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AUSTRALIA

MONTHLY SERVICE BULLETIN

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Vol. XV No. 9

September, 1966

STAFF NOTES

The Department extends a welcome to Mr. P.J. Mahoney, who has been appointed to a new item in the Clerical Branch. He commenced duties on August 22. Mr. Mahoney comes to us from the Department of Industrial Development, where he was engaged in Trade Promotion. The duties of his position will be as clerk to the Senior Research Officer (Development) and the Extension Officer, and will include the preparation of reports and publications. Mr. Mahoney holds the Diploma in Public Administration of the Perth Technical College.

* * *

The Senior Research Officer, Mr. B.K. Bowen, recently returned to Perth for a week-end's leave from the Australian Administrative Staff College in Victoria. Mr. Bowen is enjoying the experience of going back to school and says he finds it most interesting and stimulating.

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Annual leave was recently taken by Miss W. Woods, Librarian, Miss H. Ryan, Typiste and Mr. N.E. McLaughlan, Technical Officer. Fauna Warden S.W. Bowler will proceed on annual leave on September 5.

* * *

Supervising Inspector J.E. Bramley left by road on August 22 on a 10-day tour of inspection in the Exmouth Gulf, Onslow and King Bay areas.

* * *

Senior Inspector B.A. Carmichael commenced annual leave on August 22. He is being relieved at Geraldton by Inspector R.M. Crawford.

Assistant Inspector D. Blackman recently underwent a knee operation and was absent from duty for three weeks. He recommenced duty on August 31 and replaced Assistant Inspector E.J. Little on the p.v. "Vlaming". The latter has been transferred to the p.v. "Pelsart". Assistant Inspector L. Silvester was transferred to the p.v. "Dampier" and Cadet Inspector P. Wood has been sent to Learmonth for a term.

* * *

Our best congratulations to Research Officer R.J. Slack-Smith and his wife on the birth of a daughter on August 27.

POSITION OF EXTENSION OFFICER

It was reported in the Bulletin recently that Mr. V.J. Edwards, B.A., of Toowoomba, Queensland, had accepted the position of Extension Officer with the Department. Word has now been received from Mr. Edwards that he is declining the appointment. He has received promotion with his present employers.

This action will possibly cause several months' delay in getting our extension programme under way. The vacancy is now being re-advertised throughout the Commonwealth. The duties entail the preparation and publication of quarterly news-sheets for the information of fishermen, the organisation of lectures, etc., for fishermen, the interpretation to industry of the findings of research workers in fisheries and the organisation and initiation of training courses for fishermen.

AERIAL INSPECTION OF COASTAL WATERS

An aerial patrol three days after the crayfishing season closed was made of the inshore waters between Rottneest and Dongara on August 18. The flight in a single-engine Cessna also covered the Pelsart Group of the Abrolhos and waters north of Geraldton. On board the aircraft were Supervising Inspector J.E. Bramley, Assistant Supervising Inspector J.E. Munro and the skipper of p.v. "Pelsart", Inspector E.I. Forster.

This periodic inspection of coastal waters is in conformity with departmental policy initiated some time ago. In the course of the patrol two instances of illegal activity were detected. Several groups and some isolated crayfish pots were located, in spite of the recent closure of the season.

One Geraldton fishing boat was observed trawling for scallops in the Abrolhos. The r.v. "Lancelin" was also noticed working pots in the area. In all, a total of 30 crayfish boats were at anchor in the various localities.

Generally while the position was not completely satisfactory, the number of illegally set pots was not very large at all.

ANNUAL STAFF CONFERENCE

The annual staff conference will this year be held during November. No dates have yet been fixed, but full details will be given in the next issue of this Bulletin.

BRUCE MALCOLM CHANGES CAMP

Dr. W. Bruce Malcolm, of the Division of Fisheries and Oceanography, C.S.I.R.O., who some years ago was stationed in Western Australia and has done much research here and elsewhere in the Commonwealth in relation to the Australian Salmon, has been appointed to the position of senior biologist to the N.S.W. fisheries administration. We wish Dr. Malcolm, who is well known to the older members of the staff, much success in his new sphere of activity.

FIELD OFFICERS SCHOOL AT CRONULLA

The annual field officers training school at Cronulla, N.S.W., held under the auspices of the Commonwealth States Fisheries Conference will take place this month. The Minister for Fisheries and Fauna has approved for three officers from this Department to attend, these are Inspector G. Clifford and Assistant Inspectors E.J. Little and W.M. Mahoney.

