authorised to trawl for prawns in Exmouth Gulf and not having crayfishing rights.
- 5.1. January 1 to April 30 may trawl in any waters other than the waters of the Shark Bay - Carnarvon area.
 - 5.2. May 1 to August 15 must trawl for prawns in Exmouth Gulf.
 - 5.3. August 16 to December 31 may trawl in any waters with the exception of the Shark Bay - Carnarvon area.

THE SOURCE OF THE SWAN RIVER

A report from the Department of Lands and Surveys informs that the source of the Swan River has at last been settled. A survey made by that Department pinpointed it at the place where the Avon and Gatta Rivers meet in the Walyunga National Park. The Gatta River is also known as the Wooroloc Brook.

ABALONE RESEARCH IN W.A.

Following the rapid growth of the abalone fishery in New South Wales, Victoria and Tasmania the industry in Western Australia has developed, but more slowly and, so far, to a much lower level.

This is partly because the main species fished here, Roe's abalone (Haliotis roei) is smaller than those fished in the Eastern states and in the main overseas fisheries, and the principal market demand is for a large animal. In addition our local species lives on rocks at about the low tide level and so collectors have to contend with strong wave action during a large part of the year. Other species found in deeper water - including the eastern commercial species - can be fished in almost any weather but, species of this type found in Western Australia have not been shown to be in commercial quantities. In all overseas abalone fisheries it has been shown that stocks are easily depleted unless fishing is strictly controlled. The main factors involved are the easily accessible stocks, the comparatively slow growth rates, and the rather restricted areas suitable as habitats for each species.

In Western Australia research on Roe's abalone was commenced very soon after fishing first began, with the main aims being :

- * to study the distribution and density of the species throughout its range in Western Australia.
- * examination of the species to gain information on the breeding season
- * to study the settlement rate of the young on the rocks
- * to determine the rate of growth, age at first breeding season and the environmental factors influencing these
- * close observation to gauge the effect of fishing on the stocks available. Special attention is directed to the detection and assessment of any change in the survival rate of the young following fishing.

These methods used in examining these features include :

- * sampling of populations from different places and at different times
- * tagging of animals in various localities
- * microscopic examination of the gonads of samples taken at regular intervals
- * examination of areas which have undergone commercial and experimental fishing
- * work on aquarium animals.

The range of Roe's abalone extends from about the mouth of the Murchison River in the north to the W.A. - S.A. border and beyond to Victoria. Variation in climatic conditions along this length of coastline may have some influence on growth rates and breeding seasons and therefore experimental areas have been set aside at the Greenough River reef near Geraldton and at Cheyne Beach, east of Albany. However most attention has been directed to areas around Perth because of the accessibility and mid-way position. Suitable research areas, adjacent to Perth, are not easy to locate or maintain because of the popularity of abalone fishing with both amateurs and professionals. Abalone populations at Rottnest Island have, so far, proved less open to interference and sample areas are under observation on many reefs around the island.

The recent imposition of minimum size limits by the processing companies seems to be an adequate regulatory measure at the present. The limit of between 3 and $3\frac{1}{2}$ inches in greatest length ensures that smaller animals which have reached maturity are now being left to breed.

Because of the large numbers of eggs produced by these animals it seems likely that enough larvae will settle to take the place of those removed by fishing. In addition, the estimates of growth rates, so far available, indicate that, under good conditions, the fishable size is reached in a few years and, after this, the rate decreases.

This would mean that a minimum size limit of about three inches is not only sound from the point of view of the economy of the industry's market, but also from the aspect of the species' biology.

At present the possibility of interference with the animals' habitat by fishing is undetermined. This could be reflected by changes in weed growth on the rocks or by changes in the numbers of other kinds of animals competing with abalone for food or space. Close observation of commercially fished areas, and the experimental fishing of others, will be combined with feeding studies of abalone -- and possible competitors -- for their algal food.

In addition to the study of Roe's abalone other species are also being investigated as time and facilities permit -- particularly the large southern species so far not exploited in Western Australia.

With the present rate of development of this industry in Western Australia it is anticipated that many of the questions most important to the understanding and rational exploitation of this fishery will be available before any serious depletion can occur.

