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DEPARTMENT OF FISHERIES AND FAUNA
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MONTHLY SERVICE BULLETIN

DUCK SEASON TO OPEN LATE

The Hon. Minister for Fisheries and Fauna, Mr. G. C. MacKinnon, recently announced the change in the opening day for the wild duck shooting season.

Acting on the recommendations of the Fauna Protection Advisory Committee and departmental research staff, Mr MacKinnon accepted in principle that the opening date be set on a biological basis rather than on tradition.

The Director, as Chief Warden of Fauna, recently issued an open letter to farmers, naturalists, duckshooters, nature lovers, sport store owners and others, outlining the reasons for the change. This letter is published in full below:-

Dear Friends,

Changes have to be made to the traditional duck shooting season.

DUCK STOCKS OVERALL ARE LOW: Don't be misled into doubting this should they happen to be more plentiful in your district at the moment. Ducks are never evenly distributed.

Our experts have looked at the situation on a state-wide basis. They have made surveys by land and by air and they report: "DUCK STOCKS ARE DOWN."

THEY ARE DOWN BECAUSE -

* approximately 500,000 acres of prime waterfowl wetlands between Perth and Busselton have been drained;

* vast areas of what were undisturbed refuges have been exposed to all types of human disturbance through agricultural development in the last few years.

WE CANNOT TURN THE CLOCK BACK.

We cannot return the wetlands to the waterfowl!

BUT WE CAN -

(a) Reduce mortality by avoiding the destruction of parent and immature birds, eggs and clutches of young, which occurs when the season opens too early.

(b) Save remaining wetlands by better land use.

(c) Purchase key areas with moneys from the FAUNA CONSERVATION TRUST FUND which is to be financed by a Game Licensing system.

(d) Rehabilitate spoiled areas such as salt flats, uselessly drained or cleared and eroded land.

(e) Improve the fauna carrying capacity of farm lands by fencing sections of dams, distributing nesting boxes, and planting trees, shrubs and other cover and food plants.

(f) Improve existing habitat by damming creeks and other run-offs to create more wetlands and by blasting potholes in potentially productive flats that now dry out too soon.

The Fauna Conservation Trust Fund will provide funds for most of this work.

Delaying the opening of the season and abolishing the dual opening are just the first steps of a new, real conservation programme of which the game license will be the key. We and the ducks need your co-operation to set this programme in gear. Everyone who buys a license will participate in this programme.

DON'T FAIL THE DUCKS! SUPPORT CONSERVATION.

Sincerely yours,

A. J. Fraser,
CHIEF WARDEN OF FAUNA

The 1968 duck shooting season will open at 2.00 p.m. on January 20 and close at midnight on April 30.

The season will apply to all the South-West and Eucla Land Divisions, thus abolishing the separate opening for the dairying districts.

PROTECTION ACT AMENDMENT

FAUNA BILL GOES BEFORE PARLIAMENT

A Bill to amend the Fauna Protection Act and retitle it as the Fauna Conservation Act was presented to Parliament by the Minister for Fisheries and Fauna, Mr. G. C. MacKinnon on September 20.

As this Bulletin goes to press the Bill is in the second reading stage and no indication as to when it will complete its passage through Parliament can be given.

However, it is anticipated that the Fauna Officer will outline the provisions of the Fauna Protection Act Amendment Bill at the Annual Staff Conference. If the Bill shall by then have passed through Parliament an outline of the Fauna Conservation Act will be given.

TUNA SURVEY

The ninth in the current series of aerial surveys was flown between August 14-22.

Comments:

Water colour conditions during this survey were similar to those observed in July. Muddy conditions still prevailed in the Broome-Cape Leveque area and it is assumed that these conditions were caused by strong tidal currents.

Current lines were similar in occurrence and areas to those observed in July.

Weather conditions were satisfactory for spotting except in the Carnarvon-Fremantle zone where winter weather conditions affected spotting adversely.

Fish school sightings on this survey were the lowest of all surveys to date. The disappearance of the large fish in July now seems to have been followed by the medium- and small- sized fish except for a few schools sighted in the offshore area between Port Hedland and Nickol Bay.

The charts (see Page 4) show the tracks flown and the numbers of fish schools sighted.

Table I summarises the sightings of schools by size and area; Table II gives an analysis of the size composition of the schools sighted; Table III summarises the number and size of bait schools sighted.

PROPOSED NATIONAL PARK TO INCLUDE PART OF DALES GORGE RESERVE.

A proposal to establish a national park at Dales Gorge has revealed that the reserve vested in the Fauna Protection Advisory Committee does not include the main part of the gorge or the tourist facilities.

Examination of aerial photographs has placed the Waterfall, Circular Pool, Garden Falls and nearby tourist features outside the 58,400 acre fauna reserve.

These features are intended to be included in the proposed National Park which will be contiguous with the Fauna Reserve.

