FISHERIES DEPARTMENT
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STAFF NOTES

The Acting Superintendent (Mr. B.R. Saville), accompanied by Research Officer B.K. Bowen, attended a meeting of the Trout Acclimatisation Council at Bridgetown on Sunday, March 30.

Mr. G.C. Ferguson returned to duty on March 25, after three months' national service training.

Mr. B. Guinan, who relieved during the absence of Mr. Ferguson, is now on the staff of the Chief Secretary's Department.

We welcome to the staff Mr. C.J. Seabrook, who commenced duty as Assistant Inspector on March 17.

Research Officer B.K. Bowen and Technical Officer J.S. Simpson will continue empirical tests of dams at Walebing early this month. Later they will proceed to Pemberton and carry out further tests in connection with the transportation of fish in plastic bags.

Relieving Inspector G.C. Jeffery is recuperating at home after being in hospital for a minor operation on his hand.

Technical Officer L.G. Smith will resume duty this month.

Technical Officer J. Traynor is now duck banding in the Wagin district.

Inspector A.K. Melsom, Fremantle, will commence annual leave on April 9, followed by three months' long service leave. Inspector T.B. Baines, Bunbury, Mr. A.J. Buchanan and Mrs. V.T. Priest, Head Office, will commence annual leave during this month.

MOVEMENT OF DEPARTMENTAL VESSEL

The patrol vessel "Leschenault" has been transferred by rail from Geraldton to Bunbury for patrol work in Leschenault Inlet.

UNUSUAL UNDERWATER COMPANION

Members of the Great Southern Undersea Club recently had the unusual experience of being accompanied on their excursion to the deep by a friendly seal. These mammals are well known for their mimicry and this one was no exception. He imitated the members in their underwater acrobatics and accompanied them in their search for fish before departing seawards.

SALMON SEASON

A haul of 70 tons of salmon was landed on a south coast beach recently. Despite unfavourable weather conditions the overall take of salmon so far this season compares favourably with that of previous years.

FISHERIES LICENSES ISSUED DURING 1957

The table below sets out the licenses issued and the value of boats and gear for 1957. As a comparison the details for 1956 are also shown with the appropriate increase.

Where Issued	Prof. Fisher-man's	Amateur Net Fisher-man's	Fish-ing Boat	Value of Boats £	Value of Gear £
Albany	131	43	77	25,212	44,870
Broome	9	2	-	-	-
Bunbury	82	135	63	41,215	31,445
Carnarvon	9	2	7	5,370	(a)
Esperance	4	-	1	75	(a)
Fremantle	506	219	232	927,925	173,425
Geraldton	302	20	184	341,210	79,560
Mandurah	117	85	105	22,763	15,590
Perth	144	948	92	85,865	25,625
Pt. Hedland	10	2	3	535	(a)
Shark Bay	34	-	48	37,860	(a)
Onslow	-	3	-		
TOTAL 1957	1,348	1,459	812	£1,488,030	£370,515
TOTAL 1956	1,276	1,089	706	£1,241,979	£320,151
Increase	72	370	106	£246,051	£50,364

(a) Included in value of boats.

TOTAL VALUE OF BOATS AND GEAR 1957 : £1,858,545

TOTAL VALUE OF BOATS AND GEAR 1956 : £1,562,130

INCREASE : £296,415

CLOSE WATERS - SWAN RIVER

By Proclamation published in the "Government Gazette" on March 28, all persons are prohibited from taking any fish whatsoever by means of fishing nets from January 1 to April 30 and from November 1 to December 31, all days inclusive, in every year in all those portions of the waters of the Swan River situate within 100 yards of the following jetties -

(a) Mends Street;
(b) Coode Street;
(c) Como;
(d) Applecross;
(e) Pt. Walter;
(f) Nedlands.

ABROLHOS CRAYFISHERY - 1958

The opening of the Abrolhos crayfish season has commenced with very excellent figures for the first portion of the season. On the first two days, 1600 bags of crayfish were landed at Geraldton, and by the end of the first week, some 5000 had been handled. Catches give every indication of being slightly improved on last year, but the average catch-per-man is expected to remain the same, due to the increased number of men and boats.

PEARLING - 1957

In the year ended December 31, 1957, pearlshell production in the Broome area continued its upward trend, but not to such a marked degree as in previous years. While the average price for first quality pearlshell was maintained, there was a recession in the price for lower grades.