The Department firmly believes in the value of the training given at these schools and appreciates the benefit accruing to selected students by meeting colleagues from other States. It is certain that a clearer understanding of the principles of fisheries management will be gained and that officers' future contribution to the work of the Department will be enhanced.

The three trainees will leave Perth by air on September 11.

ADDITIONAL ACCOMMODATION AT HEAD OFFICE

Alterations of the downstairs portion of the Head Office premises are almost completed. These new offices will accommodate the public counter, licensing section, typists and the Clerk-in-Charge. With the appointment of further research and clerical staff the existing facilities were quite inadequate. As mentioned earlier, the Research Branch has moved to rented premises in Outram Street, West Perth.

NORTH WEST VISIT

The Director, Mr. A.J. Fraser, and the Senior Research Officer (Development), Mr. J.P. Robins, visited Carnarvon and Exmouth Gulf during the past month.

The Minister (Mr. MacKinnon) also visited Exmouth Gulf, where he was joined by Messrs. Fraser and Robins. During the period of his stay, the Minister presented trophies to the "top" prawn fishermen for this and earlier seasons working for M.G. Kailis Gulf Fisheries Pty. Ltd. and Ross Fisheries (Australia) Pty. Ltd. The former had provided silver cups and the latter a pair of binoculars.

The winners of the trophies were Messrs. A.L. Grigg, K.E. Nielsen and Manuel Correia.

Mrs. MacKinnon and Mrs. Fraser were in the party as were Principal Research Officer I.S.R. Munro and Experimental Officer D.J. Tuma of C.S.I.R.O. The Minister's party was entertained at dinner at the Potshot Inn, Exmouth, on the evening of Friday, August 19, by M.G. Kailis Gulf Fisheries. Mr. T.G. Kailis, Managing Director of Ross (Australia) entertained the party on board the processing vessel "Ross Endeavour" (formerly "Lakanuki") on the following day. That evening the Minister joined the prawning vessel "Falla" on a trawling cruise, returning to Learmonth the following morning.

ADDRESS BY DIRECTOR AROUSES INTEREST

An address given by Mr. A.J. Fraser at a public meeting at Albany organised by the local committee of Technical Training Year in Western Australia has received considerable attention.

Mr. Fraser said that if Australia is to develop into a fishing nation its fishermen must turn away from the more comfortable inshore waters to the more hazardous, but

infinitely more rewarding oceans around us. To exploit the ocean resources demands a new race of fishermen, men who are prepared to put their money into bigger, better boats, specially designed for the purpose, to experiment with new, perhaps revolutionary, types of gear, and go to sea and stay at sea, in all kinds of weather.

This statement directed considerable attention at the fishing industry, present and future. Almost daily, articles in press were commenting on the new race of fishermen as envisaged by Mr. Fraser.

Mr. Fraser recently appeared on television on Station ABW2 and further elaborated his views. Associated with him in the telecast were Messrs. Les Amm and Ric Kelder, professional fishermen, and Theo Kailis, of Ross Fisheries (Australia) Pty. Ltd.

SEAGOING INSPECTORS RECLASSIFIED

After representation from the Director and consequent investigations made by officers of the Public Service Commissioner, the Commissioner has agreed that all positions of seagoing inspector will carry equivalent classifications.

It will be remembered that upon the determination of appeals against the Public Service Reclassification of January 1, 1963, two positions of Inspector (Seagoing) were upgraded by the Public Service Appeal Board. These were the positions of Inspector Grade 2 (Dampier) and Inspector Grade 2 (Vlaming) then occupied by Inspector Pearce and former Inspector Campbell, respectively.

Upon the resignation of Inspector Campbell Inspector E.I. Forster took charge of the 'Vlaming' and subsequently commissioned the new patrol vessel 'Pelsart'. His position has been classified Inspector Seagoing, G-II-2, as from November 6, 1963.

Inspector R. Smith was appointed to the vacancy created by the resignation of Inspector Campbell and took charge of the 'Vlaming' on February 1, 1966. His position has been classified Inspector Seagoing, G-II-2, as from that date.

The remaining position of Inspector Grade 2 (Misty Isle) has been reclassified as Inspector Seagoing, G-II-2. This position is at present vacant and will be advertised and filled in due course.

TRAVELLING, TRANSFER AND RELIEVING EXPENSES REVIEWED

The Public Service Commissioner has announced an amendment of allowances paid under the Public Service Allowances Agreement 1961.

