ARTMENT, WESTERN AUSTRALIA

LY SERVICE BULLETIN

Vol. V , No. 7 . July, 1956.

STAFF NOTES

Mr. B.K. Bowen, of Head Office, has been appointed Research Officer, classification P-II-2/7, as from May 9, 1956. Mr. Bowen is now responsible for the research branch of the Department, and all research and investigational work will be under his control and all technical officers subject to his direction.

Technical Officer L.G. Smith is at present engaged on a mullet tagging programme at Shark Bay.. It is expected that Mr. Smith will return to Perth after the first week of this month.

Inspector A.J. Bateman contracted virus influenze and was off duty for the last few days of June. We were pleased to hear that his illness was not of a serious nature, however, and that he is expected to resume duty on July 2.

Technical Officer J. Traynor commenced three weeks' annual leave on June 25. Inspector H.J. Murray plans to take his annual leave later this month but will first visit Albany on special duties. Inspector A.V. Green will be on three weeks' leave from August 6 to 26, inclusive, during which time Relieving Inspector A.K. Melsom will be in charge of the Albany district.

Assistant Inspector R.J. Baird arrived in Geraldton on June 7, to assist Inspector R.M. Crawford during Inspector B.A. Carmichael's absence. Mr. Carmichael was appointed whaling inspector for the current season and has been stationed at Carnarvon since June 8.

We welcome to the staff Miss M.R. Carter who was, on June 18, appointed temporarily to the vacancy caused by Mr. Bowen's transfer to the Research Division. Mr. I. Bartholomew is acting in Mr. Bowen's previous position of Statistical Officer.

PERSONAL PARS

Dr. D.L. Serventy, Principal Research Officer in the Wildlife Survey Section of the C.S.I.R.O., stationed in Perth, returned to the State on June 29 aboard the s.s. Southern Cross from Cape Town. Dr. Serventy had been abroad for twelve months on study leave. He was stationed mostly in London, with an Australian colleague, Dr. A.J. Marshall, who is head of the Department of Zoology and Comparative Anatomy at St. Bartholomew's Medical College, Charterhouse Square. He also visited laboratories and field stations in other parts of England, Scotland and in Europe. He returned home through Africa and made extensive field trips in Tanganyika and Northern Rhodesia with officers of the Department of Agriculture and the Game and Tsetse Department. He also took the opportunity of visiting parts of South-West Africa where special platforms have been installed on the coast to harvest the guano from the myriads of cormorants that feed in the nutrient-rich waters of the Benguela Current.

Dr. G.M. Dunnet, Research Officer of the Wildlife Survey Section, C.S.I.R.O., left Perth by air on June 28 on permanent transfer to Canberra. The quokka studies carried out at Rottnest under Dr. Dunnet's direction will be suspended and may be carried on only as a part-time project or, alternatively, may be taken over by the Zoology Department of the University of Western Australia. In Canberra Dr. Dunnet will, for the time being, continue his research into the ecology of the brush-tailed possum.

WHALING

In June two whaling companies commenced operations off the Western Australian coast. At Albany the Cheynes Beach Whaling Company took their first whale, a female 47'2" in length, on June 8, and the Nor'West Whaling Company, operating from Babbage Island, captured their first whale on June 12. It too was a female, measuring 43'6".

The Nor'West Company is operating four chasers and expects to take its hundredth whale early this month, operations, apparently, being quite satisfactory. The usual predominance of females in the early catch has again been experienced by both companies, particularly the northern one.

It is understood that the Commonwealth Government has granted the Nor'West Whaling Company approval to take 1,000 whales this season, being the combined totals of that of its old station at Pt. Cloates and that of the Carnarvon station, which the company acquired earlier this year from the Australian Whaling Commission. The quota for the Cheynes Beach Whaling Company remains at 120 as in previous years.

MINISTERIAL VISIT TO AMERICA

The Minister for Fisheries, the Hon. L.F. Kelly, will leave for Canada and the United States of America on July 24. Mr. Kelly has been authorised by Cabinet to investigate legislation dealing with mining ventures, particularly oil production, with a view to the introduction of model legislation in this State. He will also inquire into the marketing of craytails, prawns, and other fishery products. He will at the same time seize any opportunity that offers of inspecting various sections of the American fishing industry and investigate the possibilities of expanding the exports of Western Australian products to the dollar bloc.

Mr. Kelly will be accompanied by the Under Secretary for Mines, Mr. A.H. Telfer.

