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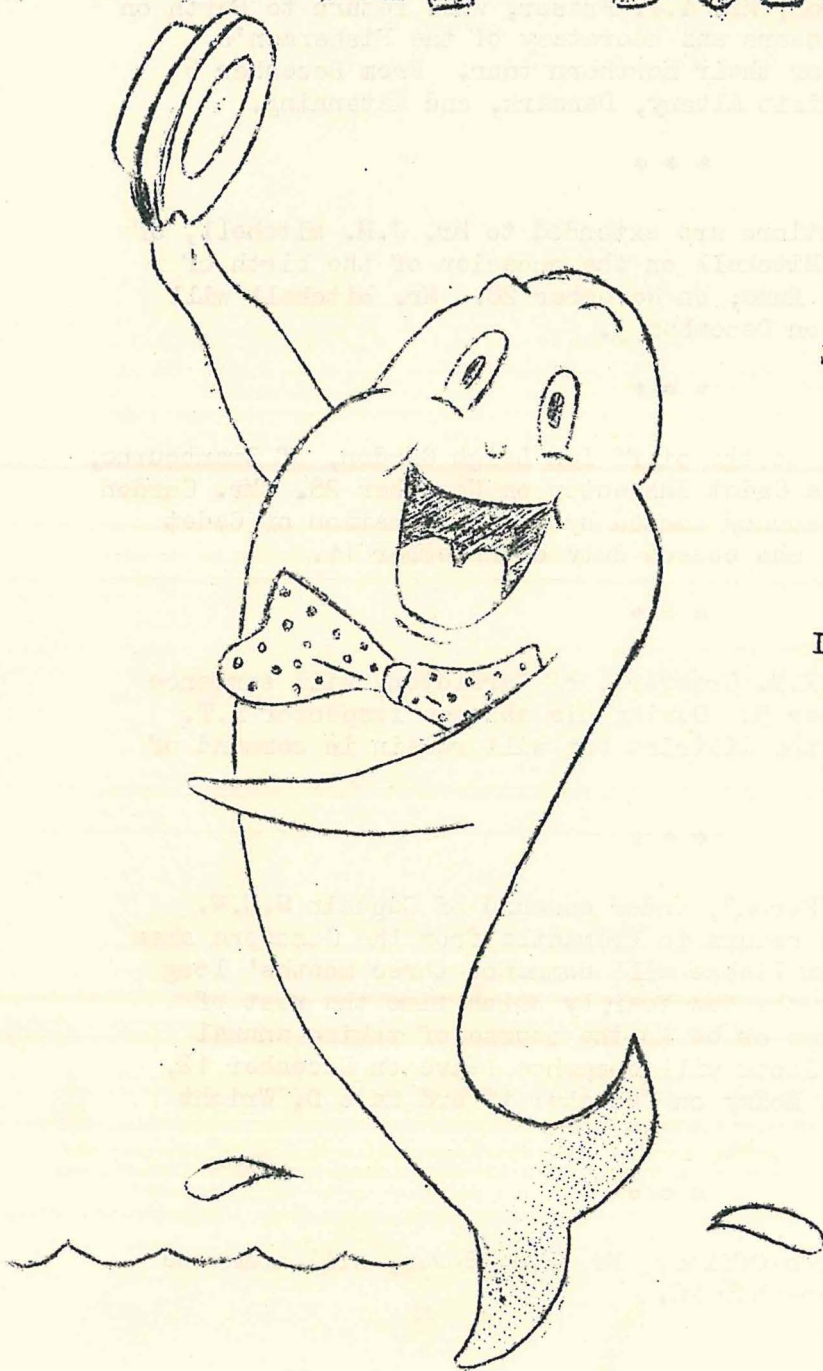
[MONTHLY SERVICE BULLETIN  
(WESTERN AUSTRALIA. FISHERIES

9(11) Dec 1960

DEPARTMENT OF PARKS AND WILDLIFE

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# BULLETIN



SEASONAL GREETINGS

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DIRECTOR & HEAD OFFICE  
STAFF.

FISHERIES DEPARTMENT WESTERN AUSTRALIA  
VOL. IX, NO. 11. DECEMBER, 1960.

STAFF NOTES

The Director, Mr. A.J. Fraser, will return to Perth on December 2 with the members and secretary of the Fishermen's Advisory Committee after their northern tour. From December 6 to 8 Mr. Fraser will visit Albany, Denmark, and Katanning.

\* \* \*

Congratulations are extended to Mr. J.M. Mitchell, of Head Office, and Mrs. Mitchell on the occasion of the birth of their daughter, Lishie Anne, on November 28. Mr. Mitchell will commence annual leave on December 5.

\* \* \*

We welcome to the staff Ian Leigh Cardon, of Swanbourne, who commenced duty as a Cadet Inspector on November 28. Mr. Cardon was appointed to the vacancy caused by the resignation of Cadet Inspector V.G. Martin, who ceased duty on November 11.

\* \* \*

Inspector R.M. Crawford, of Geraldton, will commence annual leave on December 5. During his absence Inspector A.T. Pearce will supervise the district but will remain in command of the p.v. "Kooruldhoo."

\* \* \*

The r.v. "Peron", under command of Captain H.C.W. Piesse, is expected to return to Fremantle from the Gascoyne area on December 7. Captain Piesse will commence three months' long service leave early in the New Year, by which time the rest of the crew will have taken or be in the course of taking annual leave. Engineer L.C. Stock will commence leave on December 12, Technical Officer R.J. McKay on December 19 and Mate D. Wright on December 30.

\* \* \*

The Research Officer, Mr. B.K. Bowen, will commence his annual leave on December 28.

Inspector E.I. Forster and Cadet Inspector R.G. Emery are stationed at Lancelin at least for the first part of the 1960/61 crayfish season. Assistant Inspector D.H. Smith is similarly stationed at Jurien Bay.

\* \* \*

Technical Officer L.G. Smith returned to duty on November 10 after an operation followed by six weeks' sick leave. He will commence annual leave on December 28.

\* \* \*

We regret to report that Cadet Inspector P.K. Enright is very seriously ill in Royal Perth Hospital. Kevin had recently been transferred to r.v. "Lancelin", and had served only one week in her before his seizure, which appears to be the result of some form of brain infection.

#### ANNUAL INSPECTORS' CONFERENCE

A brief summary of the seventeenth annual conference of field, research and administrative staffs of the Department was published in the October-November issue of this Bulletin. Hereunder is a more detailed outline of the reports presented to and discussions which took place at the conference.

#### FAUNA PROTECTION SECTION.

##### Fauna Warden S.W. Bowler.

Mr. Bowler gave full details of patrols carried out during the year, which included visits to the Shoalwater Bay Sanctuary with members of the Australian Bird Banding Scheme to carry out bird-banding operations, attendance at the opening of the wild duck season in different areas and investigating complaints by farmers regarding damage to crops by grey kangaroos.

Mr. Bowler said the cagebird trade had waned considerably during the year, and he anticipated that future imports of birds from the eastern States would diminish. During 1959 birds exported from this State totalled 15,780 and from January 1 to June 30, 1960, exports totalled 2,139. Birds imported into the State during 1959 totalled 80,611, and 8,411 during the first half of 1960.

Reviewing the effect of the taking up of areas of virgin land for agricultural purposes, Mr. Bowler told the conference that the numbers of native fauna would naturally fall away. This state of affairs had already become evident in the metropolitan area and in some agricultural country in the South-West. However, he believed that if the far-sighted policy of the Fauna Protection Advisory Committee in having reserves created were continued, the impact of civilisation on native fauna would not be as great as would otherwise be the case.