Following a review of hotel tariffs, it has been agreed with the Civil Service Association of Western Australia (Inc.) that the daily rates of reimbursement of travelling, transfer and relieving expenses on and from the July 1, 1966 shall be as follows:-

| Clause | Item No. | Daily Rate | |
|--------------------------|----------|------------|---------|
| | | 30/6/66 | 1/7/66 |
| 6. Travelling Expenses | 1 | \$ 6.60 | \$ 6.70 |
| | 2 | 6.15 | 6.25 |
| | 6 | 7.00 | 7.35 |
| 8. Transfer Expenses | 1 | 6.60 | 6.70 |
| | 2 | 6.15 | 6.25 |
| 10. Relieving Allowances | 1 | 6.60 | 6.70 |
| | 2 | 6.15 | 6.25 |

CRAYFISH SEASON CLOSES

First indications of how the season just ended compares with previous seasons are favourable. Most crayfishermen are quite happy. The actual production may not have been quite as large, but the prices returned compensated for this. There were some exceptionally good catches made.

In the final week of the season some Fremantle based boats were still making daily catches of four bags.

CONSERVATION OF THE NOISY SCRUB BIRD

As indicated in an earlier issue of the bulletin, the Government's action to cancel the proposed townsite of Casuarina is receiving world-wide acclaim.

The following letter has been received by the Government of Western Australia from the Chairman of the World Wildlife Fund, with headquarters in Switzerland.

"The World Wildlife Fund has learnt with gratification the news that the Government of Western Australia has decided to cancel the proposal to establish a town near the only known habitat of the Noisy Scrub-bird at Two People Bay, and to make this whole area an effective national park for the conservation of this highly interesting species. We desire to express our congratulations and best thanks for this action and would like you to convey our appreciation to the Ministers of your Government, the Minister for Lands and the Minister for Fisheries, for bringing about this happy state of affairs.

We feel it is scarcely necessary to point out that this enlightened step, made by a Government which is internationally known for its progressiveness in furthering the material development of the State of Western Australia, will be a tremendous fillip to the cause of conservation throughout the world. It should serve as a wonderful stimulus to the various developing nations, who have recently gained independence, and who have important animal species now in their care and whose fate has been causing some concern in wildlife conservation circles.

The Two People Bay area is now known to contain in fair numbers two other bird species (the Western Whip-bird and the Bristle-bird) which in the past had been feared to be approaching extinction. This providential concentration of rare birds in a protected area, which has other natural history attractions, will give Two People Bay world interest.

We would like you to know that we are giving the widest possible publicity in our campaign to this forward-thinking action of your Government."

FISH MARKET NEWS

A supply of processed mussels from Melbourne are being offered at the Metropolitan Fish Market, Perth. They are bringing under the hammer 35 cents per jar, and are retailing in Perth at from 45 to 50 cents.

There is also the possibility that Eastern States scallops will soon become available at the Perth Fish Markets.

A PERSONAL MANAGEMENT PHILOSOPHY

The second question and answer dealing with personal management philosophy published in the May-June 1966 issue of "Modern Government" is:

What are your most important contribution to the organization you direct?

I structure them and give them form. I endeavour to arrange it so that each man and woman can feel pride in his defined part of the task.

As a catalyst, I try to make the organization produce, give it standards of production and objectives to reach and go as to extend its imagination and widen its horizon.

I once took over the direction of a governmental organization that was badly demoralized. Its programs had been ridiculed and opposed and its employees individually attacked to the point that the confidence of the whole group was severely shaken.

I was able to restore the morale of that organization by the process of giving it leadership, simply becoming the spokesman and deliberately permitting all of the criticism to be concentrated on me.

Since I became the target, the experts on the staff were able to do their work in the comparative quiet of that shelter. Within a month they began rallying and in less than a year the situation was adjusted.

A public administrator must be willing to take the position of leadership.

WILDLIFE SHOW 1966

The West Australian Naturalists' Club and the W.A. Gould League are again organizing a Wildlife Show this year. It will be conducted at the Perth Town Hall for the period September 19 to September 24. This Department will have a display on exhibition, on the theme - the conservation of wildlife. It will feature colourful slides, fish tanks, hand painted posters as well as other posters and articles of interest.

It is hoped that the display, which will be opened by the Minister for Fisheries and Fauna (Mr. MacKinnon), will act as a further medium of education towards a better understanding of what is meant by 'conservation'.

PUBLIC RELATIONS

Some time ago the Public Service Commissioner's office prepared a list of 'Key Points' on this subject. There is no doubt at all that public relations begin with every officer and that they cannot be neglected. Not only does the efficiency and image of the Department depend on good relations with the public, but also every officer's future.