MOVEMENTS OF DEPARTMENTAL VESSELS

The departmental research vessel "Lancelin" reached Fremantle on June 16, after a six months' prawn survey in northern waters. Arrangements have been made for the "Lancelin" to undergo a refit and engineers of the Fremantle Harbour Trust have commenced a major overhaul of her motors. Capt. H.C.W. Piesse and his crew, Mr. C.R.C. Haynes (Mate) and Cadet Inspector.D. Wright, are carrying out the refit preliminaries.

A survey revealed that the p.v. "Misty Isle", which was buffeted and sunk by a gale at Shark Bay last month, fortunately did not suffer very serious damage. After she was refloated, her engine was thoroughly overhauled and tested and found to be unaffected by its immersion in the sea. A shipwright of the Harbour and Lights Department, accompanied by the Supervising Inspector (Mr. J.E. Bramley), will leave for Shark Bay on July 3 to effect repairs to her superstructure, which suffered some damage.

The p.v. "Garbo" remains at Fremantle pending allocation and availability of crew.

CORONER'S REPORT

It will be remembered that the head diver of the Greek pearl diving crew lost his life at Broome last May. In his report, after hearing evidence submitted, the Coroner (Mr. A.L. O'Brien) made the following findings and recommendation :

"(a) That Kristos Kontoyannis died on the 24th "day of May, 1956, at sea off Cape Bossut about 80 "miles south of Broome from asphyxia due to sudden "distension of the lungs which occurred when his air- "line was severed by the propellor of the lugger "Postboy No. B12 from which he was diving.

"(b) That the accident was caused when the lugger, "proceeding at a very slow pace, was forced backwards "by three heavy and unexpected waves, thus fouling the "airline which was in its normal position over the "verandah protruding from the stern.

"(c) That there is no evidence of carelessness, "negligence or inefficiency on the part of the crew.

"(d) It is my opinion that the accident would "have been avoided if a guard had been fitted around "the propellor, and I intend recommending to the "appropriate Department that such guards be made a "necessary requirement."

LARGE YELLOW-EYE MULLET CAUGHT

A report from Inspector S.W. Bowler last month departed somewhat from the normal. Contrary to the usual practice it mentioned the capture of an oversize fish. It was a yellow-eye mullet caught by an angler in the Serpentine River while bream-fishing. It was 18 inches long and weighed 1½ lb.

TROUT EGGS EXPORTED

In response to requests from the Eastern States, 100,000 trout eggs from the Pemberton-Warren Trout Acclimatisation hatchery were flown out of the State on June 25.

The eggs, which were placed on muslin covered trays in a special box packed with moss and ice at Pemberton, were trucked to Perth airport by Technical Officer J.S. Simpson. Before loading onto the plane the excess moisture from melting ice was drained off and the box was repacked with fresh ice.

Twenty thousand eggs were taken out at Adelaide, for the South Australian Fly-fishers Association, and the remainder were flown to Essendon airport, Melbourne, from where they were to be carted direct to the Ballarat hatcheries. A report on their condition on arrival will be awaited with interest.

LOCAL PURCHASE ORDERS

Officers are reminded that their use of local purchase orders to obtain petrol, oil, etc., at Government rates ia a privilege dependant upon the early rendition of duplicate orders. Lately there has been a tendency to neglect to send in duplicates promptly, the result being that there has been an inordinate delay in passing creditors' accounts for payment.

Unless a greater measure of co-operation is forthcoming and duplicate orders sent in promptly, serious consideration will be given to the withdrawal of the privilege.

DISTRICT INSPECTORS' MID-YEAR CONCERENCE

It will be remembered that, at the last conference, it was decided that Mandurah should be the venue of the mid-year district inspectors' conference this year. Due to administrative problems and pressures it has not been possible to set a definite date for the commencement of proceedings as yet but an early decision may be expected. The venue will most likely be changed to Perth.

WESTERN AUSTRALIA'S PEARLING INDUSTRY

A clear picture of the development of the pearling industry in this State is shown in the table at page 91.

Although there was a slight recession in 1952, the steady progress which had been made from 1946, when pearling recommenced with only 9 boats and 86 men after several years' inactivity due to the War, has been well maintained.

It will be seen that the average price obtained for shell increased from £547 a ton in 1951 to £583 in 1952 and £633 in 1953. Since then the price has remained fairly steady at £636 in 1954 and £637 in 1955.

The following figures show a very significant change in the percentage of workers of various nationalities engaged at Broome -

Year	White	Native*	Chinese	Japanese	Malay	Filipino	Indonesian
	%	%	%	%	%	%	%
1951	3.4	14.4	11.9	0	28.3	1.4	40.0
1952	2.8	24.5	11.4	0	34.8	1.1	25.1
1953	5.3	22.2	17.6	14.5	25.2	.76	14.1
1954	3.6	23.9	23.9	12.9	25.8	.33	9.3
1955	5.4	17.1	16.3	29.7	20.3	.28	9.1

* includes half-castes.