In addition to Broome production, 40 tons of pearlshell were taken in other areas, valued

NATIONALITIES ENGAGED

Asiatics :	1953	1954	1955	1956	1957
Chinese	46	72	57	83	110
Malays	66	78	76	117	116
Filipinos	2	1	1	2	2
Indonesians	37	28	32	26	29
Japanese	38	39	104	101	112
Sub Total ...	189	218	270	329	369
Other :					
Whites	14	11	19	23	21
Aborigines	58	72	59	88	66
TOTAL ...	261	301	348	440	456

AVERAGE TAKE

	1953	1954	1955	1956	1957
Average take per boat (tons)	17.44	19.46	19.25	21.08	22.09
Average take per man (tons)	1.67	1.81	1.77	1.92	2.08

PRODUCTION AND VALUE

Year	Pearlshell			Men		Boats
	Production					
	tons	Incr. or decrease %	Value £	No.	Increase or Decrease %	No.
1953	436	+49.3%	276,310	261	+49.2%	25
1954	545	+25.0%	346,065	301	+15.3%	28
1955	616	+13%	392,717	348	+15.6%	32
1956	843	+36.9%	590,100	440	+26.4%	40
1957	950	+12.9%	594,344	456	+4%	43

at £20,350, and 9¾ tons of trochus, valued at £2,950, were taken at the Sunday Island Mission.

On page 43 are shown tables of pearl-shell production in the Broome area for the last five years, together with other statistics associated with the industry.

CONVICTIONS RECORDED

January 1 to March 31, 1958

Date	Defendant	Court	Charge	Result
21.2.58	Skamira, C.	Bunbury	Fishing in close waters	Cautioned
do.	Ivanczo, S.	do.	do.	Fined £5
do.	Johnston, T.W.	do.	do.	" £5
25.1.58	Barbarich, G.	F'tle	Undersize crayfish	" £2
do.	Parentich, M.	do.	do.	" £3
31.1.58	Johnson, E.P.	G'ton	do.	" £2
do.	Waller, M.	do.	do.	" £2
5.2.58	Hennerberry, J.	do.	do.	" £5
do.	McAullay, G.	do.	do.	" £5
do.	Smith, H.	do.	do.	" £5
do.	Cherico, A.	do.	do.	" £5
do.	Bell, W.F.	do.	do.	" £4

Date	Defendant	Court	Charge	Result
28.1.58	Walkerden, E.R.	Perth	Undersize crayfish	Fined £5
do.	do.	do.	Fishing in close waters	" £5
18.2.58	Robinson, H.	do.	Undersize crayfish	" £2
do.	Tester, W.H.	do.	do.	" £5
do.	Allem, K.	do.	do.	" £5
do.	Spring, G.	do.	do.	" £5
20.3.58	DeLacey, J.	do.	do.	" £2
do.	Leonard, R.	do.	do.	" £2
do.	Livesey, J.	do.	do.	" £4
5.2.58	Gilchrist, F.G.	Pinj'a	Taking marron in close waters	" £5
do.	Craig, W.P.R.	do.	do.	" £5
	Fauna Protection Act			
24.2.58	Wilmott, P.	F'tle	Selling fauna without license	" £10
10.3.58	Gaisford, A.T.	Midland Junction	Taking protected fauna	Cautioned
18.3.58	Bosenburg, L.G.	Wagin	Trapping wild ducks	Fined £6

DUCK BAND RECOVERIES

Listed hereunder are particulars of band recoveries from black duck and additional band recoveries from grey teal.

Band No.	BANDING		RECOVERY		Distance Flown
	Date	Place	Date	Place	
			Black Duck		
3576	21/2/56	Queen's Gardens	12/1/57	Moore River	approx. 55 miles
3693	27/2/56	do.	4/11/57	Heirisson Is. N. of Causeway	½ "
6562	10/2/57	Karrin-yup Lake	2/1/58	Coolup	70 "
3578	21/2/56	Queen's Gardens	late December 1957	Upper Blackwood River near Duranillin	120 "
2907	23/10/54	Cockle-shell Gully	25/1/58	Chapman River near Nabawa	115 "
2861	17/9/54	Glen-garry Station	5/1/58	Greenough River	--
6729	22/3/57	Bennecke Swamp	5/1/58	10 mls N.E. of Kojonup	--
3963	28/3/56	Warder-ing Lake	23/12/57	Lake Muir	70 "

Band No.	BANDING		RECOVERY		Distance Flown
	Date	Place	Date	Place	
		Black Duck (contd)			
6258	16/2/56	Flagstaff Lake, Woodanilling District	15/2/58	Lake Muir	75 miles
6724	21/3/57	Bennecke Swamp	23/2/58	Bennecke Swamp	--
6326	10/1/57	Yere Yere Station, Dandaragan	8/2/58	Moora	15 "
6096	19/4/56	do.	Feb., 1958	Cook's Farm, Moora	15 "
		Grey Teal			
4321	3/11/57	Koomberkine Lake, Dowerin	3/3/58	Avon River, 8 mls from Northam	45 "
1396	15/2/53	Wardering Lake	Feb., 1958	Cook's Farm, Moora	210 "
4155	5/12/56	Gundaring Lake	do.	do.	200 "
3850	24/3/56	Wardering Lake	16/3/58	Badgebup 24 mls E. of Katanning	about 40 "