It is quite evident that the following list of points that establish good public relations are equally applicable to field officers as they are to officers attending to the public at Head Office:-

1. Everyone is a public relations officer -
 - for himself,
 - for his family,
 - for his employer.

2. People judge you every day -
 - by your appearance,
 - by your speech,
 - by your manner,
 - by your smile.

3. You can develop your personality -
 - learn polite words,
 - learn kind words,
 - learn words that draw people out,
 - learn words that make people comfortable,
 - learn words that carry tones of praise.

4. You can learn to overcome nervousness -
 - to greet people warmly,
 - to remember names,
 - to make introductions,
 - to relax in "tough" situations.

5. This business of acting as your "best" self is Public Relations -

people will remember you favourably,
 people will admire your self-control,
 people will be favourably impressed by
 your appearance,
 people will be glad to have met you,
 your job will be more satisfying.

ITEMS OF INTEREST

Officers are advised that interesting news items concerning the fishing industry or the field of fauna conservation in their locality should be forwarded to the editor of the Monthly Service Bulletin. Frequently some occurrence would prove of general interest to all the staff. The bulletin provides this medium of communication.

STOP PRESS REPORT

Two fishing boats Tom Thumb F.468 and Freya F.303 made news recently by being overdue for return to port. The Tom Thumb was found drifting by a freighter some 13 miles north of Rottneest Island. However, the Freya's crew were not so fortunate, and had to swim through raging seas after their boat sank approximately $4\frac{1}{2}$ miles offshore. No lives were lost.

RUSSIAN RESEARCH SHIP VISITS FREMANTLE

The interest in Australian fishing waters by Russia was further emphasised by the visit of the 2,345 ton Russian Fisheries Research-ship 'Raduga'. The German-built stern-trawler on its maiden voyage called at Fremantle September 8 for bunkers and stores. It is rigged for deep-sea trawling and is fitted with big freezers.

There are ten biologists, including two women on board, collecting samples of marine life and charting fish movements off Australia and New Zealand. An extensive survey of the northern waters of Western Australia has already been made. The vessel is working for the Fisheries Institute of Vladivostock and information collected will be available to Russian fishing fleets.

CLEARING HOUSE

AUSTRALIA'S RESPONSIBILITY

Our natural resources are on trust to every Australian. They must be used responsibly and guarded jealously. Conservation of these resources is not the responsibility only of the government. Too often we hear that some mysterious 'they' or 'the authorities' ought to do something about some aspect of conservation. While governments can do much they are not a national conscience. Each individual must play some part in forming social attitudes towards conservation.

At the same time, while we complain that the individual frequently shelves his responsibility we must also take issue with those who are over zealous in their protectiveness. There is a kind of protectiveness that distorts and brings into disrepute the whole concept of conserving the natural Australia. This is also a shelving of responsibility. We must have a balanced view and recognise the needs of settlement and increased agricultural expansion on the one hand, but, on the other, strongly oppose the attitude that our native plants and animals can be ignored and arrogantly dismissed as useless.

Take a look at how such a balanced view could be applied to three particular instances, examples of items constantly in the news and affecting all of us most closely - whether we like it or not.

There are places where the man on the land is plagued by kangaroos and wedge-tailed eagles. Judicious culling, though unpleasant, is none-the-less necessary. But it is irresponsible to advocate the complete extermination of these animals or to use them as scapegoats for mismanagement. Secondly, land developers often perform valuable services in opening up land needed for settlement. But to bulldoze every last vestige of vegetation as well as topsoil when preparing suburban land for sale infringes on the rights of the people who eventually buy this land. Thirdly, to impose a second-rate imitation of a foreign environment on our unique landscape is an act against the Australian character. It is also a falsehood to the people who travel long distances to see the real Australia. Local people have a responsibility to show and foster appreciation of their country as it really is, not as they think people will pay to see it. You will be astounded how much more interesting the real Australia is once you penetrate the smoke screen of tourist propaganda.

There is room for much improvement in current

attitudes to these three and countless other cases. It is up to every individual to see that this is achieved. If we act irresponsibly towards wildlife, in the end we only act irresponsibly towards ourselves.

Many seemingly criminal acts against Australian wildlife are not perpetrated deliberately. They are the result of ignorance - conservation's greatest single enemy.

What is conservation

We often use the term 'wildlife conservation', but to some people this is a new word - as indeed it is a rather new idea. It may be useful to give a definition. The conservation of any resource soil, water, forests - means not only its preservation and protection from waste and misuse, but its wise use. To conserve wildlife means to ensure, not only that it will survive for our enjoyment and study, but that it is wisely husbanded and managed, whether in National Parks and fauna and wilderness reserves, or elsewhere.