PEARLING INDUSTRY, WESTERN AUSTRALIA: 1951-1955

Year	No. of Vessels Engaged	Labour Employed								Pearlshell Produced		Value of Pearls Produced	Value of Boats and Equipment
		White	Native	Asiatics					Total Labour	Weight	Value		
				Chinese	Japanese	Malay	Filipino	Indonesian					
Broome										tons	£	£	£
1951	22	7	29	24	-	57	3	81	201	307	167,932	1,440	99,500
1952	19	5	43	20	-	61	2	44	175	292	170,382	400	79,500
1953	25	14	58	46	38	66	2	37	261	436	276,310	2,025	80,750
1954	28	11	72	72	39	78	1	28	301	544	346,065	2,294	143,500
1955	32	19	60	57	104	76	1	32	349	616	392,717	3,075	197,500
Onslow													
1951	1	1	-	1	-	-	-	6	8	13	6,500	50	2,500
1952	1	3	-	-	-	2	-	4	9	10	6,500	100	3,500
1953	1	2	2	-	-	4	-	-	8	13	8,450	-	3,000
1954	1	2	-	-	-	2	-	4	8	13	9,490	-	3,000
1955	3	4	3	-	5	4	-	1	17	36	20,560	-	11,500

DISTRICT PRODUCTION FIGURES OF WHOLE

Inspectorial District	Australian Salmon	Ruff	Mullet	Y. Eyed Mullet	Jewfish	Snapper
	lb.	lb.	lb.	lb.	lb.	lb.
Albany	4,479,412	532,610	13,542	45,945	1,930	12,273
Bunbury	431,254	93,635	73,183	78,019	65,759	8,837
Mandurah	-	535	158,733	221,386	-	-
Fremantle	1,784	265,920	29,803	7,901	45,060	9,062
Perth	-	-	33,921	9,656	-	-
Lancelin/ Cervantes	-	1,714	34	-	30,572	9,750
Geraldton	-	455	5,936	-	69,297	111,164
Shark Bay	-	2,310	128,185	-	242	1,237,150
Northwest *	-	-	10,338	-	-	6,466
TOTALS	4,912,450	897,179	453,675	362,907	212,860	1,394,702

* Includes all areas north of Carnarvon.

PRINCIPAL COMMERCIAL SPECIES - 1955

WEIGHT

Shark	Sand Whiting	Cobbler	Other Species	Crayfish	Crabs	Prawns	Total
lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
74,533	5,496	55,237	215,342	-	-	-	5,436,32
98,165	16,881	25,494	69,589	671	-	-	961,48
-	27,843	584,750	43,165	-	823	18,608	1,055,84
68,819	11,545	56	101,512	2,677,424	246	23	3,219,15
18	-	8,513	14,767	-	16,694	7	83,57
1,388	50	-	967	4,448,351	-	-	4,492,82
3,526	185	-	17,681	3,993,786	-	-	4,202,03
3,469	261,382	-	92,163				1,724,90
5,311	1,820	-	27,555				51,49
255,229	325,202	674,050	582,741	11,120,232	17,763	18,638	21,227,62

Oysters (Point Samson area) 46,325 dozen.

U.S. STOCKS NATION'S FARM PONDS

The U.S. Government's Fish and Wildlife Service claims that a one-acre pond - well managed, properly fertilised and adequately fished - will yield an annual harvest averaging 200 pounds of fish and provide 400 hours of good fishing.

In the United States, there are more than a million and a half farm ponds of varying sizes but averaging an acre apiece. About 100,000 more ponds are being made each year through soil conservation and water projects.

In 24 States, laws prohibit stocking of farm ponds with fish produced in the State hatcheries. The U.S. Fish and Wildlife Service has been called upon to fill that gap and provides more than 30 million fish, mainly warm water species, for about 28,000 non-commercial ponds in 42 States.

Interest in farm ponds is steadily increasing. The idea, which was first adopted in the south-eastern States where almost half the ponds are located, has spread to other sections of the country where topography and climate makes these small fishing areas practical.

They have a direct value in providing family fishing. At the same time they relieve fishing pressure on natural fishing areas.

"Ponds smaller than a half acre rarely furnish good fishing, but ponds from one to three acres are ideal for the average family and friends. Large fishing ponds require more management, effort and expense; however, they do produce a bigger crop of fish.