Fauna Protection Officer H.B. Shugg.

Mr. Shugg opened his address with a brief history of the gradual transition of the swamp-lands surrounding Perth, the sanctuary of prolific bird and animal life, to a modern city and the consequent dying out of fauna. He told the conference that the removal of reed growth from swamps was causing many kinds of fauna to disappear because their natural source of food was being taken away. Numerous Australian mammals and marsupials were facing extinction and it was imperative that steps should be taken for their preservation.

Mr. Shugg explained what measures were taken to ensure the conservation of fauna in Western Australia. He stated that much time was taken up in Head Office in protecting reserves against the depredations of farmers, but although Western Australia was generously endowed with space (approximately 975,000 sq. miles) only 0.4 of this area was reserved. Such reserves were imperative to protect the natural habitat of native birds and animals.

Inspectors were urged not to be afraid of being associated with the cause of fauna conservation, as the fauna of Western Australia was unique in Australia and well worth fighting for. Once it had become extinct there was no bringing it back. Secondly, Mr. Shugg urged that inspectors get to know the fauna, to use the reference books which the Department allotted them and not to be afraid of talking about fauna with people in their districts. He said that knowing, or getting to know, honorary wardens in the various districts had its personal advantages.

Fauna Warden N.E. McLaughlan was unable to present his annual report as, at the time of the conference, he was on patrol with members of the Lands and Surveys Department at Esperance.

PEARLINGInspector R.J. Baird, Broome.

Mr. Baird told the conference that the Broome pearling industry had continued to decline throughout the 1959 season, and there was a consequent reduction in the fleet owing to the lack of suitable markets for low grade shell. Only 27 luggers were now licensed, 11 less than the previous season.

Shell fished during the season was valued at £279,304 and pearls and baroque at £5,740. Employees in the industry, mainly Japanese, Chinese, Malays and Aborigines, totalled 290.

Two divers suffered from diver's paralysis, or the "bends". One of them died as a result. The other fully recovered and resumed diving.

Mr. Baird outlined the work being done at the Kuri Bay pearl culture station where approximately 90,000 pairs of shell had been planted. Technicians were continuing experiments to improve the quality of pearls.

Professional fishermen in Broome again had an extremely bad year, only one person fishing full time with very poor results.

INSPECTION SECTIONInspector A.T. Pearce, p.v. "Kooruldhoo".

Mr. Pearce briefly outlined patrols carried out in the Abrolhos area. From observations he had made there appeared to be a vast difference in the bird life on the Islands in May and June compared with September and October. Vast numbers of mutton birds, noddy terns, and silver gulls were present, especially at Pelsart Island, Southern Group. Large numbers of whales were sighted, heading south, on a patrol completed on September 17, 1960.

Mr. Pearce informed the conference that fishermen were very happy that a patrol vessel was now stationed permanently at Geraldton.

Inspector H.D. Kavanagh, Shark Bay.

During the period under review, the p.v. "Garbo" had been refitted and Inspector Kavanagh carried out sea patrols covering approximately 1,500 miles. Local boats operating from Denham numbered 42; of these 13 were ice boats and 29 dinghies and motor tenders. Professional fishermen's licenses totalling 41 were issued, but only 25 fishermen were permanently engaged in fishing.

Production figures showed that whiting (386,492 lb.), mullet (263,143 lb.), and snapper (100,095 lb.) were the main species of fish taken. The total poundage of fish taken was 885,455 lb. The snapper season was rather poor and fishermen were hand-lining with more success than when using traps. Mr. Kavanagh said it was his personal opinion that the fish became trap-shy rather than that the area was being fished out.

Inspector R.M. Crawford, Geraldton.

A most successful year had been experienced in Geraldton District. Production figures reached record level, due mainly to additional men and boats. However, the catch-per-man continued to decline. Licenses had been issued for 269 boats (including 45 new vessels) and 438 men. Unfortunately, 15 vessels had been lost between January and June and one fisherman had lost his life at sea.

The 1959/60 crayfish production from the four main fishing areas was Abrolhos Islands, 3,504,458 lb., Geraldton inshore, 1,919,694 lb., Port Denison, 884,676 lb. and the Murchison River, 166,602 lb. - a grand total of 6,475,430 lb.

Mr. Crawford said the fishery at Port Denison had improved greatly and the construction of the new jetty was proving a great asset to fishermen and anglers. Fishing at the Murchison River was limited owing to flood waters shifting the bar. The only opening to the sea from the river was now at the southern end, which was very treacherous and made conditions extremely difficult for fishermen.

The kangaroo processing factory established at Geraldton had been forced to close down because of adverse reports on a shipment of meat to Western Germany.

Inspector A.V. Green, Mandurah.

Estuarine fishermen had again had a very lean year, and many fishermen had been compelled to take temporary employment when available.

The main species of fish taken were cobbler (209,396 lb.), yellow-eye mullet (153,045 lb.), mullet (142,527 lb.) and prawns (34,159 lb.). Other varieties taken were Perth herring, tailer, King George whiting, garfish, sand whiting, jewfish, shark, snapper and samson fish.

Mr. Green told the conference that the catch of prawns was disappointing. Fishermen had been hampered by a pink slime, and were unable to haul their nets until the fish had moved into the small remaining areas of clear water. Crabs were plentiful in the estuaries.

Inspector T.B. Baines, Bunbury.

Inspector Baines reported that 81 professional fishermen and 73 fishing boats were licensed in the Bunbury district for the year ended December 31, 1959. This represented a slight decrease on the previous year.

Fish had been scarce in the estuary and net-fishermen were restricted in relation to the use of set-nets because of the large numbers of crabs in the estuary. Yellow-eye mullet had been plentiful, but low market prices restricted catches. Prawns were also plentiful. Good hauls of tailer and skipjack were made along the beaches and shark fishermen had a very good year as the market price was highly satisfactory. Salmon fishermen started off well in the middle of November, and had caught nearly 100 tons before the end of December.

Mr. Baines reported that all fish were very scarce in the Collie River, only a few schools of mullet being observed in the vicinity of Hough's Bank. Anglers had made some good catches of black bream and mulloway in the rivers.

Senior Inspector A.K. Melsom.

Mr. Melsom reported that during the year under review licenses to the value of £3,347. 11. 6 had been issued. This revenue was received from 853 fishermen's, 346 fishing-boat and 199 amateur net-fishermen's licenses. In addition, £571

was received from Commonwealth licenses, comprising 324 boat and 596 fishermen's licenses.

The "white" crayfish season commenced November 20, 1959. During the year 8,288,280 lb. of crayfish from Jurien Bay, Lancelin, Ledge Point, Fremantle and Safety Bay had been processed in the five plants in the Fremantle and Coogee areas. Fish taken by net and line in his district had totalled 333,590.lb.

Senior Inspector J.E. Munro, Perth.

Mr. Munro reported that crayfishermen produced the greater part of the total catch of fish taken from waters within the Perth District. The introduction of more boats and men into the industry, plus a longer fishing year, had contributed to the increase in the amount of fish taken.

Additional freezer- and freezer-catcher-boats had operated this season and were mainly responsible for the large increase in crayfish production. Because of the increase in the fishing fleet, its mobility and extensive area of operation, it was impossible with existing staff to police the trade in under-size crayfish which was rampant.