Wildlife conservation, then, includes ensuring that certain over-plentiful species (of which there are very few in Australia) do not over-run their natural checks and balances and increase so that other species, or legitimate farming activities, are threatened. But at present this is a very small part of the needs of wildlife conservation here - since most species are losing habitat so quickly that they certainly don't constitute a threat to anything or anyone.

The principles of conservation, and the word itself, were established in the United States in the late nineteenth century, when it was recognised for the first time that wasteful, heedless and destructive use of resources like soil and forests had to be checked. A forester, Gifford Pinchot, first used the word in this sense. Since his day, the population explosion and the enormous increase in our technological mastery of our environment have made the principle of conservation more urgent than ever. Let us all remember the Late President Kennedy's warning: "Our economic standard of living rises, but our environmental standard of living - our access to nature and our respect for it - deteriorates and the long-run effect will be, not only to degrade the quality of the national life, but to weaken the foundations of national power".

That means Australia, too!

A DYNAMIC APPROACH TO TRAINING

Newfoundland leads world in standard of fishery education.

BECAUSE Newfoundland and Labrador are comparatively isolated, the standard of education attained by many school leavers is rather low. Until Confederation, in 1949, since when the number of high schools has increased markedly, the majority of schools in outport communities were of the one- or two-room types.

Even now, the majority of graduates from high school are needed in the professions and in shore-based technical capacities and are therefore not inclined to enter the fishing and marine industries, so that most men entering the industry are the sons of fishermen who leave school with a relatively low educational attainment.

Naturally, the majority of students entering the College of Fisheries, Navigation, Marine Engineering and Electronics come from the Province of Newfoundland and Labrador, although young men from other provinces in Canada and from overseas are welcome, and several are in residence at the moment (see below).

Students come to the college with a wide range of scholastic achievement; some have graduated from high school with qualifications suitable for university entrance, but the majority have never reached high school level or have dropped out.

As the college is concerned with the whole marine industry rather than just teaching fishing, operations are conducted by a number of professional departments supported by service departments who handle the basic subjects of mathematics, science and English, in addition to the upgrading courses. This arrangement, whereby the professional departments work in very close co-operation, is proving extremely efficient.

Deck officers for both the merchant and trawler fleets are trained in the Diploma course, which is organised on a "sandwich" system between the college and sea training. A further option in the course provides for the training of fishing gear technologists, who are in such short supply in many countries.

At the vocational level, training is available to fishing skipper level in addition to training men for the deep sea fishing fleet as deck hands, or for inshore fishing.

Special short courses for serving officers and seamen, enable them to meet the necessary standards required by attendance at the college between voyages.

The Diploma Course of the Department of Naval Architecture and Shipbuilding provides the only training available in higher level naval architecture and shipbuilding in Canada. It is also the only known course in the Western Hemisphere at this level which considers the subject in terms of smaller fishing vessels, when the subject is often more complex than for large ships. The course is based on the "sandwich" system of training between college and shipyards. After initial teaching to Diploma level, a one year post diploma course allows specialisation in any desired field, including fishing vessel technology.

Vocational courses provide for the training of shipyard craftsmen and special courses are available for shipyard employees, especially where new techniques are being introduced.

Diploma courses are available in both electronics and electrical technology, on a broad basis, while 15-month vocational courses provide training in marine electronics and marine electrical technology. A special course enables marine engineers to gain electrical endorsements to their tickets.

The increasing complexity of fish processing plants provides opportunities for students who graduate from the diploma course of Food Technology. Vocational courses provide for training in quality control procedures and modern production techniques.

Engineers

Training of sea-going engineers and those of shore based installations is provided by diploma courses in the Department of Mechanical Engineering Technology. It works closely with the Canadian Department of Transport to provide a broad based, balanced, sandwich course which includes time at sea or in shore installations. Vocational Courses train watch-keeping engineers on sea-going vessels, particularly the fishing fleet, and also allow inshore fishermen to learn engine installation and overhaul. Special courses enable serving engineers to attend the College between voyages.

Scattered settlements and isolation make it impossible for many working fishermen to come in to the college at St. John's, and for a number of years before the college was

established, the Newfoundland government provided travelling schools, which toured the various outlying communities during the winter months, giving courses of several weeks duration in navigation, nets and gear, and engine maintenance. These courses are now operated by the College of Fisheries Extension Service and have been expanded considerably so that eight instructors are on the move this winter. The success of these travelling schools is shown by the fact that some 4,000 fishermen, mostly of mature age, have taken advantage of them since their inception.