To produce enough fish a farm pond must be well constructed on a favourable site, properly stocked, and must receive constant care. Small fishing ponds should be stocked only with hatchery fish of the species, sizes and numbers recommended for the area by biologists.

Promiscuous production of wild fish, either before or after stocking with the approved hatchery fish, is a common cause of poor fishing.

In 1954, the U.S. Fish and Wildlife Service planted 32,800,000 fish in 28,000 ponds of 42 States and the District of Columbia. In one south-western State, Texas, about 4,000 farm ponds were stocked with fish produced at U.S. Federal hatcheries.

During that year, the service distributed a total of 46,000,000 eggs and 164,000,000 fish varying from fry to catchable size.

Of these 58,000,000 were fry and fingerlings of warm water species distributed to farm ponds and nearly 1,200 lakes and reservoirs.

LANDHOLDERS PROTEST

The proposal to establish a national park in the area around Lakes Clifton and Preston met concerted opposition at a protest meeting organised by landholders and held in the Waroona District Hall on June 15. The meeting was attended by Fauna Protection Officer H.B. Shugg, and Fauna Warden G.C. Jeffery, who reported that a misconception of the Department's plans and a fear of resumption were the prime causes of the objections.

The Leader of the Opposition, Sir Ross McLarty, M.L.A., who is the member for Murray, and the member for Harvey, Mr. Ivan Manning, M.L.A., were also present by invitation. On the recommendation of Sir Ross, the meeting elected six landholders to wait on the Minister to put their views and to ask for an assurance that no land would be resumed for a national park in the area without the owner's consent.

FAUNA PROTECTION ADVISORY COMMITTEE

A meeting of the above Committee will be held at Head Office on July 5. Items on the agenda include the proposed national park between Mandurah and Harvey; requests for open seasons for kangaroos and emus in the lower South-West, and for finches in the Kimberley Land Division; the amendment of regulations, and a number of matters of policy.

ARTICLES OF INTEREST AVAILABLE

Further articles likely to be of interest to some inspectors are listed below. By coincidence they all relate to netting and trawling.

(18) "Using the Swedish Bottom Herring Trawl";
(19) "Purse Seine Using Two Purse Lines";
(20) "50 Years of Change in German Herring Trawls";
(21) "Australian Prawn Trawls";
(22) "Comparative Trawling Tests with Manilla and Nylon";
(23) "Expansion of the Polish Fishing Industry".

(all the above are contained in the May, 1956, issue of "World Fishing" published in London.)

(24) "All Nylon Tuna Seine" - "Pacific Fisherman", April, 1956.

CONVICTIONS RECORDED

April 1 to June 30, 1956

Date	Defendant	Court	Charge	Result
29.5.56	Gunn, A.	Albany	Unlicensed	Fined £3
12.4.56	Dagostino, C.	Bunbury	Illegal mesh	" £5
12.4.56	Dagostino, C.	do.	Unlicensed	" £2
7.5.56	Vlasich, S.	Fremantle	U/size C/fish	" £2
7.5.56	Caputi, G.	do.	do.	" £7
7.5.56	Ruby, N.	do.	do.	" £2
7.5.56	Miragliotta, S.	do.	do.	" £5
18.4.56	Tinsley, S.	Harvey	U/size marron	" £2
18.4.56	Bradshaw, E.L.	do.	do.	" £2
18.4.56	Sarteur, A.	do.	do.	" £2
18.4.56	Vivian, J.	do.	do.	" £2
18.4.56	Shearer, W.	do.	do.	" £2

CONVICTIONS RECORDED (Contd.)

April 1, to June 30, 1956

Date	Defendant	Court	Charge	Result
12.4.56	Livesey, J.W.	Perth	U/size C/fish	Fined £3
12.4.56	Fry, E.W.	do.	do.	" £3
12.4.56	Fry, E.W.	do.	do.	" £2
27.3.56	Stewart, E.	do.	U/size fish	" £5
26.4.56	Stewart, G.	do.	do.	" £3
2.5.56	Mawson, D.	do.	do.	" £3
2.5.56	Hause, K.	do.	U/size C/fish	" £3
2.5.56	Peavitis, V.K.	do.	U/size fish	" £3
2.5.56	Harper, A.R.	do.	U/size C/fish	" £3
2.5.56	Mawson, D.	do.	U/size fish	" £3
21.6.56	Nelson, R.	do.	do.	" £3
9.5.56	Okomoto, J.	Pinjarra	do.	" £2
9.5.56	Renfrey, C.	do.	do.	" £5
Fauna Protection Act :				
28.5.56	Ellement. H.J.	Perth	Taking protected fauna.	" £5.