Mr. Munro stated that consideration should be given to the frequent inspection of freezer-boats. If these vessels were compelled to operate in groups at designated points, it would assist the inspectors greatly in policing this section of the industry.

A feature of the 1959/60 period was the export of whole cooked crayfish to the U.S.A. This pack had been very well received by buyers, and it was anticipated there would be a big increase in the demand in the new season.

Inspector E.I. Forster.

During the period under review, Mr. Forster reported having patrolled the Abrolhos Islands area as sailing master, assisting Inspector Seabrook, master of the r.v. "Lancelin". He had then taken charge of the "Kooruldhoo" and patrolled the coast from Fremantle to Green Head until the crayfish season started. He was then stationed at Lancelin and Ledge Point. Prawn trawling experiments were carried out in January, 1960, on the Swan River from p.v. "Misty Isle". After a period in Denmark, relieving Inspector Carmichael of Albany, he returned to Perth and joined the mobile coastal land patrol.

C.J. Seabrook, Master, r.v. "Lancelin".

Mr. Seabrook reported that he was in command of the r.v. "Lancelin" during a visit to the Abrolhos Islands by a scientific party headed by Professor H. Waring and Dr. A.R. Main. On November 9, he took command of the p.v. "Dampier". Patrols were carried out to Cervantes Islands, Kangaroo Point, Sandy Point, Fisherman's Islands and Green Head. Seven boats operated at Cervantes, one from Kangaroo Point and four from Green Head. The "white" crayfish run was late, starting on December 20, 1959, as against December 2 in 1958. Catches were good and compared favourably with the season before.

In February, 1960, patrols were carried out of the Abrolhos Islands to Turtle Dove Shoal and Clio Reef to the south and as far north as Shallow Bank and the 28th parallel. Considerable trouble was experienced with freezer-boats operating in the prohibited area of the Abrolhos.

Inspector G.D. Houston, p.v. "Dampier".

Mr. Houston reported that for the greater portion of the crayfish season he had patrolled the Ledge Point-Lancelin area. There were 65 licensed fishing boats working from Lancelin during the season. All of these recorded good catches, as did the 18 boats at Ledge Point. Patrols were also carried out on the "Kooruldoo" in the closed waters around Rottneest Island, the Geraldton area and the Abrolhos Islands.

Supervising Inspector J.E. Bramley.

Mr. Bramley stated that he was very disappointed with the kind of report submitted by some inspectors during the year. Many of them were not paying enough attention to the salient points, and frequently vital evidence and background were omitted. All this necessitated reference back, which brought about much additional work. He said more care must be exercised in future.

Mr. Bramley stated that entries in diaries were exceptionally good, but he reminded inspectors that diaries were daily records and must be written up daily and submitted to Head Office each week. Some inspectors were submitting diaries at very irregular intervals.

Mr. Bramley requested inspectors to study carefully the

the provisions of the Fisheries Acts, both Commonwealth and State, so that they would be fully conversant with the law when dealing with fishermen and the public and also when submitting recommendations for prosecutions. If in doubt, queries should be referred to Head Office.

District officers who were absent from their office for more than 24 hours must give prior notice to Head Office.

#### RESEARCH SECTION.

Research Officer B.K. Bowen,

Mr. Bowen dealt mainly with the outcome of three conferences which he attended prior to the annual Fisheries Inspectors' Conference, and also with research work carried out over the preceding 12 months.

(a) Waterfowl Conference. Mr. Bowen told the conference that a committee known as the Australian Waterfowl Advisory Committee had been set up on the recommendation of the Fauna Authorities Conference held in Sydney in 1958. Its object was to discuss problems of waterfowl and submit recommendations based on these discussions to the Fauna Authorities Biennial Conference. He had been appointed the W.A. representative.

The first meeting of this committee had been held in Melbourne in February, 1960, and through general discussion it was made evident that the time was rapidly approaching when problems concerning waterfowl should be considered on an Australia-wide basis.

The need for Australia-wide control was illustrated by the example of the Murray-Darling basin where the major teal-breeding area in Australia was situated. The damming of rivers for irrigation purposes and the prevention of flooding was virtually wiping out the low-lying swamplands which were the breeding places for ducks, particularly teal. Without such large areas of flooded land the breeding sites were diminishing quite markedly and as a result the wild duck population was falling away.

Another point which arose at the meeting was that of the pooling of information coming from waterfowl banding programmes in the various States. This was necessary to

provide statistics on an Australia-wide basis. It was intended to introduce a card system for these statistics. It would be established in a central repository so that there would be an Australia-wide statistical record.

## 2. Commonwealth Fisheries Conference.

As a comprehensive summary of this conference was to appear in the October-November issue of the Service Bulletin, Mr. Bowen dealt mainly with the subject of fishery statistics. He stressed the importance of such statistics as a means of aiding research. By compiling statistics on a certain subject research officers were able to forecast future occurrences of fish. Research problems therefore all pointed strongly to the need for proper statistics, so that certain situations could be accurately predicted.

The outcome of discussions on statistics led to the setting up of a committee consisting of representatives of the C.S.I.R.O., the Commonwealth Bureau of Census and Statistics, the Commonwealth Fisheries Office and the State Fisheries Departments. Mr. Bowen said that in all probability the committee would meet in each State to discuss the matter fully with each fisheries authority. This might result in a slight change in existing requirements and practices. The three main points to be looked for were :-

1. Total catch.
2. Catch-per-unit-effort.
3. Weight frequencies of the commercial catch.

Another subject discussed at the Commonwealth conference was that of the importation of fish brought into Australia for aquarium purposes. It was considered that without some form of adequate control people could release into streams fish which could cause damage to existing aquatic organisms. A small committee was appointed to draw up a list of fishes already in Australia which could be harmful, another list of fishes which should be banned entirely, and a list of fishes which were not yet in Australia and which should not be allowed in.

## 3. Crayfish Conference.

Mr. Bowen told the conference that the purpose of this particular meeting was to assemble all information at present available in relation to crayfish. Five papers were read to conference members.

Mr. Bowen said that the outcome of the meeting as far as Western Australia was concerned would be that discussions would take place between Mr. Fraser and Dr. Kesteven (Assistant Chief - Fisheries, C.S.I.R.O. Division of Fisheries and Oceanography) to put in train a research programme designed to give further information with regard to crayfish. This would include natural history and aquaria studies to get an understanding of growth rates, feeding habits, etc. It would also be able to secure data for studies on population dynamics, and to improve our fishery statistics.

Mr. Bowen informed members that as well as experiments with trout in farm dams, the research section was also continuing its limnological work. He outlined experiments with marron, which were dealt with more fully by Mr. Simpson.

#### Technical Officer J.S. Simpson.

Mr. Simpson gave an address which dealt mainly with the identification of the marron, gilgie and koonac. Inspectors were shown mounted specimens of these three freshwater crustaceans, and the means of differentiation were explained.

Mr. Simpson also outlined the controversy which followed the introduction of trout into the waters of the State. He told the conference that a number of people were under the impression that trout were the cause of the depletion of stocks of marron. Mr. Simpson maintained that although marron had been found in captured trout he did not believe that this was the sole factor leading to depletion of stocks. Rather was it the intense fishing which was now taking place. To support his argument, Mr. Simpson said that he had opened a number of black bream taken from the Donnelly River and had found that more than 90% of the bream contained either marron or gilgies. However, marron still abounded in the Donnelly River, and evidently the bream did not cause any serious depletion of stocks.