The high standard of the college courses calls for extremely capable and well qualified teachers, recruited from all over the world, in addition to Newfoundland. The President, Dr. W.F. Hampton, is well known to fishery administrators and scientists for his work with the FAO, and he has taken care that his departmental heads come to the college already established in their own field. This policy is maintained throughout the teaching staff among whom are members from Canada, the United Kingdom, Japan, Yugoslavia, India and Norway, all of them being well qualified and experienced in their own field.

Finance.

To attract young men to the college the Canadian and Newfoundland government jointly finance the teaching and living expenses of students from the Province, so that financial inability to attend does not arise. This policy is proving extremely effective in attracting students from remoter districts who would not otherwise be able to take advantage of the opportunity. The Newfoundland fishing industry shows its appreciation of the government's help in providing the manpower it will soon require by co-operating whole-heartedly in providing equipment and opportunities for practical training.

Students from other Provinces are likely to be trained in increasing numbers over the next few years, as the college is now recognised as the centre for advanced fisheries training (Diploma level) for the Atlantic region of Canada; (other provinces operate fisheries schools at vocational level only).

Overseas students

Special opportunities are available for students from many Commonwealth countries to attend the College under one of the aid programmes administered by the Canadian External Aid Office in Ottawa; this opportunity is of special importance

to many of the developing countries within the Commonwealth as all expenses are met by the Canadian Government under these plans.

Students live in the College dormitory for their first term after which more senior students move into lodgings in St. John's.

Visitors to the College are immediately impressed by the amount and quality of training equipment available in all departments. For example, a 24-seat planetarium, water tanks for demonstrating nets and gear, and a complete radar simulator are available in the Department of Nautical Science.

In the Department of Naval Architecture, a 120 ft. model tank used for resistance, propulsion, and stability work is now being completed, and the workshop facilities include equipment using the latest techniques in steel, wood and fibreglass for shipbuilding, including laminated wood construction of inshore fishing craft.

Training at sea and shipboard practical work is provided for students aboard the College's two training ships, both of which are fishing vessels adapted to allow demonstration of the various fishing methods.

As all the departments teach in an extremely practical manner, especially at the vocational level, extensive laboratories are available in all departments to provide a direct link between theory and its practical application. The library, which is fast becoming one of the most complete in the nautical field, contains a very wide selection of films used constantly in teaching, together with visual aids in the form of film strips, displays, models and charts.

The success of the College's approach to teaching can be measured by the fact that employers in provinces other than Newfoundland are taking students for practical training, in the hope that they will stay with the firm after graduating. Students completing courses, except those returning home to their own communities, are in great demand.

From its first intake of 146 boys in January 1964, the College's student body has now grown to around 500, of which some 25 per cent are in career diploma courses, 55 per cent are in specialised and vocational courses, the remainder taking a general up-grading course before entering a chosen field.

Announcements are being made almost monthly of new fishing craft, fish plants, and associated services in the Province, and the policy of giving training to every person who wishes it, to the fullest of his capabilities, will ensure the supply of well-qualified man-power at all levels, which is so necessary today. Many countries having long-established training programmes could profit from the dynamic approach to be found at St. John's.

(World Fishing

June, 1966)

BIG PRAWN RUN IN THE WEST

A small group of fishermen is catching huge hauls of prawns in the Exmouth Gulf of Western Australia, thus confirming experimental findings that the area was capable of becoming a commercial prawning ground.

In the first 10 weeks of the season some crews have caught more than 50,000 lb. of prawns worth between \$15,000 and \$20,000.

These catches would have once been considered impossible for the area.

One 35ft. boat caught nearly 2,400 lb. of prawns in one night worth about \$800 and other boats have caught 1,500 lb. a night.

Catches have been so heavy that some fishermen have returned to southern ports to fit out bigger boats.

All prawns are processed at Learmonth not far from the U.S.N. Radio Station at North-west Cape.

All for export

There they are packed for export to Japan and the U.S.

Frozen prawns bring about 95 cents a lb. on the Japanese market but processing and shipping costs are high from remote Learmonth.

The prawning crews receive about 30 cents a lb. for their catches.

One skipper earned \$20,000 in the first eight weeks of the season. The processing works run by Gulf Fisheries Pty. Ltd. handle up to 100,000 lbs. a week.