Table I

Outward Flight (School Sightings)				
Area	Small	Medium	Large	Total
Fremantle-Carnarvon	-	-	-	-
Carnarvon-Onslow	3	1	-	4
Onslow-Pt. Hedland	3	1	-	4
Pt.Hedland-Broome	-	6	1	7
Broome-Broome(Outer)	7	1	2	10
Total	13	9	3	25

Inward Flight (School Sightings)				
Small	Medium	Large	Total	Area
-	-	-	-	Broome-Pt. Hedland
23	8	1	32	Pt. Hedland-Carnarvon
-	-	-	-	Carnarvon-Perth
23	8	1	32	Total

Table II

Fish Size*	School Size			
	Small	Medium	Large	Total
Small	9	12	1	22
Medium	20	8	2	30
Large	2	2	1	5
Total	31	22	4	57

* Small - 15 Lbs
* Medium - 15-40 Lbs
* Large - 40 Lbs

Table III

Bait Schools Sighted	
Small	181
Medium	19
Large	-
Total	200 +

THE CANNING OF SHRIMP

The Robinson Canning Company of New Orleans is one of the worlds largest producers of canned shrimp.

Assembly line methods streamline the canning process, stripping shrimp of their shells, sorting, cooking and canning. Over 500 trawlers supply the 60,000 pounds a day capacity cannery at Westwego Louisiana.

The following is a short description of the shrimp canning process used by Robinson Canning Co., Inc. derived from their publication "Shrimp Canning" New Orleans, (October, 1965).

The canning of shrimp began in New Orleans in 1867, then a cannery was started in Galveston, Texas, in 1879, and another in Biloxi, Mississippi in 1880. It has since expanded into a world wide industry.

Delivery of the catch to the cannery is made from various ports and therefore much of it is transported by motor trucks.

At the cannery the shrimp first pass through a washer and de-icer, then over an inspection belt. Decomposed and diseased shrimp as well as extraneous matter, are removed.

Following this, weighing of the shrimp is accomplished. Shrimp are purchased in units of weight known as a "barrel", i.e., 210 pounds of heads-on shrimp or 125 pounds of headless shrimp. Though the price of shrimp varies with market conditions the larger shrimp always bring more than small shrimp. From the weighing scale the shrimp proceed to the picking department.

Picking (removing the heads and hulls) is a completely mechanical operation involving the use of three machines. As the shrimp travel through the first machine the head and hull are removed. Then the shrimp go through a second machine which removes remaining bits of shell and legs. The third machine separates the waste from the shrimp meat, allowing only the meat to proceed to the next depart - ment. The waste material, the heads and hulls, is dehydrated and ground - the resultant product is sold as an ingredient for feed or fertilizer manufacture.

As the shrimp come from the picking department they pass over an inspection belt where a final quality check of the raw shrimp is made. Following inspection, the shrimp go to the blanching department - either directly or after being diverted to the deveining machines which remove the back vein.

The next step involves the blanching of the shrimp ... the initial cooking of the shrimp in a boiling saline solution. The length of the cook varies depending upon the size and condition of the shrimp. Blanching accomplishes three things: (1) the curling of the shrimp, (2) the extraction of water and solubles from the shrimp, and (3) a change in colour from the natural pigmentation to the familiar pink or red.

Following the blanch the shrimp are graded and cooled - cooling occurring both before and after grading. Six sizes (tiny, small, medium, large, jumbo, and colossal) are obtained by grading.

The post-grading operation involves a careful check to ensure that the shrimp are free from bits of hull and other extraneous matter. Simultaneously the broken pieces are culled from all grades and are packed as a separate item known as Broken Shrimp. At the same time, the shrimp are checked for size and any shrimp not properly graded by the machine are placed in their proper group.

The packing operation is the next step. Shrimp are packed by hand, each can being filled to an exact weight. Like other items, canned shrimp must meet a drained weight requirement. The put-in weights, i.e., the amount of shrimp by weight, varies for each size of shrimp and in relation to the length of time of the initial blanche.

Following the packing operation, the cans move by conveyor to the closing machines, and while travelling to the closing machines a hot saline solution is added. This solution is added at high temperature immediately prior to closure, thus effecting a good vacuum within the sealed cans.

Following the closure of the cans comes processing - shrimp are processed for 12 minutes at 250° F. Immediately following the process the cans are cooled to less than 90° F.