#### STATISTICS SECTION.

##### Statistical Officer A.J. Buchanan.

Mr. Buchanan presented his statistical report for the year 1959/60. In addition to statistical data Mr. Buchanan expressed the need for accuracy in the lodgment of mileage claims and duplicate orders. He reminded district inspectors that inventories were required to be submitted by June 30 in each year, and urged upon them the importance of submitting accurate returns and other information.

RECOMMENDATIONS.

1. Identity Cards. Recommended that a more substantial type of identity card be introduced. Inspector Carmichael and Fauna Warden Bowler were requested to submit any suggestions or observations on this matter to Head Office for consideration.
2. Seals. Recommended that a description of fur and hair seals, together with photographs and diagrams, be supplied to all departmental inspectors.
3. Crown Law Department Representative. Recommended that a representative of the Crown Law Department be invited to attend the next annual conference to give an address on prosecution action and court procedure.
4. Interstate Fauna Authorities Conference. Recommended that arrangements be made to circulate in pamphlet form the proceedings of the recent Interstate Fauna Authorities Conference.
5. Conference of Honorary Wardens of Fauna. Recommended that, if possible, a conference of honorary wardens be arranged.
6. Licensing of crew members as professional fishermen. Recommended that skippers of fishing vessels be made responsible for the licensing of crew members.
7. Amateur Fishing Licenses. Recommended that the Amateur Net Fishermen's License be amended to "Amateur Fishing License", such license to cover the activities of all amateur fishermen other than those engaged in line fishing, e.g., amateur crayfishermen.
8. Returning of crayfish to sea. Recommended that the Research Officer investigate the mortality of crayfish taken from deep water and subsequently returned to the sea.
9. Close season for the taking of prawns. Recommended that the taking of prawns from the Swan and Canning Rivers prior to December 1 be prohibited.

CONCLUSION.

In closing the conference, the Director expressed the Department's appreciation of the contribution to the improvement and development of the fishing industry and of the Department itself made by the Supervising Inspector, Mr. Bramley.

Mr. Fraser said that he believed the conference had been a particularly worthwhile meeting of officers of the Department as the discussions had covered a much wider range of subjects than usual. He was particularly pleased that most officers had taken part in the discussions. He urged all officers to express their opinions on any subject, and said that any contribution would be very well received and would perhaps be of assistance to other members of the conference.

The Director told members that he hoped, when they went back to their own districts, they had learned something from the conference and had benefited from the talks and discussions which had taken place.

P.S.C. COMMENDS BULLETIN

The Public Service Commissioner, on a recent visit to Head Office, picked up the latest issue of the Monthly Service Bulletin. He had a quick look through and expressed the desire to read it thoroughly. The Director has since received the following note from Mr. Bond -

" I have had an opportunity of perusing the October-November issue of your Monthly Service Bulletin and would like to congratulate you on the publication.

The circulation of a document of this type does much to keep the staff informed of current events, departmental policies and matters of general service interest.

I look forward to personally reading all future issues and wish the Bulletin every success.

R.J. Bond  
PUBLIC SERVICE COMMISSIONER"

INSTRUCTION TO SKIPPERS

Masters of departmental vessels are reminded that all requisitions, reports, etc. for or concerning patrol vessels must be forwarded to the Fleet Maintenance Officer, Mr. A.J. Bateman, at Fremantle.

FISHERMEN'S ADVISORY COMMITTEE TOUR

Led by the Director, who is Chairman, Committee members W. Matthei, of Yunderup, and N. Wright, of Quindalup, of the Fishermen's Advisory Committee have been visiting Geraldton, Denham (Shark Bay) and Carnarvon. The Secretary of the Committee, Mr. H.B. Shugg, of Head Office, has been with the party which, it is expected, will return to Perth on December 2. The third professional fishermen's representative, Mr. G. Travia, was present at the Geraldton meetings. The amateur fishermen's representative, (Mr. Roland Smith) was unable to make the trip.

At Geraldton, the Committee visited all processing works and had discussions with production managers. They also inspected the new fishing boat harbour whose progress was outlined by Public Works Department Engineer A.V. Urquhart. A meeting was held on the night of November 24 when representatives of the Geraldton Fishermen's Association discussed the conservation of the district fisheries. The principal matters mentioned were the opening and duration of the Abrolhos crayfishing season, the forthcoming close season in waters north of the 30th parallel, and recent Fisheries Act and Regulations amendments. Extreme satisfaction was expressed by all fishermen present at the provisions of the legislative amendments.

At Shark Bay, a meeting with representatives of the local fishermen's association was held on Sunday, November 27. Discussions were also held with Messrs. L.H. Johnson and R. Klopper, who manage the two local fish freezing and packaging works, one at least of which has plans for providing increased freezing space and greatly expanding the factory's activities. A visit was also paid to the Lagoon which, by local arrangement, is fished on a non-commercial basis only. The principal matters discussed at Shark Bay were the minimum legal length of snapper, the recent prohibition of fish traps in the Bay proper, the mesh size of whiting nets, the desirability of preventing freezer-boats from operating inside Shark Bay and of allowing small-mesh nets to be used during June, July and August for the taking of garfish.

At Carnarvon, the Committee first called on the Town Clerk and then, accompanied by the Engineer for the North-West, Mr. E.K. Steere, visited Beacon Point and were shown suggested sites for a jetty to give access to Tegg's Channel. The Nor'West Whaling Company's station on Babbage Island was also visited and the Committee discussed with the Company's Manager, Mr. H. Martin, the possibility of co-operating with the Australian Pearling Company regarding the handling and processing of prawn catches. They were also shown over the Whaling Company's jetty and saw the town jetty, and the proposed additions to the former and the suggested mooring points off the Island were explained. A public meeting called at night by the Carnarvon Municipal Council was also attended. Different points of view were put to the Committee regarding the desirability of the Government providing jetty facilities for fishing craft and other small vessels. Some wanted a new jetty to be built which would give access to Tegg's Channel, while others maintained that less expensive additions could be made to either the Whaling Company's jetty or the town jetty. Reference was made to the alleged depletion of mullet and other fish stocks in off-shore waters and complaints were heard regarding illegal activities of amateur fishermen to the detriment of professionals. The possibility of exploiting reputedly large schools of tuna was reviewed.

In due course a full report of the tour and the recommendations made in respect of evidence submitted will be forwarded to the Minister for Fisheries, Mr. Hutchinson.

#### WHALING

Last month the directors of the Nor'West Whaling Company Ltd. issued a report to shareholders on the Company's activities for the year ended June 30, 1960. It said that, in contrast to the highly successful seasons of a few years ago, the 1959/60 financial year ended with a loss of £9,722. The prime cause of the company's reversal was the season's poor catch - 440 whales (the quota allotted by the Minister for Primary Industry was 750). It was thought that the shortage of whales was due to heavy catching of humpbacks in Zone 4 in the Antarctic. Despite the season's loss, the Company paid a 15% dividend requiring £40,500. This payment was met from reserve funds which at £683,664 were still substantial.

The future welfare of the Company must be closely affected by Antarctic whaling operations on Zone 4 stocks and is no doubt the reason why two of the Company's directors, Messrs. R. Moore and G. Bunning, formed part of the Australian mission

to discuss conservation of humpback stocks with Japanese whaling authorities in Tokyo. The delegation, which was led by the Secretary of the Commonwealth Department of Primary Industry, Mr. J.V. Moroney, has just returned to Australia. A recent press release by the Minister for Primary Industry (Mr. Adermann) indicates that the mission had been able to convince the Japanese of the need for a greater restriction on their operations in the Antarctic. The Japanese had agreed, the Minister said, to restrict their operations to two instead of four days next summer. A number of Japanese whale chasers and supply ships have called at Fremantle in recent weeks to take on fuel and stores. They were bound for the Antarctic and the start of the four months' season.