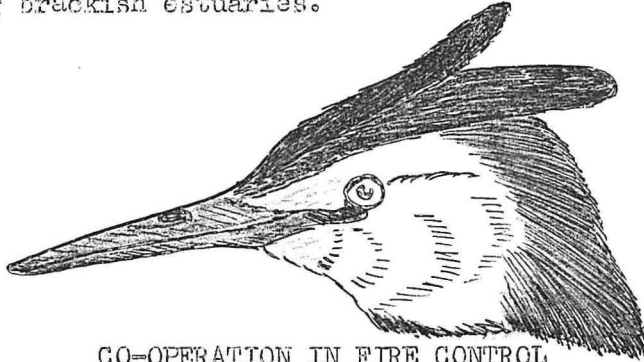
CRESTED GREBE FOUND NEAR PERTH

Sightings of the Crested Grebe (Podiceps cristatus) in the metropolitan area are not frequent, however recently three sightings were recorded. On March 11, Cadet Fisheries Inspector, Mr. D. Mell, found a juvenile bird near the Sir Charles Cairner Hospital, Hollywood. It was apparently brought down by trees or hit by a vehicle. Although there were no visible signs of injury, the bird made no attempt to fly off. On liberation in the pond at the Department's District Office, Victoria Park, the Crested Grebe dived and swam freely.

Later the bird was handed over to the Director of the Zoological Gardens. Mr. Spence said that it became the first of its kind the zoo had.

Mr. H.B. Shugg, the Fauna Officer, recorded the other two sightings recently. One bird was seen at Butler's Swamp, Claremont and four birds were seen at Thompson Lake.

Serventy and Whittell in their hand book "Birds of Western Australia" record the Crested Grebe being confined to the South - West corner of the State, from Gingin to Bremer Bay. It is definitely an uncommon species, but individuals appear from time to time on reservoirs and larger bodies of water, including brackish estuaries.



CO-OPERATION IN FIRE CONTROL

Two welcome developments in fire control on fauna reserves have recently transpired.

The first results from an approach made to Fauna Warden A.T. Pearce at Albany.

The captain of the Albany Bushfire Brigade has suggested that the Department join that Brigade on the same footing as other property owners. This should result in all parties in the brigade developing a better understanding of wildlife conservation problems and better protection of the Noisy Scrub-bird reserve should follow. Actual co-operation in control work may also be possible for it is suggested that, by becoming a member of the local brigade, the Department will be able to call upon local equipment and manpower in emergencies.

A discussion had with some officers of the Bushfire's Board indicates that better co-operation between owners and conservationists will follow as it is believed that any friction that may have arisen in the past is due, principally, to each party's misunderstanding of the other's requirements in various situations.

District Fauna Wardens should acquaint themselves with the important reserves in their districts and discuss fire control in relation to them with the local authority and with the brigade captain as well as adjoining property owners.

Forests Department Assists :

The second development is the result of negotiations between our Department and the Forests Department. As a result of the good offers of Mr. A.J. Milesi, Fire Control Superintendent of the Forests Department, who is also a member of the Fauna Protection Advisory Committee, an offer has been made to assist in the training of one or more of our officers in the interpretation of research findings resulting from studies of fire behaviour and

burning conditions.

Arrangements were made for Fauna Warden T. Evans to attend specially designed control programmes to test the findings of scientific research into the interpretation and forecasting of fire conditions and the characteristics of different fuel beds under normal field conditions.

Fauna Warden Evans will spend a week or two with officers of the Forests Department, to get practical, first-hand knowledge of the accumulation and interpretation of data and the application of control tables to the field situation. Particular attention will be paid to the role of scrub in the fuel bed and the evaluation of the fire characteristics of various plant forms.

FISHING AROUND THE WORLD

Australian exports of canned and frozen abalone in the 1966-67 financial year appear certain to exceed \$A1 million making them the third most valuable seafood export. To the end of March this year exports of frozen craytails and the whole crayfish were worth \$A11.3 million followed by prawns \$A1.6 million, abalone \$A955,000 and scallops, \$A871,000.

A feature of the remarkable rise in abalone exports in the past year has been in the expansion in shipments of canned abalone which were worth \$A712,000 to the end of March. Malaysia and Singapore were Australia's main customers buying 775,000 lbs. of canned abalone worth \$A405,000. Australian scallop exports to March increased 29 per cent in value compared with the corresponding period of 1965-66. France accounted for most of the increase while the U.S. market for scallops continued to decline.

"World Fishing"

November 1967.

THE TESTIMONY OF EARTH

There is so much talk of "conservation" these days, and so many programs carrying that name have been put into effect by government and industry, that we are in danger of being lulled into the belief that conservation, as a way of life, has become a fact.