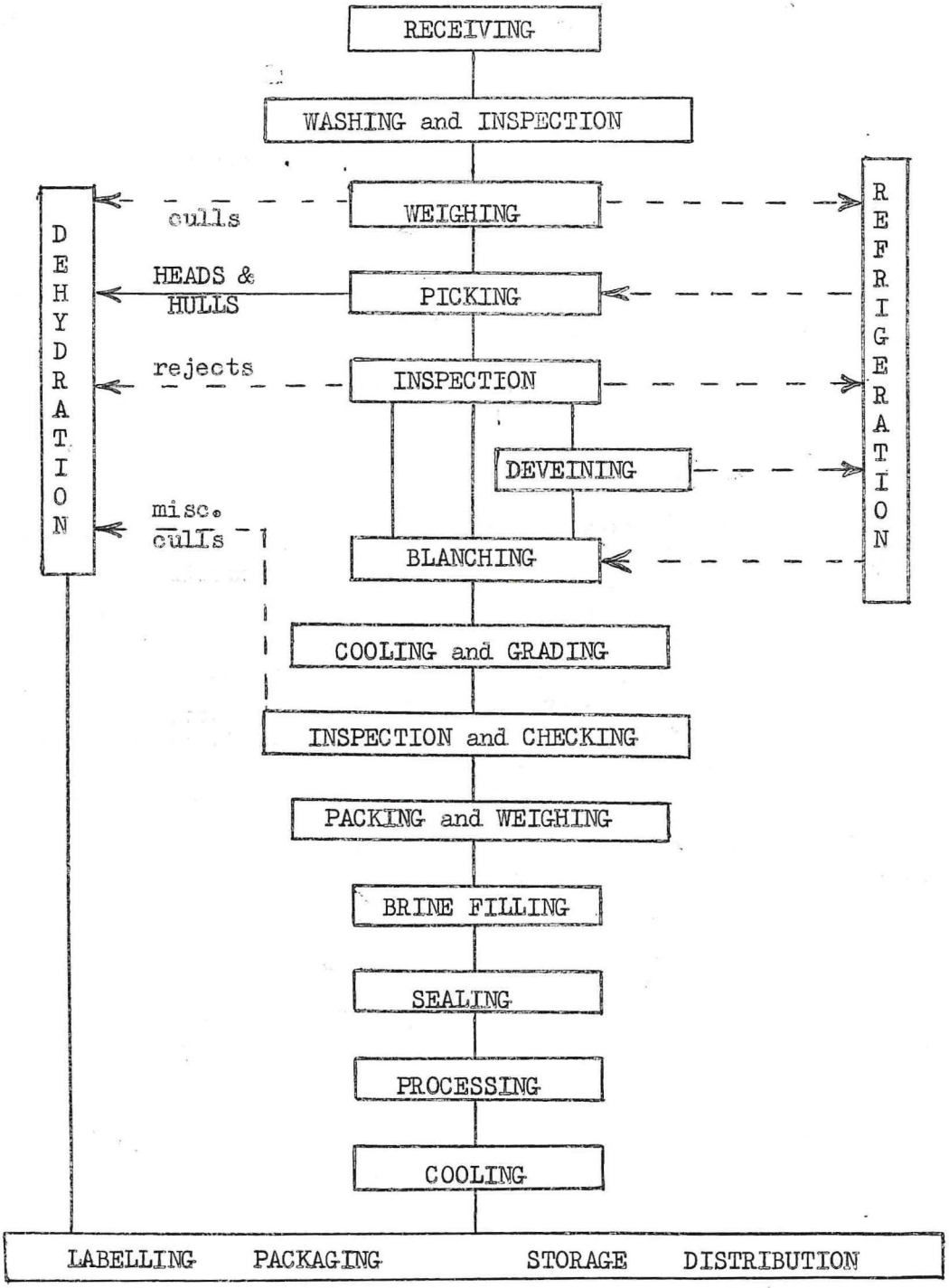
Labelling, packing, storage, and shipping are all handled in a warehouse adjacent to the cannery. A unique feature of this warehouse is the mechanical cooling system which is employed to keep the finished product at a constant storage temperature - thus ensuring the quality.

NEW RESEARCH VESSEL NAMED

The Minister for Fisheries and Fauna, Mr. G. C. MacKinnon when deciding to name the new research vessel 'Flinders' continued with the practice that has grown up in recent years. Most of the Department's recent additions of sea-going craft have been named after men who have played a major role in Western Australian waters.

A thumb-nail sketch of Mathew Flinders (1774-1814) shows that he was a navigator extraordinary, hydrographer and scientist. He circumnavigated Australia and proved the fact that Australia was not two large islands as some people had imagined. He also surveyed the south coast from Port Phillip Bay to Cape Leeuwin.

FLOW CHART - SHRIMP CANNING



STAFF NOTES

Marriages were to the fore on the September social calendar.

The marriage of Assistant Inspector Peter Pennings to Josephine Shuts, of Manning, took place on Saturday September 9. May we take this opportunity of extending our congratulations and best wishes to both.

* * *

Miss Beth Smith left the Department on September 22, after receiving farewells and best wishes at a small function in the Director's office.

Beth was married on September 28 to Ian Wright and they will shortly take up residence in their new home at Armadale.

* * *

Our congratulations to Mr. Kurt Ammerer who was promoted to the position of Senior Clerk, C-II-3, during September, as a result of a successful appeal to the Promotions Appeal Board. The position was vacant following Bob Baker's transfer to the Mines Department.

The editing of this Bulletin will be taken over by Mr. Ammerer as from the November issue.

* * *

It has been decided to transfer Mr. Pat Mahoney to Mr. Ammerer's position in Prosecution and Training. Mr. Mahoney's position in the Development and Publicity and Extension sections will then be advertised as vacant.

* * *

Cadet Inspectors John Neal and Richard Silbert were both promoted to the position of Assistant Inspector during September.