#### DECISION UPHELD.

In the Supreme Court, on November 7, Mr. Justice Hale dismissed an appeal by International Fisheries over the method of measuring crayfish. The company was convicted by Stipendiary Magistrate A.G. Smith last August of having undersize crayfish on their premises in Cleaver Street, West Perth. Counsel for the company argued that the crayfish were of legal size if the minimum of  $2\frac{3}{4}$ " was obtained by measuring from the horns to the bottom of the carapace down the side of the body. After reading the Second Schedule of the Fisheries Act, Mr. Justice Hale agreed that the measurement should be taken in a straight line to the rear of the carapace. This, he said, was the normal recognised method.

#### EFFECTIVE DATE OF PROMOTION

In a circular to Permanent Heads, the Public Service Commissioner, Mr. R.J. Bond, has advised that, in future, promotion to a new position will be effective six weeks after the date the position officially becomes vacant. The new procedure has been agreed upon following negotiations with the Civil Service Association and is expected to give general satisfaction. It will ensure that an officer's seniority will not be affected by appeals against recommendations or other delays occurring after a vacant position has been advertised. The new scheme became effective on November 18.

VILLARET HOLED.

One of the biggest and best known freezer boats on the coast, the "Villaret" (85 feet), went on a reef while entering the anchorage at Cervantes Island on the night of November 25. Valued at £32,000, the "Villaret" had sailed from Fremantle the night before after an £8,000 re-fit. She was holed in four places and was held on a pinnacle on a ledge of reef. A tragic sequel to the loss of the "Villaret" occurred when a press aircraft crashed into the sea near where the "Villaret" had foundered. Two photographers on the plane were killed and the pilot and a cadet reporter injured. The "Villaret" was said to have earned more money than any other boat on the coast in her 14 years of fishing. She was owned by the Vigilant Trading Co., of Perth, and several years ago sold big quantities of fish direct to the public at Claremont jetty. Desperate attempts were made to save the vessel. Pumps were flown to the scene and a marine surveyor and diver and salvage expert reached the stricken craft the next day. Although the diver repaired part of the holed section the vessel's condition deteriorated and the crew of five were forced to leave her.

PEARLING

In recent months concern has been expressed both here and in Canberra that undersize shell is being fished from North-West pearlshell beds. It has been alleged that good shell has been almost fished out, and this has been the main reason why divers are taking the small stunted type of shell which occurs at Mangrove Point.

Reporting recently in relation to these complaints, Pearling Inspector R.J. Baird said that undersize shell is not being fished. The 25 luggers operating from Broome have been taking shell a little below the average quality of that of the previous year but it was still good, he said. He attributed the difficulties met with in marketing the middle grades of shell to the fact that approximately 30 tons of EEE-grade held over from the 1958 season was sold during 1960. Small buyers overseas, who are interested principally in obtaining cheap shell, were therefore not anxious to pay higher prices for the middle grades.

Mr. Baird stated that up to the end of October 393 tons of shell had been landed at Broome. He expected the total take for the year would reach 480 tons.

FREEZER FLEET GROWS

Inspector A.K. Melsom, writing from Fremantle, reports that six additional freezer boats between 50 and 72 feet have joined the crayfishing fleet for the 1960/61 season. Mr. Melsom reports also the commissioning of the fleet's biggest well-boat, the "Marconi", a 50-ft. vessel owned by Mr. G. Caputi.

WELCOME SWALLOWS

Fauna Warden N.E. McLaughlan, during a wheat belt patrol, has reported an unusual sighting at Goomalling. On November 23, just before dusk, he observed a large flock of approximately 2,000 welcome swallows circling about 200 ft. above the town. Hundreds occasionally would alight in the trees for a few seconds and then take flight to rejoin the main flock overhead. Mr. McLaughlan says some of the birds fell to the ground and appeared to be completely exhausted. These could be picked up but after three or four minutes would again take flight. The flock remained in the area until dark.

W.A. LEADS IN PRODUCTION VALUE

The December, 1960, edition of Fisheries Newsletter reveals that the value of fish landed in Western Australia is greater than in any other State. For the 12 months ended June, 1960, the overall Western Australian production, not including an undisclosed amount received for scallops, was worth £3,661,000. The value of the total production of the next most valuable catch, that of New South Wales, was £3,578,000.

The value of the crayfish catch to our State is shown to be £3,013,000. Both in value and round weight, this is easily the largest species fishery in the Commonwealth. The W.A. crayfish catch alone is almost double the weight of the total Australian catch of sea mullet which is the next largest single fishery. This indicates the extent to which our fishermen depend on crayfishing and highlights the need for a precise knowledge of the requirements of the fishery and for the application of sound conservation measures.

SEIZURE OF UNDERSIZE FISH

On a number of occasions instructions have been issued to inspectors to the effect that reports in relation to the seizure of fish (including crayfish and crayfish tails) must mention the actual number of fish seized, and NOT the weight. Furthermore, inspectors have been told that on certificates of seizure the number seized must be given. There are still lapses on the part of some inspectors, and this final reminder is given so that there will be no excuse in the future.

The Department just now is faced with a problem arising from the insertion in a seizure certificate of the weight of crayfish seized. The fisherman concerned has claimed from the Department the value of the legal-length crays seized. In this case the number of undersize crayfish in certain bags of crays was in excess of 5% of the total number in those bags, and in pursuance of the power given by the Act all crayfish were seized. Those of legal size were sold for processing and the proceeds paid to Consolidated Revenue. Unfortunately, the inspector effecting the seizure inserted in his certificate only the weight of fish seized, and the knowledge that the number is the deciding factor, and not the weight, has encouraged the fisherman concerned to press his claim.

A further difficulty lies in the fact that very shortly after the case came before the Court, the inspector who made the seizure was transferred to another district, destroyed the note book in which had been noted not only the weight of the seized crays but also the number. The note book is consequently now not available for reference, although it was available for production in Court had it been required.

This case underlines the need for the preservation of records, although they may be only rough notes, as well as for adhering strictly to the actual letter of the law.

SIDELIGHTS ON CRAYTAILS

When Tom Fitzgerald, a wartime P.O.W. of the Japanese in Thailand, established the Golden Glean Fish Processing Coy. at Geraldton just after the close of World War II, he had little idea, nor did anybody else for that matter, that Western Australia's crayfishery would before long become the most important single fishery in the whole of the Commonwealth and expected to bring in between \$7 million and \$8 million in the year 1960. In 1946/7 Tom was engaged principally in smoking spanish mackerel. Neither he nor anybody had even thought of exporting craytails to the U.S.A.

American buyers came very soon after, however. Tom, always quick to see, and seize, an opportunity, decided to switch from fish smoking to cray-tailing, and thus became the pioneer of the new industry in this State. Nobody here had had any previous experience - nobody knew how to "screw" the tail or to remove the "G-string" (the intestines and the caecum). With Tom it was largely "hit or miss", but the standards demanded by the U.S. Food and Drug Administration were high, and Tom had, with all his improvisation, to work out acceptable techniques.