About 15 boats are licensed to fish for prawns in the Exmouth Gulf area at present - a tiny number compared to the hundreds of boats in the crayfishing fleet which earns up to \$12 million a year in export income.

But prawning fishermen are confident that research along the north-west coast will reveal vast fishing grounds.

This season prawns have been taken from water 30ft. to 48ft. deep.

Huge tiger prawns have been caught in big numbers.

Part of a quickening of interest in fishing in the Indian Ocean is a survey for new prawning grounds on the north-west coast planned by Ross International Fisheries, a combined British and W.A. Company.

Ross International, part of the huge British Ross group, also plans ambitious exploitation of tuna grounds on or near the continental shelf.

(Fish Trades Review

Sydney

July, 1966)

UNUSUAL AUSTRALIAN METHOD

The 48ft. combination fishing boat Alveda, owned and skippered by Mr. Alf Davey of Greenwell Point, New South Wales, is a surprisingly versatile craft incorporating much original thinking in her layout and equipment.

Basically the Alveda is a traditional East Coast Australian prawn trawler, with a forward wheelhouse, a raised foredeck and a large working deck aft, but from this point on she differs widely from her contemporaries.

She was among the first Australian boats to be fitted for double rig otter trawling for prawns. The credit for originally developing this system goes to the Americans operating in the Gulf of Mexico, but there is very little resemblance between their rig and Alveda's which incidentally, was designed and built by her skipper with the help of his father.

In contrast to the American and Dutch systems in which the booms are carried by a single mast erected in the centre line of the deck, the Alveda has a goal post arrangement just abaft the wheel house with the uprights stepped at the bulwarks. This permits the heels of the booms to be stepped at the rails so that not only are the booms shorter and lighter than in the other systems but also the deck under the rig is absolutely

clear. The goal post structure was constructed from 5 in. and 2 in. pipe and the booms from 4 in. (all internal measurements), welded together then galvanised and painted.

During fishing and steaming the booms are set outboard at an angle of about 30 deg. to the horizontal. Each boom is braced by a forestay incorporating a conventional slip hook which acts as a quick release safety device in the event of coming fast. In heavy weather the booms can be swung aft and then lowered until they lie horizontally along the bulwarks.

Another interesting feature is that the trawl which is located below decks in the main hold, immediately beneath the goal post structure. The warps are led through the deck to sheaves on the goal post cross piece sited directly over the winch drums and are totally enclosed the whole way in marine ply trunking. This not only ensures a watertight deck but also protects the crew from the trawl warps. Another advantage is the long straight lead to the drums which dispenses with the need for warp reeving gear.

The winch consists of the entire back axle of a 162 series 7 ton "International" truck complete with wheel hubs and brakes. The differential has been left free so that the drums can be operated independently by applying the brakes. Power is supplied by a Raymond hydraulic pump and motor, coupled directly to the main engine. The capacity of each drum is 300 fathoms of $1\frac{1}{8}$ in. circ. 6/19 galvanised wire rope.

On the starboard side abaft the wheelhouse are the hydraulic winch controls which are mounted on the combined pot hauler, lazy-line hauler, and longline gurdy. The controls of this unit are conveniently grouped at waist height, so that the operator can stand with his back to the wheelhouse, and keep the warps and doors under observation at all times.

Facing the winch operator but slightly above his normal line of vision are the remotely mounted twin counters for the warp meters from which the operator can tell immediately how much warp is out. The meters were designed and built by Skipper Alf Davey and each consists of a rubber tyred wheel about 6 in. dia. which is held against the warp by a spring. This wheel is connected to the counter by a flexible steel cable.

Processing

A peculiar feature of Australian prawn boats is that the hold is not used for stowing the catch (which serves

mainly to hold spare gear and tackle). Instead, the prawns are held in a combined brine tank and sorting table mounted on the after deck. The prawns are sorted on this table and then transferred to the brine tank underneath. The brine is just plain sea water with added salt ice. The Alveda's brine tank is built of marine ply which is insulated and partitioned into three independent compartments each of which is lined with fibre glass. (Incidentally this brine tank can be replaced by a portable live bait tank when tuna fishing). Total capacity of the brine tank is 3,000 lb. of cooked prawns.

An oil fired prawn cooker is located beside the after end of the wheel house on the starboard side, this can handle an 80 lb. basket of prawns at a time.

The Alveda was originally built as a conventional single rig stern trawler, but her conversion to double trawling has not interfered with her ability to use single gear, which consists of a pair of 7ft. x 2ft. 9 in. doors weighing 500 lb. each rigged with a flour point suspension chain bridle, with three fathoms of $1\frac{1}{8}$ in. circumference sweeps on top and $\frac{5}{8}$ in. S.L. chain sweeps on the bottom. These are used in conjunction with an 84ft. headrope prawn trawl of the type shown.