* * *

Senior Research Officer (Development) J.P. Robins and Technical Officer K. Godfrey left Perth on September 22 to continue the tuna aerial survey in the North-West.

Conditions are expected to be slightly better than those experienced during recent surveys.

* * *

HELICOPTER FISHING IN NEW ZEALAND

Helicopter fishing has been pioneered by a New Zealand fishing firm, and early reports suggest that it could be a profitable commercial proposition.

The company, Marine Helicopters Ltd., of Onehunga, Auckland, is using both nets and long lines and is the brain child of Mr. Max Barrow, 38.

It came about when he was carrying out aerial spraying and noticed shoals of fish in shallow waters. He took out a commercial fishermen's license to occupy himself in his "spare time".

After a while Mr. Barrow found that he was soon catching so much fish that he could not get them all into his small boat. His mind turned to helicopters.

The company started with one helicopter a year ago, and now has two. Both are capable of carrying loads of about 450 lb. but Mr. Barrow is considering using larger helicopters.

Using the helicopter system the company has produced a weekly total of seven tons of smoked fish and 30,000 packets of sprats.

Nothing Wasted.

Most of the smoked fish is mullet. The gut is packaged and sold as fish bait, and there is a possibility that the fish blood could be used as poultry food.

The helicopters can lay a mile of line in 3½ minutes, and about 15 lines an hour. They can shoot 1000 yards of line in one operation.

With netting, a conventional type net is carried in a pot on the side of the helicopter and a weighted end is lowered on land with a buoy off shore.

The helicopter then flies sideways and pays out the net. The usual length is about 1000 yards. When the helicopter flies over the fish they usually try to escape and swim into the net.

A dory is then lowered and a fisherman works along the net transferring the fish into a ring net. A radio telephone keeps him in touch with the helicopter.

Fast Working.

When each ring net is full, the helicopter picks it up and takes it ashore where it is emptied into an ice-filled trailer with 2½ ton capacity.

The helicopter normally takes about two minutes to pick up each net and take it ashore. Mr. Barrow says that the fish recover when taken from the gill net and are kept alive until the last possible moment.

In long lining, the helicopter uses a mile long line. One end goes to a winch while the rest of the line, with baited hooks, is fixed on trays at the side of the helicopter.

Mullet are smoked in a smoker designed by Mr. Barrow - which cooks and smokes the fish in the one operation. The sprats are packaged for cat food.

The factory uses "throw away" plastic baskets instead of wicker baskets, and each night the factory is steamed out to remove odours.

Samples of the firm's products have already been sent to Australia, and Mr. Barrow is hopeful that he can establish a market.

Mr. Barrow claims that a helicopter is cheaper to operate than a trawler because it can get to the fishing spot and away from it much more quickly.

It can also be used for other work. He prefers long lining to trawling because it enables his firm to catch the fish they are after, if they're big enough to bait.

He envisages the day when his helicopters will lay up to 200 miles of line and retrieve them.

(Australian Fish Trades Digest August 1967.)

OTHERS TAKE UP THE CHALLENGE

Crayfishermen not to be out done are also looking to helicopters as a means of laying and retrieving craypots.

Southern Sea Harvest Ltd. recently commissioned Alexander Helicopters Ltd., of Wanganui, to undertake crayfishing by Helicopter off the Cape Egmont coast at Pihama, South Taranaki, New Zealand.

The helicopter operates from farms on the coast using crayfish pots specially designed for the work and measuring 8 ft. by 6 ft. by 3 ft.

The pilot and his assistant are capable of picking up 10 pots, landing, emptying them and relaying them in about 30 minutes.

The experiment is considered exploratory and an assessment of the economic potential is not yet possible.

(Australian Fish Trades Digest August 1967.)

PRAWN RESEARCH OFFICER RETURNS FROM OVERSEAS

Mr. R. J. Slack-Smith returned to Perth during September after several weeks overseas visiting various prawn fisheries in addition to attending the F.A.O. World Scientific Conference on the Biology and Culture of Shrimps and Prawns in Mexico City.

Since our earlier report on Mr. Slack-Smith's tour in this Bulletin, he has visited many other prawn fisheries.

A visit was paid to the Torry Laboratory at Aberdeen, Scotland. He then flew to Rome where he discussed prawn data collecting with the F.A.O. fisheries personnel.

During a visit to the Arabian Gulf country of Bahrain, Mr. Slack-Smith advised and assisted in setting up a prawn log book and research program for Ross Fisheries Pty. Ltd. Middle East.

From Bahrain he travelled to Thailand where discussions were held with government authorities in Bangkok on data collection. Mr. Slack-Smith also inspected the Thailand Government's new oceanographic research boat prior to leaving for Perth.

MAINTENANCE OF DEPARTMENTAL BOATS

Officers in charge of all Departmental vessels are reminded that all submissions in relation to maintenance of vessels must be forwarded to the Fleet Maintenance Officer, Department of Fisheries and Fauna, Fremantle.

Adherence to this procedure will help to expedite repairs and maintenance. In addition it will greatly assist Mr. Bateman in the allocation of priorities and will mean quicker service for all vessels.