He fortunately was of a mechanical turn of mind, and he knew there must be some better and quicker way of getting rid of the G-string with its partially digested food than by the use of a sharp-pointed knife. He finally thought up the vacuum extractor, by means of which a cylindrical tool inserted into the craytail sucks out the G-string in a flash. It was adopted straight away right throughout Australia.

In those days Fitzgerald "screwed" the tail from the head, a procedure which was adopted by all processors who followed him into the industry and has been standard practice in Western Australia right up to the present year. The yield, i.e. the actual weight of tail packed, was in 1948-9 around  $33\frac{1}{2}\%$  of the total weight of the whole fish. Crays in the "midget" category gave slightly higher yields, up to 34 or 35%, but "jumbos" produced as little as 31 or 32%. Some processors killed the crayfish before de-tailing, maintaining that this gave a slightly higher yield. Others considered it made no difference and de-tailed live fish. However, by taking more care generally, yield has increased over the years until it appeared to stabilise some three or four years ago at around 37-38%.

In November, 1959, the Director (Mr. Fraser) visited some of the processing works in South Australia's south-east. At the Robe plant he was greatly impressed with the fact that a yield of over 40% was being secured, and learned that this was being brought about by screwing the head from the tail, instead of the tail from the head, at the same time running a knife fixed to the bench, thus, ~~right round the inside of the carapace in contact with the shell.~~ This ensured that practically no meat was left behind. On his return to Western Australia he mentioned this to certain operators and one brought the new technique into operation during the course of the 1960 crayfish season.

Immediately his yield rose to an overall percentage in excess of 40%, or an increase of 2 or more per cent. It is said that this resulted in a step-up in income of £15,000 last season.

One of the metropolitan processors has now abandoned the vacuum extractor process for removing the G-string, and has this season substituted a water-jetting technique. This, it is said, has the added advantage of flushing out the tunnel previously occupied by the intestines, which is not possible with the vacuum method. On a recent visit to this plant by departmental officers a yield of 42% for midget crays was noted.

It was on the basis of these augmented yields that the minimum legal weight of a crayfish <sup>tail</sup> was fixed recently at 5 oz. On freezer-boats, which carry out processing at sea, tails are still screwed from the heads, with the result that upwards of  $\frac{1}{2}$  oz. of meat is lost. Few, if any, use the knife attached to the bench, which is standard practice ashore.

The reason advanced by some of the freezer-boat operators for not following standard practice is that the knife would be a hazard to operators in any sort of sea. The Department cannot believe that any great danger would be involved. Vast quantities of fish are gutted and filleted at sea in many parts of the world with hand operated knives, in seas much worse than are encountered on our coast, without an unduly high accident rate.

The Department believes that the greatest use possible should be made of all crayfish caught, and all waste, and consequent economic loss to the State, sternly discountenanced. Many freezer-boats are packing tails as low as 4 oz., some even smaller than that, and in the majority of cases, though by no means all, the meat left behind in the carapace during de-tailing would have brought the tail to legal weight. We are therefore insisting on the 5-oz. minimum in an attempt to force the freezer-boat operators to process in a less wasteful fashion.

FISHERMEN'S CERTIFICATES OF COMPETENCY.

It has been the practice in the past for the Harbour and Light Department to accept a statement from a fisheries inspector as evidence of "sea time" that an applicant for a certificate of competency as skipper, etc., has had the requisite service.

It has lately come to notice that some inspectors have certified as sea time the length of time an applicant has held a professional fisherman's license. In one or two cases the Harbour and Light Department has found that although a fisherman has held a license for two years he has not spent two full years at sea. Actual time served at sea is, of course, the criterion in these cases.

Inspectors are therefore instructed that in future, before issuing a certificate, they must by proper enquiries satisfy themselves that two full years have in fact been served at sea. Two crayfish seasons, each of only about six months' duration, do not for example constitute two years' sea time.

HUNTS NOW MAKING OWN CANS.

Hunt's Canning Co. Pty. Ltd. has now installed its own can making machine. The machine, which was supplied by John Heine, of Sydney, is almost completely automatic, and has, it is believed, a capacity of about 60 cans a minute.

HUMPBACK WHALES - 1960 SEASON

STATION	WHALES TAKEN				AVERAGE LENGTH		PRODUCTION					APPROXIMATE VALUE
	Males	Females	Total	% of males in total	Males	Females	Oil			Meal	Solubles	
							Total	per whale	per whale foot			
					ft.	ft.	barrels	barrels	barrels	tons	tons	£
Carnarvon	209	231	440	47.5	38.08	39.75	20,678	46.99	1.14	1192	1128	500,000
Albany	62	43	105	59.05	37.56	39.81	5,076 (a)	47.23	1.11	200 (a)	-	120,000
Totals	271	274	545	49.72	37.99	39.76	25,754 (a)	47.04	1.14	1392 (a)	1128	620,000
1959	331	369	700	47.29	37.94	39.87	32,884 (b)	46.06	1.16	1916 (b)	1150 (b)	785,000
1958	509	458	967	52.36	39.34	41.15	48,885 (c)	50.3	1.26	2877 (c)	1968 (c)	984,000
1957	582	537	1120 (d)	51.96	39.81	41.61	56,844	50.7	1.24	3005	2142	1,231,000
1956	675	444	1119	60.00	40.34	42.31	55,995 (e)	49.99	1.21	3193 (e)	1952 (e)	1,232,000

- (a) Includes 2 blue whales.
- (b) Includes 12 blue whales, 1 fin whale,  
1 sperm whale.
- (c) Includes 2 blue whales and 3 bryde whales.
- (d) Includes one sex unknown.
- (e) Includes 1 fin whale.

## CLEARING HOUSE

### Migrants beating fish to the bait

New Australians, mainly from Southern Europe, have replaced amateur fishermen as the main buyers of fish bait - but it pays fishermen well. However, the New Aussies are not using the bait to catch fish - they are eating it themselves in preference to the varieties of fish Australians have made popular.

The biggest run has been on squid and octopus - two marine creatures an old Aussie would leave on the bank.

Up till 10 years ago squid was only regarded as bait - the highest price it brought was about 1/6 lb. Now it is a highly prized table delicacy and sells in high-class shops at up to 10/- lb.

### Luxury Eaters.

New Australians can afford to eat squid because most of them work longer and harder than old Australians.

According to the "Sun Herald," Australians have always been conservative on the subject of food. They have slavishly followed the pattern set by their English ancestors, preferring beef, lamb, mutton, poultry and the more orthodox species of fish to the exotic types that appeal to Continental palates.

### Too Timid

Even when meat and fish are relatively scarce, Australians hesitate to sample kangaroo steak or the tender flesh of a crocodile tail, which is said to be indistinguishable in taste and flavour from pork.

Even shark has to be disguised behind the fancy names of flake or cocktail fillets before Australians can be tempted to tackle it.

New Australian families are not so staid.

For years the humble prawn has been the standby for anglers looking for bait. But our new friends have found this tasty morsel so much to their liking that they have pushed up the demand for it.

The quantity available for bait has been so reduced that the price has gone too high for the average angler, who has had to seek substitutes.

A popular alternative has been the pipi, the smooth-shelled bivalve that was once found in thousands just below the surface of the sand on most Australian beaches.

When migrants learned about pipis they decided they were as appetising as oysters.

#### Clam Bakes.

Some New Australians now spend part of their holidays gathering pipis for family "clam bakes" on the lines of those so popular in America. They point out that there are several ways of cooking pipis. One of the simplest is to place them in a bucket of sea water for a couple of hours till they have purged themselves of sand and grit. They are then placed in a colander or wire basket and lowered into the steam coming from a container of boiling water without touching water.