HISTORY OF TRAWLING IN GREAT AUSTRALIAN BIGHT

During 1912 and 1913 the Federal Investigation Ship "Endeavour" completed eight trawling cruises in the Great Australian Bight in the seas broadly between Eyre in Western Australia and the head of the Bight in South Australia. The results were reported by H.C. Dannevig, the leader of the expedition, as being highly satisfactory.

In 1914 the South Australian Government chartered the "Simplon" for a trawling survey in more or

less the same area. For a variety of reasons this undertaking was unsuccessful.

The Western Australian Government in 1920 sent the s.s. "Penguin" on two trawling cruises in waters to the east of Albany. Operations during the first cruise were unsuccessful owing to unfavourable weather; during the second "Penguin" was wrecked on Middle Island, in the Archipelago of the Recherche.

The W.A. Trawling Company, Ltd., from September, 1929, to March, 1930, was trawling off the south coast with s.t. "Bonthorpe". Seven cruises, principally in Bight waters, were made. The venture was not successful. Marketing and mechanical difficulties were the main causes of failure.

In 1949 two trawlers, "Ben Dearg" and "Commiles," operated respectively by Anglo-Australian Fisheries Pty. Ltd. and Anglo-Australian Trawlers Pty. Ltd. (both companies had the same directors and shareholders) commenced operations from Albany, working in the general area Doubtful Island - Eucla. Catches were generally good, and doubtless would have been infinitely better had larger, more modern vessels been employed. Both "Ben Dearg" and "Commiles" were old Fleetwood (England) trawlers which had seen their best days, and almost endless difficulties - mechanical, marketing and frequent crew changes - beset the venture. Operations ceased early in 1952.

There seems to be little doubt that two or three modern oil-burning or diesel trawlers could make profitable catches in the western Bight waters.

QUEENSLAND PRAWN FISHERY

The introduction of trawling methods to the harvesting of prawns in Queensland waters resulted in a substantial increase in that State's production during 1954 and 1955.

Trawlers now operate over the 1,200 miles of coastline from Cairns to the southern border and maintain constant radio contact to keep abreast of the latest fishing information. Although the catch is auctioned through the Queensland Fish Board, the greater portion is subsequently shipped for sale on the better markets available in the southern States.

ISSUE OF COMMONWEALTH LICENSES

Departmental officers will recall that a year or two ago authority was given by the Commonwealth Fisheries Office to certain inspectors to issue licenses under the Federal fisheries laws. Except at one issuing centre no such licenses have hitherto been taken out by fishermen.

Following recent representations to the Premier by the acting Prime Minister, the Minister for Fisheries (Mr. Kelly) has now issued the following directions to the Superintendent -

(a) that he instruct licensing officers to point out to every fisherman applying for a license that if he is working in "Australian waters", the Commonwealth law requires him also to take out a Commonwealth license;

(b) that he instruct licensing officers that, on application being made by any fisherman for such licenses, they issue the required licenses.

Licensing officers will carry this instruction into effect forthwith.

For their information, and that of the fishermen, the term "Australian waters" is defined in the Commonwealth Fisheries Act as meaning -

(a) Australian waters beyond territorial limits;

(b) the waters adjacent to a territory and within territorial limits; and

(c) the waters adjacent to a territory, not being part of the Commonwealth, and beyond territorial limits.

WHALE MARKING EXPERIMENTS IN W.A.

It will be remembered (vide "Bulletin" of September, 1955) that 70 humpback whales were marked from m.v. "Lancelin" in Shark Bay in July and August of that year. One of the marked whales was recovered two days later at a point about 20 miles south. A report is now to hand from the Division of Fisheries and Oceanography, C.S.I.R.O., that another has been captured in the Antarctic by a Norwegian factory ship in position 64° 05'S, 114° 32'E, a point approximately 2,500 miles due south

of the marking area. As the open season for humpbacks in the Antarctic extends over the first five days of February only, it is assumed that the marked whale was recovered in February, 1956.

DUCK BANDING RECOVERIES

As the open season for wild ducks terminated at the end of May, the number of bands returned during June was not great. Unfortunately many people delay sending in bands and recovery information. This results not only in an enforced recasting of our records, but also in incomplete information being submitted as, in the interval between the band's recovery and the reporting of it, specific and vital details are forgotten. All officers are requested whenever possible, to foster public co-operation and the prompt submission of all details when any bands or fish-tags are recovered.