Yet so far there are far more words than action and, though words may inspire deeds, in the last analysis it is not words, but deeds that count. Erosion has not been conquered; pollution in our waters is at a higher level than at any time in history; surpluses of agricultural crops, existing for a time because

land was made to produce more heavily, not through natural revitalization of soil, but by stimulation of chemical fertilizers and use of chemical poisons, no longer exist and shortages of food loom for the future.

We preach conservation and practice a mild form of it - some places, sometimes: but the truth is that man is by nature an exploiting creature, bent more on converting the land and its products into quick material wealth than on regarding it as the source of all life, which is to be used but not abused.

If it were possible to view all earth and all history in one comprehensive glance, one would see earth as the torn battleground in the age-old conflict between man's conscience and his greed.

And the history of man's treatment of the earth which sustains him and all life would show it to be, over-whelmingly, one of plunder, rape and destruction rather than careful, understanding husbandry. All man's protests against this statement cannot drown out the evidence of earth's own silent testimony.

Even today, when conservation has become a national issue, we still hold plunder and wealth paramount, as evidenced by torn earth, depleted soils, eroding hills, and polluted waters. Even while we boast of a high standard of living and an unparalleled prosperity (which we measure only in material terms), we sit at the banquet table with the poisons of our "progress" in the very flesh and veins of the earth that set the table and clothed the guests. Even as we boast of the vast cities we have built, the great industries we "support", as monuments to "progress", the air and the waters and the earth carry the signs that show these monuments of the present - all of which were wrested from the earth - may well be the tombstones of our future. History of past nations tells us this is so - that it is not the wars between men and men that bring the final destruction of a country, but the war between man and the land.

History also tells us that this need not be so: but this part of history is a very small note in the triumphant roar of battle trumpets, and a minor strain in the seductive song of luxury and wealth. All who listen hear it, but only a few listen to it; of those, even fewer know what it really means.

Those who do hear and understand are men who know and love the land - not those who wear the robe of conservation for expediency's sake, or to cloak their plundering. Those who know the real meaning of conservation know that conservation is, in its final meaning, the conscience of science - the still, small voice that says the powers of science, exemplified in all the tools and weapons man has devised, shall be used constructively, and not to destroy.

Science itself can neither preserve nor destroy us: it is merely the finding of facts, and how they may be put to use. It is the purposes of men who use these powers that will determine the result; and among these purposes the greatest determiner of all is in how they will be used in the treatment of earth which is the source of all life - whether to build and preserve for all time, or to deplete and destroy in the blindness of desire for the immediate wealth which means ultimate destruction.

Conservation is the conscience of science—the still, small voice that tells us how to husband and preserve the earth, and all its life.

And the crucial question is not in whether we hear the siren song or the little voice, but which we will listen to, and heed. The earth's mute testimony will be the final answer. . .

Wildlife Review, B.C.

December 1967.

NEW CANADIAN FISH CHILLING SYSTEM TRIED

One of the oldest problems - how to keep fish cold enough during transit to market - took a new twist during a recent Canadian Experiment.

It involved transport of fish from Atlantic seaports to Central and Western Canada - a great distance.

The lessons learnt could be of help to any future long - distance haulage of fish in Australia.

This is the report of the experiment in the Canadian Fisherman.

How to get fresh Atlantic fish to Central and Western Canada in top condition? This has been one of the biggest challenges facing the Nova Scotia fishing industry for many years.

An experiment was conducted from National Sea Products plant in Lunenburg in co-operation with the Canadian National Railways that may very well provide the answer to questions of how to better serve existing markets and open up new ones for the province's biggest resource industry.

The answer is "super chilling", a method of fish shipment that could add at least two days to the shelf life of the product.

The experiment in super chilling is being conducted by fisheries department scientists and the CNR.

The method requires the use of mechanical refrigeration to reduce fish temperature to 29 degrees and keep the temperature constant throughout transport.

Last year, smaller scale experiments were conducted on small lots of fish fillets for super chilled shipment to Vancouver and Windsor, Ontario.

The success of these early ventures led to the trial run of a 15,000 pound shipment to Windsor.

According to fisheries experts and scientists the "super chilling" method could very well replace the conventional "packed in ice" mode of shipping fish ... and before very long. A great wave of concern swept the Atlantic fishing industry following a report that the CNR would no longer carry wet fish shipments to Central Canada.