Band No.	BANDING		RECOVERY		Distance Flown
	Date	Place	Date	Place	
		Grey Teal (contd.)			
4003	11/4/56	Yathroo Station	3/3/58	Namming Lake, Dandaragan District	about 25 miles
3782	10/3/56	Dumbleyung	16/3/58	35 mls W. of Meekatharra	460 "

The Department has established a duck banding station on the property of Mr. D.J. Moir, of Cape Riche. Mr. Moir, who is an Honorary Warden of Fauna, has banded 61 black duck and 2 grey teal during the period February 12 to March 22.

HUMPBACK WHALE QUOTAS

Advice has been received from the Commonwealth Fisheries Office that the humpback quotas for Nor'-West Whaling Company Ltd. and Cheynes Beach Whaling Company Ltd. will be the same in 1958 as applied in 1957.

Reminding the Companies of the concern felt over the increase in the percentage of females and the decrease in the average length of humpbacks taken off the west coast, the Office warned that, if these trends continued, consideration would have to be given to a reduction in quotas.

THE CLEARING HOUSE

Electronic Fish Counter in New U.S. Fish Ladder

A Denil fish ladder and an automatic fish counter have been installed on the Coweman River near Longview, Washington.

The fishery opens 15 miles of spawning waters for chinook and silver salmon and steelhead. The "electric brain" counts the numbers of fish using the ladder and records the hour they go up, on a clock-driven chart.

The new devices were installed by Washington department of fisheries with engineers D.C. Brooks and G.W. Faris in charge.

The electric fish tabulator counts each fish that passes up to downstream without the necessity of a human counter, and is new in the fields of fisheries research and management. Site of the new installation is east of highway 99, about 14 miles from Kelso and Longview. It is located at 6-foot falls on the Coweman river. During high water, migrating fish returning to the spawning grounds cannot negotiate the cascade, so a Denil-type fishway was recently installed.

The "Denil" structure is a "swimming fish passage" - not the conventional pool-type fishway - with a continuous flume that "turns the water back on itself" at the flow rate of 4-11 feet per second. It has a metal herring-bone baffle protruding 8 inches from the side which creates an artificial roughness in the water that limits the flow to a favourable rate that fish can negotiate.

The fishway is 30 feet long, 20 inches wide between the baffles with a rise of 6 feet and a slope of 1:5. The main advantages of a Denil are that it takes a less elaborate structure, has a steeper slope, is self-cleansing and is less expensive.

Primarily installed to evaluate this new type of fishway, the automatic census taker has already revealed an interesting side-light on fish passage on the Coweman river: the majority of fish passing to date travel at night. Of 118 fish automatically recorded, 99 passed between 6 p.m. and 6 a.m.

Biologists formerly believed the majority of fish passed during daylight hours.

("Western Fisheries" Vancouver, B.C. December, '57)

How Feed Controls Fishery

On the species and amount of feed available for the fish schools in the Pacific rests the foundation of the entire fishing industry of British Columbia. Absence of, or the movement of feed may have had a bearing on the disappearance of pilchard from B.C. waters.

There are many factors which control the presence or the absence of feed, the movement of which also controls the movement and the locale of our native fish schools at periods during the fishing season.

The producers of organic matter in sea water are the phyto-plankton and the attached plants and seaweeds in shallow water. The factors controlling annual organic production in the sea are known, but the size of this annual production is not yet agreed upon.

Most of the commercially important fish enter shallow coastal areas in certain periods of their lives because there is a higher production of organic matter in such areas. This is due to the mixing of nutrient-rich subsurface water from the rivers and carried seaward by tidal currents, which moves the feed, therefore the schools of fish seeking out such concentrations of food to eat.

Even the feed on which fish feed depends also on available food. Relatively few estimates have been made of the bacteria population in the sea, yet the bacteria in sea water and on the bottom is considered as a partial food source for some plankton organisms and even for some commercial species such as the oyster, which pumps such bacteria, etc. through its body as the main source of food.

So the food for the feed upon which the fish must feed make up an important food chain in the ocean. The commercial catch of fish is only profitable if the concentration of fish feed is within required proportions, which depends upon tidal movement and the factors we have briefly outlined, plus the temperature of the water. Just as certain fish stocks have specific optimum temperatures, so does the feed upon which they depend.

("Western Fisheries" Vancouver,B.C. December, 1957)

Geneva Fishing Conference

Every fisherman in the world has a stake - whether he knows it or not - in a formal world conference to be held in Geneva, Switzerland, this spring.