Following are details of the bands returned during June :-

Band No.	Date Banded	Place Where Banded	Date of Recovery	Place Where Recovered	Distance Travelled
		Black Duck			
3766	2.3.56	Queen's Gardens	April or May, '56	Queen's Gardens	(found dead)
3786	11.3.56	Dumbleyung	25.3.56	Dumbleyung	-
2515	12.3.54	Wardering Lake	Jan. or Feb. '55	Carrolup River	
3631	21.2.56	Queen's Gardens	May,'56	Burges Siding	55 miles
		Grey Teal			
3778	9.3.56	Dumbleyung	1.4.56	Dumbleyung	-
3840	24.3.56	Wardering Lake	10.4.56	Swamp near Wardering Lake	-

THE CLEARING HOUSE

Antibiotics for Whale Preservation

Use of antibiotics in the preservation of fish and meat was pioneered by Dr. H.L.A. Tarr, acting director Pacific Experimental Station. Drugs such as aureomycin are now used successfully to inhibit growth of bacteria in many meat-packing plants in the U.S., and there is every indication that it will soon be used extensively in the fishing industry. Dr. Tarr's most recent experiments concern control of bacterial spoilage in freshly killed whales. This is the first report on his findings.

In recent British publications many of the problems which arise in the handling and processing of whale carcasses were reviewed, and it was pointed out that one of the most serious of these is bacterial spoilage. Since the viscera, and possibly the live flesh, of these warm-blooded mammals are contaminated with putrefective bacteria which thrive in the absence of air, advanced spoilage, which is favoured by very slow cooling, may occur within one day of death. Loss of quality of carcasses of whales which have undergone bacterial putrefaction constitutes a major problem in operations carried out from shore whaling stations. Consequent upon the successful experimental application of the antibiotic chlortetracycline (CTC) as a deterrent to a bacterial putrefaction in fish and meat, some preliminary experiments were undertaken to determine whether this antibiotic would prove effective in retarding bacterial spoilage of whale carcasses during the interval between death and processing.

Introduction and distribution of CTC into whale carcasses presents obvious technical difficulties. However, since putrefaction normally arises in the peritoneal cavities of mammals, it was considered that introduction of CTC into this region might regard spoilage. It is normal practice to inflate the peritoneal cavities of whales with air

after death to effect a positive buoyancy and to facilitate towing. For this reason, the obvious and relatively simple method of introducing CTC solutions by sucking them into the air line used for inflation was investigated. A 5-gallon galvanised steel tank was placed in parallel with the compressed air hose which connected with the hollow spear through which the air was injected. Connecting valves were placed at each end of the tank. A relief valve and pressure gauge were also mounted on the tank since the diesel-engine-starting air supply used was under considerably higher pressure than the 125 p.s.i. to which the tank was tested. Preliminary tests showed that there was substantial atomisation of the solution in the four ¼-inch holes which were bored above the spearhead. In the actual tests the whales were hauled in on a forerunner as soon as convenient after death, and a watery CTC solution was injected at each end of the peritoneal cavity, the spear being manipulated from the gun platform. Under these conditions it is probable that there would be a slight "doming" of the upper part of the peritoneal cavity with an unstable fog of CTC solution which would settle out and flow down over the internal organs. Unless otherwise stated the CTC used was a commercial preparation containing 10% CTC hydrochloride (Aureomycin hydrochloride).

The following criteria were used to compare treated and untreated whales: (a) general appearance, (b) tendency of exercised chunks of meat to float in fresh water, as an indication of presence of gas-forming bacteria, (c) total bacterial population by direct count, and (d) total volatile base content of pieces of excised tissue. The following results were obtained.

Whale 1. A 44-ft. male sperm whale was shot with a harpoon containing the customary charge of black powder in the bomb head. Ten gallons of water containing 55 grams (about 2oz.) of CTC were injected 1½ hours after death. The whale was towed to the plant and processed 48 hours after capture. The general appearance of the animal was good. There was negligible distension of the abdominal cavity, and only slight lifting of the flipper such as normally occurs with gas-bloated whales. Comparison with untreated sperm whales of substantially less post-mortem

age was very favourable; for in these, marked abdominal distension, lifting of the flippers and subsequent bursting due to gas pressure were in evidence. Examination of the meat after flensing showed that it had only a slightly sour odour, and only a portion of it floated as a result of gas spoilage. Meat which floats in the washing tanks is not considered fit for freezing and subsequent use as commercial food for fur-bearing animals. The free fatty acid (FFA) content of the oil produced after digestion of the head, bones, blubber, etc., was 0.7%, thus indicating acceptability as No. 1 grade oil. Oil containing over 2.0% FFA is considered unfit for first grade.