According to the railway's spokesman, wet fish shipments will continue to be accepted as always with no present plans for completely replacing this shipping method with super chilled fish cargoes.

The furor over shipping practices started when a paper carried a story attributed to "reliable sources" that stated the CNR would cease to carry wet fish shipments because of costly car cleanup operations entailed. The story and subsequent articles suggested the railway would handle only super chilled fish cargoes in future and quoted so called reliable sources as stating this would not mean much additional expense for shippers.

"The Australian Fish Trades Digest"

February 1968.

AUSTRALIAN BLUEFIN SELL AT HIGH
PRICES IN JAPAN

Several substantial deliveries of Australian Bluefin, delivered to the great Japanese tuna landing ports of Yaizu and Misaki in early autumn, 1967, commanded excellent prices, at or above those paid for yellowfin on the same auction.

Bluefin is in great demand in Japan and the Australian sub-species appears to be well regarded.

"Ocean Fisheries" USA

January '68.

ERNEST SWIFT in 'A CONSERVATION SAGA'.

Only a decade ago it was argued that water pollution was one price we must pay for a life of good living and luxury. Now we are finding that water pollution is becoming so progressively detrimental as to endanger some types of manufacturing commercial fishing, tourist recreation, and even human life.

Part of this pollution relates to the release of chemicals by industries which are supposed to be creating the good life, but which are spreading poisons on the land - supposedly - to save us from starvation.

If the good life is to continue, then the sources of pollution must be overcome. If Man cannot control the products of his genius the laws of diminishing returns will set in.

* * *

CHARLES KURALT in CBS REPORTS.

"Oh yes, it's clear that we need more national parks. Those we have were unbearably crowded this summer. In Yosemite and Yellowstone and others, more than a hundred million people - escaping one another in the cities - rubbed shoulders with one another in what they thought would be the woods. Indeed, the search for leisure, the search for some sort of solitude has become an ordeal."

* * *

ALDO LEOPOLD in "A SAND COUNTY ALMANAC".

In measuring the value of recreation, we are so obsessed with the numbers who participate that we forget all about the intensity or quality of their experience.

No man is wise enough to say at just what point loss in quality of recreation outweighs the gain in quantity, but any man with half an eye can see on which side of this scale official leadership should throw its weight. From now on it is quality not quantity which needs the attention of any far-seeing administration.

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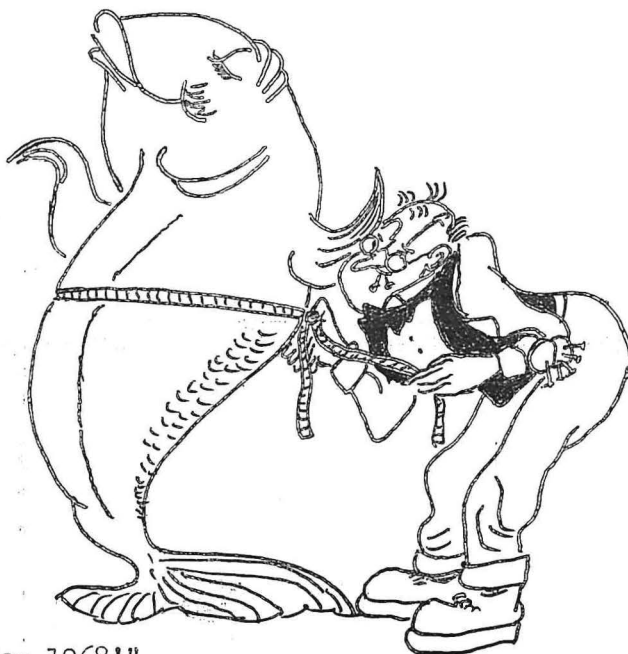
"Extracts from the December 1967 issue of "Wildlife Review."

WEDGE-TAILED EAGLE OBSERVATION

Recently a Wedge-tailed eagle was observed at the Tuttanning (East Pingolly) Reserve, carrying and then dropping of what appeared to be the hindquarters of a Bettong. An examination made by staff of the Zoological Department, University of Western Australia established that they were the hindquarters of a Tamar.

Mr. J. Sampson of the Zoological Department, in commenting on these remains being dropped by the Wedge-tailed eagle found this to be very interesting. He said that he would not expect the eagle to be able to kill a Tamar of this size, and so presumed that it was a Tamar that died from other causes and the bird was clearing up the remains.

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"Easter Greetings to all for 1968!"