Unless the meeting breaks up in a big disagreement, out of it will come a tissue of words and phrases, of principles and policies which will be in plain fact the International Law of Fisheries.

The green baize tables at Geneva may seem a long way from the baiting tables of the halibut fleet, but around them will be decided fundamentals which will affect fishing on every coast and every ocean.

The decisions will not involve specifics like seasons and gear, but they may be expected to provide effective answers to some such fundamental questions as these :

How far from its coastline may a nation claim sovereignty?

Where established fisheries are fully exploited, studied scientifically and administered on a sustained yield basis, should other nations abstain from participating in them?

Does a coastal nation have a special interest in and authority over the fisheries of the seas adjacent to its coast? Even if it is not currently exploiting them?

In the long-range view, the Geneva meeting may be the most important ever held from the standpoint of the world's fisheries.

("Pacific Fisherman" Portland, Ore. February, 1958)

Giant Whale Bore Scientists' Mark

A Soviet whaling flotilla, working a remote area of the Antarctica, has caught twice as many whales in a fortnight as in the whole of its voyage last year.

The flotilla came across large schools of blue whales when it left the Weddell Sea and forced a way through thin ice eastwards close to the Antarctic coast.

One blue whale was 93 ft. long and we weighed 140 tons. Another of 135 tons had a special mark in it made by British whalers. The mark is to be sent to London to enable British scientists to determine the age and migration route of the giant.

("The Fishing News" London February 21, 1958)

Eat Fish, Live Longer Food Expert Says

Statistically, 50 per cent of American men will die of heart attacks - but a simple diet

change would save at least 50,000 persons a year from such attacks. This is the statement of an eminently qualified medical doctor, a professor and author on nutritional problems. Fatty compounds containing cholesterol choke the arteries, he said, but fish fats reduce blood cholesterol. Eat fish four times a week, he suggested, to save your life.

("Fishing Gazette" New York January, 1958)

The "Exocet" Trawl Device

Considerable attention has been directed of late to the all-important matter of the vertical opening of a trawl. This has been the direct result of new methods of trawl observation, which have disclosed serious shortcomings of conventional floats, which not only tend to lose lift as trawling speed increases, but can also oscillate violently, with accompanying loss of efficiency and damage to the net.

Various means have been adopted by manufacturers to minimize this trouble, and at the same time seek still more efficient methods. Latest of these to come on to the market is the French "Exocet" headline elevator, which, it is claimed, suffers from none of these disadvantages and provides positive lift under all conditions - lift which increases with speed in such proportion that the tendency for drag to close the net is completely overcome.

The Exocet is a semi-rigid assembly of light alloy, comprising a tubular frame which is attached to the headline, and a rectangular panel flexibly mounted above it, at 30° angle. It is this panel which, by its planing action, provides the lift, and mounted in its leading edge are two or more spherical, alloy floats, which provide static lift and by their buoyancy set the panel at its lifting angle. The assembly is fixed to the centre of the headrope, after cutting out sufficient net to accommodate it, the cut meshes being then re-bolshed on to a "dummy" headrope on the frame of the elevator. The spherical floats are of standard type and are easily renewed in the event of damage; the edges and corners of the panel are well rounded to avoid net damage on deck.

As there are no long wires or ropes employed, shooting the gear offers no problem and the elevator remains clear even when the vessel is stationary. It is further claimed that the Exocet is not affected by changes of course or by uneven towing strains in bad weather. On some occasions a 300 per cent increase in the catch has been recorded, due to the increased headline height achieved by the use of an Exocet elevator.

The Exocet is made in three sizes, the "60", "70" and "80", priced at £50, £60 and £75 respectively; the largest, or "Exocet 80", weighing 44 lb. complete. This device may, of course, be used in conjunction with suitable floats on the remainder of the headline.

The Exocet is the invention of a Frenchman, Mons. Y. Grouselle, of St. Malo, and is being produced and marketed in this country by the Eastmead Engineering Co., Ltd., of Frimley Road, Camberley, Surrey, who also hold world rights, with the exception of France.

("World Fishing" London January, 1958)

Small Echo Sounder

A miniature echo sounder for shallow-draught work - the Elac Miniskop - has been produced by Electroacoustic G.m.b.H., Kiel. It has four range scales - 0-16 ft., 0-49 ft., 0-164 ft., and 0-490 ft. A feature of this unit is that it employs C.R.T. presentation. It is robust and simple to operate, all functions being controlled by four switches, for on/off, range selection, gain control and brightness control. It is designed for installation anywhere on board a small vessel. As all functions of the equipment are electronically controlled, it is claimed that no regular servicing is required.

("World Fishing" London December, 1957)