They are removed after about five minutes and eaten on buttered toast.

A George Street chef, Agostino Tromretta recommended the following squid dishes to the "Sun Herald" reporters who called on them recently.

Dish No. 1. Squid Polenta. Take one large squid and clean thoroughly. Skin, and then cut into the size of chip potatoes. Roll in flour and fry in oil for three to five minutes.

Dish No. 2. Seasoned squid. Take one whole squid and clean and skin. Season with a stuffing of finely chopped meat, celery, tomatoes, persimmon and garlic. Roast slowly.

Mr. Tromretta recommended that both these dishes be garnished with a coarse corn syrup.

A pointer to the high regard New Australians have for our so-called bait fish is the queue that lines up every weekend on the Market Bait Stalls of Joe Arena and Frank Whiteman.

According to Fred Wickham, the City Council's supervisor at the Fish Market, another popular fish bait with New Australians is Cunjevoi ("cungyboy"). This shellfish-like marine animal clings to rocks below the high-water mark and is a good lure for drummer, rock-cod and jewfish.

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Mr. Wickham says that the rocks around his fishing spot at Little Coogee have been stripped bare of "cungy" by migrants. "Cungy" contains good red meat which the migrants use in stews and soups.

If this keeps up, old Aussies will have no national food left but beer.

(Fish Trades Review

Sydney

November, 1960)

#### Putting Sardines to Sleep!

Using an anaesthetic called MS-222, technologists of the U.S. Fish and Wildlife Service have put sardines and herring to sleep to avoid injuring the fish during tagging operations, says "The Fishboat".

Researchers at Booth Harbour (Maine) have tagged 140,000 sardines this way during the last two years.

(The Fishing News

London

7 October, 1960)

#### Electronic Fishing Line Tests.

The U.S. Bureau of Commercial Fisheries exploration fishing vessel "John N. Cobb", is testing a new "electronic fishing line" developed by a United States steel firm.

They claim that the invention promises bigger catches for commercial fishermen.

The device is a steel cable carrying electrical conductors making it possible for commercial fishermen to use a wide range of electrical and electronic devices to indicate the exact depth of their nets, when they are at the bottom, the ground speed of their trawl and size of their catch.

The new cable, or "warp", it is also claimed can be used with a depth telemeter to indicate how deep the trawl is fishing, thus permitting crews to lower or raise nets with pinpoint accuracy to snare a catch located beforehand by echo sounding.

(The Fishing News

London

28 October, 1960)

Pain and Cruelty in Fish Catching

'Muddle of inconsistencies and woolly thinking'

by Gavin Maxwell

Earlier this year much was written about alleged cruel practices in the prosecution of whale-catching in the Antarctic and more recently similar charges have been levelled against traditional methods of killing lobsters.

In this article, extracted from his graphic book on shark fishing in the Minch - "Harpoon at a Venture", the author puts this controversial subject into its proper perspective.

"Harpoon at a Venture" is published by Rupert Hart-Davis in their Adventure Library Series and is obtainable through Fishing News (Books) Ltd., 110 Fleet Street, London, E.C.4, at 13s. 6d. including postage.

All harpooning has its unpleasant side, no matter how much it may be forgotten in the excitement of the moment. If a warm-blooded animal were concerned, and more especially if it were a warm-blooded land animal, ninety-nine people out of a hundred (of whom I should be one) would hold it to be unthinkable cruelty. Yet is one justified, because this monstrous bulk of flesh and muscle is cold-blooded and directed by a brain which could almost be enclosed in a match-box in assuming that the experience undergone by the shark is so widely different from our own?

It is extraordinary how few people devote much thought to these subjects of pain and cruelty, extraordinary not because it is easy to reach satisfactory conclusions, but because they hold a uniquely ubiquitous position in every sphere of human activity. Yet few people can explain what they mean by pain in all its senses, let alone the complicated and uncomfortable abstract of cruelty.

Pain.

The dictionary definition of the word pain is "suffering or distress of body or mind," but to find synonyms for a word is far from understanding the meaning and function of the fact for which that word stands.

The function of physical pain in the animal - including the human species - is entirely easy to understand on an unethical plane. The physical sensation of pain is used mechanically to ensure the continuation of the species, just as plainly as is the physical sensation of sexual desire. In the animal world pain is the only limiting factor to the acceptance of physical injury, inflicted either by the animal itself or by another animal, which would result in the death of the individual and ultimately of the species.

If it did not hurt to knock one's head against a stone wall, one might playfully do it so hard that it resulted in death. Similarly, a slight stimulus which is at first perceived as pleasure, will, if it is sufficiently increased in intensity, be perceived as pain; an unequivocal warning that if the stimulus persists physical injury will result. This is an invariable law, and on its account we must accept as axiomatic that all animals perceive pain as disagreeable enough for it to act as the necessary deterrent.

We cannot know the exact degree of pain which animals at different evolutionary levels are capable of experiencing, but we know that in all the higher animals and most of the lower it is strong enough to make its avoidance - usually teleologically condensed as the "instinct of self-preservation" - stronger than any other instinct except the sexual. So we must assume that the shark feels pain strongly enough for it to act as the necessary deterrent to self-destruction.

There is an argument, possibly fallacious, which attempts to reduce pain at all evolutionary levels to a common denominator. It is the argument that when an animal or human is suffering as much pain as it can suffer the precise degree of pain measurable by a common standard is unimportant; that the maximum degree of pain sufferable by a fish is as unpleasant to the fish as the maximum that a human can suffer is to the human. How can one reconcile this theory with the authenticated fact of a carnivorous shark, gutted and heaved back into the sea, being caught a few minutes later on a hook baited with its own intestines?

### Suffocating

From this muddle of inconsistencies we can at least eliminate one glaring example of woolly thinking: the size of the animal concerned is completely unimportant, and one who is moved to pity by the sight of a stranded thirty-foot shark suffocating on a beach should be moved a thousand times more by the sight of a thousand herring suffocating in the hold of a fishing boat; or one who is revolted by the idea of a ten-pound steel harpoon in a thirty-foot shark should be equally revolted by an inch hook in the jaw of a salmon. And

perhaps both these facts can be brought into fair proportion only by the realisation that at every moment in the sea millions and millions of fish are being pulled into bloody pieces by millions and millions of other fish.

An interesting, though to me very inconclusive, treatise on pain, has been written by C.S. Lewis (The Problem of Pain) from the Christian standpoint. Being more an exposition of doctrine than a detached examination of the subject, it is perhaps unfair to expect conclusion; as an exposition it is clear and concise, and in the sphere of human pain it is unconvincing only when it attempts explanation on a human, as opposed to an animal level.

In bold precis, pain in its relation to humans is expounded as a divine weapon used to recall man from the formation of a continuing city on earth - as a rod in the hand of God. This doctrine is softened and made more palatable in the course of an able and rather lengthy discussion.

### Feeling.

In the chapter devoted to animal pain the argument, though presented with admirable clarity, remains to me entirely unacceptable. The fact of pain as a deterrent to self-destruction is skirted both in this and the previous chapter. But the theoretical difference between sentience and consciousness (the ability to translate it into experience) is well explained in words of one syllable, and it is perhaps here that one should look for the true comparison between shark pain and human pain.