PUBLIC SERVICE COMMISSIONER AGREES TO 10% SEA ALLOWANCE FOR MASTERS, ENGINEERS AND MATES

The Public Service Commissioner has agreed to the payment of an allowance of 10% on gross salary to Masters, Engineers and Mates while at sea in departmental vessels.

Those officers concerned have been advised direct of the procedure to be adopted in making claims for time spent at sea.

The allowance is operative as from July 7, 1967.

THE TORREY CANYON OIL DISASTER

An article by Peter Conder, Director, the Royal Society for the Protection of Birds, in the April/June issue of the IUCN Bulletin, graphically describes the disastrous effects of the sinking of the Torrey Canyon oil tanker off the coast of Cornwall in March 1967.

Carrying 117,000 tons of crude oil the Torrey Canyon struck the Seven Stones reef between the Isles of Scilly and the coast of Cornwall on March 18, 1967.

By March 20, approximately 30,000 tons of oil had seeped into the sea from the stricken vessel. Within a week the ship began to break up discharging a further 30,000 tons of oil into the sea. The Royal Navy and Royal Airforce bombed the ship on March 28 in order to set on fire the oil remaining in her.

Mr. Conder describes the feverish activity by Government and other organizations in their endeavours to preserve the coast from oil pollution.

"Local Headquarters for Government action was established at Plymouth in charge of Mr. Foley, Parliamentary under Secretary for Defence for the Royal Navy, and initial Government expenditure of up to £500,000 was authorized. All the armed services were involved; the army in spraying the beaches; the navy and air force in spraying the sea and in providing an early warning system of oil spread. In addition the air force provided helicopter flights for scientists."

"A working party of scientists was set up under the government Chief Scientific Adviser to consider the scientific problems involved, including the reduction of the biological hazards to marine, shore and bird life for both oil and detergents. This working party established liaison with nation and local wildlife organizations and Mr. Duncan Poore of the Nature Conservancy and I were asked to co-ordinate the official and voluntary measures necessary for protecting wildlife and the conservation side."

The responsibility for cleaning oiled sea-birds and their rehabilitation was undertaken by R.S.P.C.A. and R.S.P.B. The Nature Conservancy and B.T.O made the scientific assessment of the damage.

The Nature Conservancy submitted a list of sites of special scientific importance and of fishery interest in the threatened area.

The list also included sites in which the use of detergents for cleaning oil would seriously harm other forms of wildlife and where decontamination by bulldozing shorelines or destruction of oil by burning required scientific guidance.

Oiled sea-birds began coming ashore in large numbers on March 25. The R.S.P.C.A. had much experience in the past in handling sea-birds and set up eleven cleaning stations in Devon and Cornwall, and the R.S.P.B. set up four rehabilitation centres, but in the event only two of them were needed.

According to an R.S.P.C.A. report on April 17, a total of 5811 sea-birds were taken alive from the sea and 2038 dead. A proportion of the sea-birds taken alive had to be humanely destroyed almost immediately, but the remainder were cleaned, but even so, about 90 per cent died within a week or so, and at the time of writing less than 400 birds still survive. The number of birds taken alive or dead round the British coast were 6355 Guillemots, 1384 Razor-bills, 42 Puffins, 41 Shags, 18 Great Northern Divers and a few Gannets. Black-headed Gulls, Great Skuas, Black-backed Gulls and Herring Gulls.

An immense amount of help from volunteers, of gifts of rags and cleaning materials, and gifts of money, were received. The World Wildlife Fund sponsored an appeal on behalf of the R.S.P.C.A. and R.S.P.B., and the total amount collected by the Fund and independently by the R.S.P.C.A. and R.S.P.B. probably amounted to nearly £50,000 Stirling. This figure also includes a gift of £5,000 Stirling from the British Government to the fund which was to be used

towards the cost of cleaning birds. After the cost of cleaning birds has been deducted it is hoped that the remaining money will go towards solving the problems of oil pollution, both by detailed research and by supporting political action.

The total death role is not yet known, but the minimum figure has been given at 10,000 birds. The real figure may never be known. The after effects of detergents on shore life and the food of birds is still being assessed and the effects on the total biomass might be as great as the deaths from oil.

ALL THIS HAPPENED BECAUSE THE CAPTAIN OF THE TORREY CANYON, TO SAVE 29 MINUTES, TOOK A SHORT CUT BETWEEN THE ISLES OF SCILLY AND THE MAINLAND.

DEPARTMENT OF SHIPPING AND TRANSPORT WARNS MARINERS

Published below is the text of an emergency notice issued by the Department of Shipping and Transport concerning Seismic Survey misfires on the West coast.

All Officers attached to Departmental Vessels should study closely the report which reads:-

"Mariners and others are warned of the following dangers due to possible misfire of explosive charges.

1. Occasionally a charge misfires and if unnoticed can be left suspended below the surface on a short length of line attached to a plastic inflated type coloured baloon.

2. The baloon will normally lose its buoyancy after a period of time and the cannister containing the explosive should sink to the sea-bed.