Whale 2. A 44-ft. male sperm whale, probably from the same school as whale 1 (as indicated by similar white markings), was not treated with CTC and was examined 43 hours post mortem. In contract with whale 1, which had been held 5 hours longer before examination, this whale showed a poor general condition as evidenced by marked abdominal distension and bursting of the gas-filled visceral cavity during flensing. All the meat had a very marked sour odour. The extracted oil had a 2.1% FFA content and was thus below No. 1 grade.

Whale 3. A 50-ft. male sperm whale was injected 3 hours after death with 55 grams of CTC dissolved in 10 gallons of water. On working up 43 hours post mortem, the condition was similar to that of whale 1, the meat being only slightly sour and the oil having only 0.07% FFA.

Whale 4. A 33-ft. male humpback whale was shot with a harpoon containing a linen bag holding 25 grams (about 1 ounce) of pure CTC hydrochloride which was packed into the bomb head above the usual charge of black powder. Shortly after death an additional 55 grams of CTC dissolved in 10 gallons of water was injected into the peritoneal cavity. The general condition of this while on wrking up 26 hours after death was good. There was no evidence of gas in the peritoneal cavity; the excised meat showed a bright lustre had no detectable off-odour and sank immediately in the washing tank. The piece of linen which had contained the CTC was recovered from the carcass. Microbiological assay showed that about one-tenth of the CTC originally placed in the bag still adhered to the

cloth, and since no visible charring occurred, it would seem that CTC may be introduced in this manner without serious loss.

Whale 5. A 41-ft. female humpback whale was shot and secured to a forerunner within 20 minutes of capture of whale 4. Examination of the ovaries indicated a period of about 18 months since the last pregnancy. After flensing (about 26 hours post mortem) this untreated whale showed a green discolorisation on the under surface of the blubber. The meat floated in the washing tanks, emitted occassional streams of gas bubbles, and parts showed a dirty green discolorisation.

Toward the end of the whaling season a fin whale was treated with CTC, and although it has not been possible to include samples taken from the whale for the objective tests for spoilage, the visible and organoleptic preservative effects exerted by the antibiotic were marked.

Direct bacterial counts were carried out using small excised representative portions of whale tissue which had been promptly frozen in polyethylene bags and brought to the laboratory. The results, show that in general the numbers of bacteria in the tissues of treated whales were lower than in untreated whales of rather similar case history. Inadequate distribution of the CTC throughout all tissues could account for the occasional high bacterial counts observed in tissues of treated whales. The total volatile base content of tissues of treated whales was almost invariably very much lower than with untreated whales. The total volatile bases probably consist largely of ammonia and some trimethylamine which arise as a result of bacterial attack on the natural nitrogen constituents of the tissues.

There is no doubt that these preliminary experiments have been extremely promising. However, the quantity of CTC used has been relatively small, for it would probably amount to only a little more than 1 part per million based on the total weight of a treated whale, or about 5 to 10 parts per million based on the weight of the viscera. Further experiments are anticipated to determine the influence of such factors as larger volumes of CTC solution, somewhat higher concentrations of CTC where it is anticipated whales may

be kept for 2 days or more post mortem, introduction of the dispersing agents.

This work was made possible through the co-operation of the British Columbia Packers Ltd.

The assistance rendered by Capt. Harry Sampson and the crew of the M.V. "Lavallee", by Mr. H.M. Cowie, Manager of the Coal Harbour Whaling Station, and by Mr. Carlernst Diedrich of this Board's Biological Station, Nanaimo, B.C., is gratefully acknowledged.

By Dr. H.L.A. Tarr,
P.B. Crean,
R.B. Barker.

("Western Fisheries" Vancouver B.C. April, 1956)

Opposes Bill Limiting Catching of Large Oysters

Francis W. Sargent, Marine Fisheries Direc-tor, Department of Natural Resources, vigorously opposed the proposal of the Bay State's commercial lobster fishermen to prohibit the catching or possession of large lobsters, exceeding three and one-half pounds, at a public hearing before the Joint Legislative Conser-vation Committee held recently at the State House.

Sargent said, "Such a maximum size limit, if adopted, would needlessly reduce lobster production in this State - the offshore fishermen of Massachusetts, for useful purpose, would be forced to land their catches in out-of-state ports and yet the measure has no conservation advantage.

"On the other hand", he continued, "the minimum lobster size limit which we now have in Massa-chusetts is most important.

"By protecting the larger lobsters a valuable resource would be wasted," he explained, "rather than being built up, because lobsters breed less and less frequently after having attained a size of three or more pounds. The resultant abundance of huge lobsters which would accumulate would prey on the smaller ones and further limit the available lobster feed on the bottom.

"These opinions are shared", Sargent emphasised, "by the leading fishery scientists of both Canada and the United States as well as those of the other Atlantic coastal fishery agencies.