But complex though these problems are that arise from consideration of the fact of pain, they are crystal clear by comparison with its child, cruelty. Here the dictionary gives us "indifference to, or delight in another's pain." As an abstract, independent of the human factor, cruelty does not exist; it stands as an entity divorced from the simple fact of pain only when the human appears on the scene.

A swallow flies into a telephone wire, and falls to the ground with one wing practically severed from its body. Pain is there but no cruelty. A boy passes on a bicycle, sees the bird flopping in the pathos of its destruction, and rides on.

The unknown factor has made its appearance, and the problem of cruelty has arisen, without interference by a human being, for he has only been a spectator of pain. The bird must suffer an equal degree of pain whether the injury is self-inflicted,

inflicted by a beast of prey, or by a human, but the word cruelty can be applied only in the last case.

A few, but I think a very small minority, would admit the fact of cruelty, in its most precise meaning, between animal and animal, but probably this same minority would describe cruelty as sin, and an animal without ethical code cannot be held guilty of sin even in its widest sense.

One fact emerges plainly from this: that since the degree of pain remains constant whether or not cruelty exists, the evil effect of cruelty must be confined to the inflictor, and has no reference to the sufferer. And here more than anywhere else it seems to me that all men live by instilled standards of conduct, condoning those cruelties which the code of their upbringing legalises, and condemning those that are exactly similar but outside the sphere of their habit.

The Japanese thought a kiss indecent but display prostitutes in cages; the sportsman is bound to wound several ducks in the course of a day's shooting, but is revolted by the sight of his son pulling off a butterfly's wings.

And who pauses to think how many wild animals can ever die any but a terribly painful death; how many fish in the end escape the mangling teeth of some larger sea creature?

(Fishing News

London

4 November, 1960)

Canadians Successfully Pioneer High Seas  
Seining for Albacore.

British Columbia fishermen made their first attempt at Albacore seining in September, and they liked the results.

They admit they tackled the job the hard way, using improvised gear and vessels that had not been built for that specific purpose; but their experience was such as to indicate to them that there is real promise in Albacore fishing with seines off the Oregon coast.

Apart from the deficiency in equipment, the venturesome fishermen who took part in the brief but rewarding operation acknowledge also that they were lacking in experience and skill. They had to try several methods before they finally hit on what

appeared to be the right way of harvesting the fish, but they are quite certain that even then their technique was far short of the ideal.

"We've got a lot to learn - an awful lot to learn," Captain W.J. (Bill) Pitre, skipper of "Pacific Belle," told "Pacific Fisherman" a few hours after landing his catch at the big Imperial cannery of B.C. Packers Ltd., at Steveston, September 20. And Capt. Pitre's words were echoed by Captain Emil Jensen, whose "Blue Pacific I" shared the distinction with the "Pacific Belle" of being the first B.C. fishing vessels to deliver a load of seine-caught Albacore in a Canadian Pacific port.

Capt. Jensen's boat made the biggest catch of all - 30 tons. Capt. Pitre's "Pacific Belle" landed about 18 tons. A few hours after these two vessels arrived in port, Capt. Elmer Norman's "Skardale" came in with a load of 15 tons and Capt. Bill Logan's spanking new "Dominator" delivered about seven tons.

At the Imperial plant the fishermen were met by Stewart Roach and John Harrison of the staff of the Fisheries Research Board of Canada, who for the past two or more years have studied the possibilities of developing a B.C.-based Albacore seining operation. For them, as well as for Pitre and Jensen and the other skippers the event called for considerable gratification.

"We didn't exactly make history," said Captain Jensen, "but we found out a few things. We hope to profit by our mistakes."

Until their expedition to the Albacore grounds off the mouth of the Columbia River, the B.C. fishermen had concentrated on salmon, herring and halibut. If they hadn't tried their luck with Albacore they would have been restlessly biding their time at home because the herring fishery is at a standstill this summer, salmon fishing has been severely restricted and the halibut season was long past.

Most of the B.C. fishermen were using 300 fathoms of 15-thread nylon seines, 24 fathoms deep, and Capts. Pitre and Jensen were convinced that nylon seines were the only suitable gear for their operation, although they would have preferred to have them 50 fathoms longer and 10 fathoms deeper.

Capt. Pitre, Jensen and the other skippers who tried their hand with seining Albacore this season believe that the results they achieved point to a permanent addition to B.C.'s fishing activities. In future, B.C. fishing vessels, if

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properly designed and equipped, can now fish for Albacore as well as halibut, salmon and herring, although in an average year most of the B.C. fishermen would probably give their preference to herring because of the bigger hauls in a limited time and the prevalence of the fish in more sheltered waters nearer home port.

(Pacific Fisherman

Portland, Oregon

October, 1960)

Fish smoking: Humber scientist invents  
new automatic machine.

A new automatic smoking machine for curing fish has been invented by Dr. D.L. Nicol, of the D.S.I.R. Humber Laboratory, Hull, and is being offered by the National Research Development Corporation for manufacture under licence.

In traditional curing methods used for centuries, smoke is produced by the partial burning of sawdust and wood shavings on the floor of a kiln in which the fish is hanging.

Food products cured by this method, however, differ considerably in appearance and flavour because the operation of the kiln depends on weather conditions which affect the air flow pattern and on the skill of the kiln operator in "juggling" the controls for ventilation and combustion.

Economic

Generators have been designed to produce smoke under more controlled conditions, but they have not proved entirely satisfactory, as they still call for considerable skill and attention from the operator.

The new generator developed at the Humber Laboratory overcomes these difficulties and is entirely automatic except for the necessity of filling a supply hopper with sawdust.

It is also extremely economic and uses only about a quarter of the sawdust required for the old method. The machine is intended to run for long periods with minimum attention and extensive tests have shown that it produces kippers and white fish of a consistent "smoky" flavour.

The machine uses a fluidised bed principle in which the sawdust is supported in a stream of heated air.

The air is heated electrically and the temperature so adjusted and controlled that the sawdust particles char without catching fire.

In this way, it is possible to make a large amount of dry smoke from a small quantity of sawdust.

Sieved and dried sawdust is fed at a controlled rate into the machine and the charred material continuously removed. Simple automatic controls are fitted and the smoke, which is produced at a constant density, is cleaned before passing to the kiln by a cyclone separator fitted in the outlet duct. Once the machine has warmed up, the full rate of smoke production can be stopped or started in a few seconds by the operation of a single switch. The generator is therefore suitable for either continuous or batch smoke curing processes.

The new generator is particularly suitable for use with the Torry type of mechanical kiln which is now finding increasing use in the fish curing industries. At a sawdust consumption of 5 lb. per hour, sufficient smoke is generated by the machine to run a kiln of 200 stone capacity. The air heating requirements for the smoke generator are 6 k.w., although this may be halved when the machine attains its normal working temperature (about  $1\frac{1}{2}$  hours from cold).

The patent rights in the United Kingdom and other patent applications are owned by the National Research Development Corporation.

(The Fishing News

London

4 November, 1960)

#### Soviet Fishing Sauries with Pumps off Japan

A fleet unit of U.S.S.R. vessels was observed by Japanese fishermen working sauries with pumps off Shikotan Island September 13.

The Soviet operation consisted of a 10,000-ton class factoryship, accompanied by two 400-ton class fishing vessels, which were sucking the fish into their holds by means of pumps after the sauries had been schooled under powerful lights.

The Soviet operation this autumn was in the same general vicinity in which similar activity was detected a year ago.

(Pacific Fisherman

Oregon

October, 1960)