3. If this does not occur the cannister approx. 4½" dia. by 18" long is designed to desintegrate after 10 hours immersion in water.

4. The cannisters vary in colour from red to yellow, blue, green and grey and contain ammonium nitrate explosive.

5. If one of these objects is sighted it should not be touched but the position reported immediately to Regshiptrans, Perth or the Police or Harbour Master at the arrival Port."

TECHNICAL OFFICERS STUDY WITH AUSTRALIAN ANIMAL TECHNICIANS ASSOCIATION

Six Technical Officers from the Department have undertaken the Australian Animal Technicians' Association introductory course prior to enrolment in the Animal Technicians course to be conducted at Leederville Technical School in 1968.

The Officers concerned are:-

D. WRIGHT

E. BARKER

G. CLIFFORD

P. WOOD

D. MUNRO

P. RUMKORF.

Each is to be congratulated on his initiative in undertaking this course in his own time.

All have already returned excellent results in tests being conducted as preliminaries to the final examinations.

We wish them every success both in this year's examinations and in the course which starts in 1968.

Information concerning the course and syllabus was published in the July, 1967, issue of this Bulletin.

THE ROLE OF AVICULTURE

IN HELPING TO SAVE THREATENED SPECIES

by PHILIP WAYRE

In the face of the current human population explosion throughout the world little of the earth's surface will for long remain undisturbed by man. The constant and mounting need to provide more food can only lead to an ever increasing rate of destruction of natural habitat and with it, all forms of wildlife.

If nothing can be done to curb the present rate of man's reproduction all over the world, the cause of nature conservation is already lost and its supporters are only fighting a rearguard action.

In such a situation every means of saving those species of birds threatened by man's activities should be fully exploited and modern aviculture provides a tool which should surely be used whenever necessary. Of the 179 bird families covering all species existing since 1600 A.D. representatives of more than 75 families have been bred in captivity and this number could no doubt be increased. This should not be taken to imply that all the species of those 75 families breed freely under captive conditions but it does mean that given suitable conditions the majority can be bred.

Certain families especially the Anatidae and the Phasianidae have long been successfully propagated by aviculturists and the saving of the wild population of the Ne-ne Goose Branta sandvicensis by birds bred at the Wildfowl Trust and in America, is well-known. Similar success seems likely with the Laysan Duck, Anas laysanensis which is being bred in a number of collections in Britain and America. The wild population of Laysan island is believed to fluctuate between 400 and 600 individuals but disaster in one form or another could easily overtake such a small and concentrated group, so the gene bank provided by the captive stock is of considerable importance as an insurance.

Although adequate numbers of Swinhoe's Pheasant Lophura swinhoei remain in collections this species is known to be extremely rare in its native range in the island of Taiwan and is threatened with extinction. Over 150 individuals have been bred at the Ornamental Pheasant Trust at Great Witchingham since 1959 and an initial consignment of 30 birds is being presented by the Trust to the Taiwan authorities for release on Mount Alishan to reinforce the depleted wild population. The birds will be sent by air from Britain in the spring of 1967 and it is hoped that further consignments will follow. The Trust is carrying out similar work with the rare and decreasing Mikado Pheasant, Syrmaticus mikado, also confined to Taiwan.

Of the fifteen species of pheasant in the I.C.B.P. Red Data Book list of endangered birds, six are being regularly propagated at the Trust and it is planned to build up their numbers to a point where captive birds can be used to augment or re-establish the wild populations in their native lands or, where this is impracticable due to the destruction of the habitat, to re-establish the species in a suitable alternative environment.

The release of birds bred in captivity presents fresh problems if they are to have a reasonable chance of survival in the wild. In the case of pheasants work is being carried out by the Trust to discover the most satisfactory methods. It seems to be essential for the birds to be conditioned before release either by being turned down, full winged in a predator free environment, such as a small island, where they can be fed artificially until they have learned to find their own food, or by being brailed or wing clipped and kept in a really large enclosure for several months. Whichever method is employed they must be penned again in the place of their ultimate release for several weeks and in the case of wing clipped birds it is best to confine them in an open enclosure until their feathers have moulted and they are able to fly out over the top. Even then hand feeding in the immediate vicinity may have to continue for some time depending on the local food supply.

Work carried out by the Eley Game Advisory Station at Fordingbridge with pheasants reared for sporting purposes would seem to confirm these methods.

The serious decline of birds of prey and owls throughout the world is causing widespread concern and while they are not amongst the easiest birds to breed in captivity, success has already been achieved with some of the owls. The excellent work of Dr. Kai Curry-Lindahl and his colleagues in re-establishing the European Eagle Owl, Bubo b. bubo in Swedish forests, using birds bred in captivity, has shown what aviculture can do in this field. Dr. Curry-Lindahl and his team have evolved a method which overcomes many of the problems associated with the release

of these birds. All owls seem to be dependent upon their parents for a long time after leaving the next, in some cases for several months, and it is during this period that they learn how to hunt and catch their quarry. Owls reared in captivity and set free when fully fledged, by well meaning people, almost invariably die of starvation long before they have learned to hunt.