"Fishery scientists unanimously agree", he stated, "that to prohibit the harvesting of large lobsters, or, in fact, the largest of any species of fish cannot be justified upon a conservation basis."

A maximum size limit was tried for the spiny lobster of California but was abandoned, and in the words of W.L. Scofield, Biologist for the California Department of Fish and Game, "We feel that the minimum limit is very important but that a maximum is worthless as a conservation measure and its enforcement causes needless trouble and expense."

("Fishing Gazette" New York April, 1956)

Tagged Tuna Migrates 2370 Miles in 470 Days

Proof that albacore tuna range far and wide over the Pacific Ocean was turned up by Fish and Wildlife Service scientists recently when they reported that a 15-pound albacore tuna tagged 1300 miles north of Hawaii on October 5, 1954 was recaptured in January, 1956, near Japan, 2370 miles away.

The tuna weighed 40 pounds when recaptured. He had been travelling for 471 days.

The incident may be of extreme importance to the American tuna fishing industry. It is more evidence that the albacore of the North Pacific may belong to a single population which migrates between America and Japan. It is not conclusive, because this is only the second instance in which an American tagged albacore has been taken in Japanese waters. The first such instance was about three years ago when an albacore tagged off the California coast was taken near Tokyo.

FWS also reports another recent recapture of a tagged tuna. This one, a seven pound skipjack, tagged close to the Hawaiian shore was taken 252 days later only 30 miles away. It had doubled in weight in the interim.

(" Western Fisheries" Vancouver B.C. April, 1956)

Japan Races Against Time for Russian Settlement

While the largest ever Japanese salmon fleet is operating in the Aleutian fishing grounds in the North Pacific and risking seizure by the Russians (Fishing News, May 4), the Japanese negotiators now in Moscow are seeking a speedy compromise with Russia over the Soviet claims to exclusive fishing rights over a wide area of the Pacific, hundreds of miles outside Soviet territorial waters. Otherwise, drastic Russian restrictions will come into force next Tuesday, May 15, which will sharply curb Japanese salmon fishing in the Pacific, says a Reuter Moscow message.

Russia insists that fishing vessels of all nationalities must accept regulations designed to prevent the diversion of salmon from the "restricted zone," agree to limit their catches, and tolerate inspection by Russian "watch-dog" ships.

The sharp clamp-down by the Russians in the Pacific is part of a general "save the fish" campaign now in operation on all Soviet coasts. It resulted last year in revocation of a 25-year-old concession allowing British trawlers to fish up to three miles of the White Sea coast.

Now Britain is restricted, like other nations, to fishing only outside a strictly controlled 12-mile limit. Anglo-Soviet negotiations to settle this problem are continuing, but British fishermen have meanwhile lost large quantities of valuable fish.

Chief reason for the Russian action is a new programme under which the Government plans to obtain a 57 per cent increase in fish supplies by the end of the current five year plan in 1960.

("The Fishing News" London May 11, 1956)

Grandpa Says ...

Some people conserve their energy so carefully that they will soon need a harpoon gun to play a game of darts.

("Western Fisheries" Vancouver B.C. April, 1956)

New Plastic Rairwear Won't Crack, Stiffen

Heavy duty rain clothing coated with plastic is being manufactured in Norway and sold in B.C. by Canor Plarex Industries Ltd.

The clothing is made especially for fishermen, and uses a basic material of fine Egyptian cotton, specially impregnated inside, and coated outside with a polivynil plastic.

The clothing is 100% waterproof, and is guaranteed not to stiffen in cold temperatures or crack after long wear. All seams are first sewn, and then radio-welded by high frequency electricity.

The manufacturer claims that the rain-wear has great strength, is resistant to fire, acid, grease and oil, and does not get sticky.

The Canor Plarex factory in Norway is one of the oldest and best known of its type in Europe. It was founded in 1877, and has since built up a wide reputation for quality clothing in Europe and elsewhere.

Their special rain clothing for fishermen is light, washable, and features special ventilation to avoid condensation. The principle of shirt sleeves is applied to all jackets and blouses to ensure greater freedom of movement.

Enquiries may be directed to Mr. Jan Koren, Canor Plarex Industries Ltd., 1950 W. 16th Av., Vancouver 9, B.C.

("Western Fisheries" Vancouver B.C. April, 1956)

It Did Happen

The black cat that used to dive off the houseboat at Margaret Bay and swim ashore when its master rowed over to the store to replenish supplies. First time we ever saw a cat swim. Voluntarily, that is.

("Western Fisheries" Vancouver B.C. April, 1956)

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