The Swedish method is to built a large aviary in a part of the forest where they wish to re-establish Eagle Owls. In it they put a breeding pair of adult owls and when their youngsters are fully fledged they are released while their parents are retained within the aviary. The young owls are fed daily for at least a month and longer if they continue to return to the vicinity of the aviary. At present they do not wander far but eventually they learn to hunt and their visits to the parental home become irregular; finally they become completely wild and independent. For an operation of this kind to work it is essential that the surrounding territory is ecologically suitable for the birds and that the local human population is sympathetic towards the scheme.

Two pairs of young Eagle Owls bred in Norfolk Wildlife at Great Witchingham have been presented to the Swedish authorities to help their reintroduction plan and a further two pairs are being sent this autumn (1966) seven young having been bred in the Wildlife Park this summer.

The Barn Owl, Tyto a alba has decreased over much of its British range within the past decade and efforts are being made to breed it at the Wildlife Park. Three were bred this summer and once a number of breeding pairs has been established their young will be released to build up the wild population employing the same methods as the Swedes with their Eagle Owls.

While owls seem to be reasonably amenable to captive conditions the same cannot be said for most species of hawks and falcons. However, an attempt is being made at the Wildlife Park to breed Goshawks (Accipiter g. gentilis) in captivity with the view to providing a nucleus of young birds for reintroduction purposes.

In 1964 a large aviary was built round mature hazel trees in the middle of a spinney. It is 20 metres long 5 metres wide and 4 metres high and is in the shape of a figure 8 with a removable partition across the narrow part. One section is considerably larger than the other. In February 1965, a pair of Goshawks which had been trained for falconry and were kindly loaned for the experiment by their owners Messrs. K. Nicholas and J. Bamber, were put into the aviary. Fearing that the much larger female might kill the male, as so often happens with birds of prey in captivity, each was put in a separate section. It was intended that the centre partition should be removed as soon as signs of courtship display had been noticed. Nothing was observed until the female was discovered incubating a clutch of four eggs on April 25. The eggs were removed and two days later the partition was taken out, a watch being kept for the remainder of the day from a hide nearby, but the birds took little notice of each other.

On May 16 the female began to incubate her second clutch and the male carried food to her every day. After sitting for 25 days the female left the nest and both eggs of the clutch were found to be clear, presumably because the birds had not been united early enough in the season. This year the female lined two nests and appeared to be about to lay when an exceptionally cold spell stopped her and no further breeding took place. This project has been largely financed by Dr. G. F. Foley, a keen falconer.

Of the falcons both Kestrel Falco t. tinnunculus and Lesser Kestrel Falco n. naumanni have laid eggs in the Wildlife Park but so far young have not been reared.

Many members of the Passeriformes have for long been successfully bred by aviculturists all over the world and it is in this order that aviculture has the largest scope as a tool of the conservationist. Not only can a species be propagated under captive conditions but scientific study of a kind quite impossible in the wild can be made. There is still much to be learnt about the requirements of many species and the best methods of re-establishing aviary bred specimens in the wild. In the light of our present knowledge it seems likely that once again the best way is to release the young birds soon after they are able to feed themselves and to continue to provide food for them in the vicinity of their parents' aviary for some time.

We are grateful to the editor of the Fourteenth Annual Report of the International Council for Bird Preservation for permission to reproduce this paper.

(Ornamental Pheasant Trust Annual Report 1966. Norfolk)

EDITORS NOTE

The author of this article, Mr. Philip Wayre, is the Director of the Norfolk Wildlife Park at Great Witchingham and of Norwich in Norfolk, England.

The Fauna Officer, Mr. Shugg, who spent two days as Mr. Wayre's guest at the Park during his study tour in 1966, described it as an outstanding example of what a private zoo should be in terms of design, management and policy.

As this article reveals, Mr. Wayre has a conservational approach to aviculture that lifts it from the hobby level to the heady altruism of saving rare species from extinction. The Park is also a very successful economic venture.

FISHERY AID TO SOUTH VIET-NAM

The United States agreed to contribute U.S. $2,012,000 to the Food and Agricultural Organization under the Freedom from Hunger Campaign for assistance to a United Nations Development Program (UNDP) Fisheries Project in South Viet-Nam.

Under the agreement, the United States contribution will help expand the scope of the project which FAO is carrying out for the UNDP at the request of the Vietnamese Government. Recent experience in the South China Sea has indicated that a great increase in the fish catch would be possible if traditional coastal operations of the Vietnamese fishing industry could be modernized and expanded to include deep-water operations. Since fish provide a large portion of the protein in the Vietnamese diet, this project could result in a much needed improvement in the food supply of the average South Vietnamese.

The original UNDP project, calling for $1 million from the Special Fund and $336,000 as the Government of Viet-Nam's counterpart contribution, consisted of coastal surveys and feasibility studies. The United States contribution will enable the project to be enlarged to include investigations and feasibility studies for offshore and high-seas operations. It will enable FAO to pay for the charter of a deep-water trawler, necessary equipment and personnel, including a UN expert. The Netherlands is also planning to contribute to this enlarged project.

(Press release. U.S. Department of State, May, 1967.)

AUSTRALIAN EXPORTS OF SPINY LOBSTER TAILS OFF IN 1967

Australian exports of frozen spiny lobster tails for the nine-month period ended March 31, 1967, totaled 7.3 million lbs., worth US $12.6 million — a drop of 6.4 per cent in quantity and 15 per cent in value as compared with the same period in 1965/66.

Exports from five states during the nine months to March 31, 1967, were:- Western Australia 5.3 million lbs. (2 per cent more than in the same period in 1965/66), Victoria 1 million lbs. (up 1 per cent), South Australia 600,000 lbs. (down 30 per cent), Tasmania 400,000 lbs. (down 20 per cent), and New South Wales 100,000 lbs. (down 50 per cent).

("Australian Fisheries Newsletter," Canberra. June,1967)

ASPHALT WINS AGAIN

The axe finally fell in Meriden, Connecticut this summer. A small group of citizens had been trying to save their Hubbard Park from the relocation of Route 6 A which will slice right through it. The state Supreme Court rules in favour of the Highway Commission. Three parks all within the city limits of Meriden will be affected by the new highway. The City Council of Meriden had approved the plan, so not only were the opposing citizens doing battle with the state government but with their own local government as well. Apparently, enough citizens did not particularly care.

There may in fact have been overwhelming justification for this project. But more and more these days we find that the automobile with its natural byproduct - highways, carries a mighty big club. We're not anti-car by a long shot. Without our modern, comfortable, high-speed autos very few hunting and fishing trips could be made. Unfortunately that happening up in Meriden is occurring far too frequently in recent years. Many cities in Connecticut and all of eastern U.S. for that matter, find themselves in the crossroads region of the new "super-city" that will soon extend from Maine to Florida. The question that keeps cropping up in the minds of those of us who watch these things is "when do we start forcing the highway builders to go around certain obstacles instead of right through them?" Current thinking among the road makers seems to be if there is a piece of greenery left in any populated area, let's figure out a way to go through it. They defend this policy by pointing out that it's much cheaper to buy right-of-way across so-called "idle" land than it is to relocate residence and apartment buildings. This may well be so, but should we throw every last chunk of suburban parkland in front of the bulldozer blades? Will it be worth it in twenty years when we have to drive over 100 mines inland from the Atlantic just to see a little patch of trees? There will be other battles fought like Meriden's. Let's hope that we win some of them.

(Field & Stream September, 1967.)

NEW HOPE FOR THE WHALES

At its 19th meeting in London in June, the International Whaling Commission agreed on a quota of 3,200 blue whale units for the 1967-68 Antarctic whaling season. This fell within the limits of 3,100 and 3,500 recommended by the Scientific Committee, and fulfilled the previous year's undertaking to bring the 1967-68 quota below the combined sustainable yields of the fin and sei whale stocks. During the 1966-67 season the actual catch of the four Japanese, three Russian and two Norwegian expeditions in the Antarctic exceeded the quota of 3,500 by 11 units. This represented an increase of 578 fin whales and a decrease of more than 5,000 sei whales over the 1965-66 season, and indicates the serious plight of the sei whales after the savaging of their stocks in two previous years.

The Commission extended the ban on the killing of humpbacks in the North Pacific for a further three years, and extended to the whole of the Southern Hemisphere the existing ban on the killing of blue whales in the Antarctic. It was reported that Peru and Chile had both agreed to stop killing blue whales from their land stations. Once again, however, the Commission failed to record any agreement on the International Observer Scheme, or on proper conservation measures for the whale stocks of the North Pacific.

(Kingfisher - Vol 3 No 2 August, 1967.)

ANOTHER MARSUPIAL REFOUND

The dibbler or western marsupial mouse Antechinus apicalis is listed in Harper's Extinct and Vanishing Mammals of the Old World (1945) and does not seem to have been collected for more than 30 years and is probably extinct. It was rediscovered in January by M. K. Morecombe, a well known wildlife photographer of Western Australia, and is said to be not uncommon in the coastal area, east of Albany, where it was refound. The W.A. Department of Fisheries and Fauna is arranging for a temporary reserve to protect its habitat, and for a survey to establish its full range so that a permanent reserve can be set aside.

(Kingfisher - Vol 3 No 2 August, 1967.)

GONE FISHING!

Some call it work, some call it fun! These words must surely have echoed through the air recently as Freshwater Research Officer, Mr. Noel Morrissy was seen casting a line into a dam near Waroona.

Mr. Morrissy in the course of his research programme caught five colossal fighting rainbow trout weighing $4\frac{3}{4}$, 3, 3, $2\frac{1}{2}$ and 2 lb. and lost many more too big to hold on the 4 lb. line he was using. According to other anglers present, Mr. Morrissy's success was put down to the artificial fly he was using, as compared to the accustomed spinner commonly used in Western Australia. The trout went mad over the fly, and hardly looked at the spinners.

""Noel," whatever it may have been called, it certainly sounded like good fishing."