Her double rig gear consists of two pairs of 6ft. x 2ft. 6 in. doors weighing 250 lb. which are used in conjunction with two 66ft. headrope nets of the same design as her single gear. When fishing and hauling Skipper Davey keeps the second net about 25 fathoms behind the first to avoid the risk of fouling.

With either set of gear, only the cod end is brought aboard between shots. This is accomplished in the normal way by using a dandyline (or snottler -Ed.), the forward end of which is attached to a door from which position it can be retrieved by a long boat hook.

When steaming, the doors are left hanging on the booms but if necessary can be brought inboard and stowed securely against the bulwarks.

The skipper is currently using her for tuna trolling, prawning, and trap fishing and is in the process of rigging her for fish trawling using single gear. In addition if the fishing warrants it he can turn his hand to lining or tuna live bait fishing - so he is rarely without work.

Principal particulars of the Alveda are: length o.a. 48ft., length b.p. 45ft., beam 14ft. 9 in., draught aft

subject in order to give me an opportunity to criticize the industry. Therefore, I shall turn to a more constructive approach. What are the factors which must be considered in the development of a new product? I will discuss these questions under the following headings:

(I) The Resource; (II) Processing methods; (III) Quality control; (IV) Packaging; (V) Marketing and (VI) Economic factors.

I. The Resource

- * Will the season be sufficiently long to permit recovery of overhead costs?
- * Can the fish be caught with existing vessels and gear?

The biological stations of the Fisheries Research Board will probably have some data on the extent of the resource, life cycle, seasonal habits and other biological data. If it is a presently unexploited species these data may not be too precise. Some further exploratory fishing or other investigational measures may be necessary. Such studies can generally be arranged in a reasonable time.

If data on fishing methods are inadequate or present practices appear inefficient the Industrial Development Service of the Department, usually in co-operating with the provincial government concerned, will be prepared to arrange for and assist financially in experimental fishing. Gear technologists will be provided and, if necessary, experts from other areas or countries may be recruited to help develop more efficient catching methods.

II Processing methods

- * Will the proposed product require special processing facilities?
- * If so, have such facilities been developed for other fish or food products?
- * Are there likely to be special characteristics of the species which will require special attention in processing?

Unless the proposed product is really unique existing processing facilities can probably be used if not the technological stations of the Fisheries Research Board or the Inspection laboratories of the Inspection Service of the

Department of Fisheries may be consulted.

Research projects will be undertaken if necessary. The Industrial Development Service will also be available for direct financial assistance or the engagement of consultants. Pilot plant operations may also be necessary and can be carried out or financially assisted.

III Quality Control

- * Has the species any characteristics likely to inhibit the production of a quality product?
- * Will shelf-life be a problem?

These problems will come to light after a sample of product has been produced. Nevertheless, questions related to fat content or other chemical characteristics can be detected in the raw fish and subjected to analysis by the Fisheries Research Board or Inspection laboratories.

If the prospective producer is a newcomer to the field the Inspection Service can also be of assistance in advising on sanitary standards, water supply and the like.

Studies of shelf-life may be carried out by the processor assisted, if necessary, by Departmental or Board scientists.

IV Packing

- * Will the species or the proposed product have characteristics requiring special packaging techniques?

The Industrial Development Service of the Department maintains close liaison with the packaging industry. It will be prepared to undertake alone or with processors experiments directed towards development of more suitable and economic packaging methods and materials.

V. Marketing

- * Is the product likely to meet immediate consumer acceptance in the domestic or export markets?
- * Is the product likely to receive general or specialized acceptance?
- * Will the product fit into modern consumer shopping and eating practice?

The Economics Service of the Department is available to consult on marketing problems of this kind. Recently the industry has not pressed for specialized market studies. However, arrangements for such studies in the domestic market can be made where desirable. The Consumer Service of the Department can carry out cooking tests and develop suitable recipes.

If it is proposed to market the product abroad field officers of the Department of Trade and Commerce are in a position to gather data on market requirements, prices of competitive products and many other factors related to market possibilities in almost any country of the world.

VI Economic Factors

- * What price will be necessary to induce fishermen to deliver raw material?
- * What will be the probable processing and merchandising costs?
- * What price will consumers be willing to pay in relation to competing food products?

Assembly of pertinent economic data of this kind can be arranged through the Economics Service of the Department. Where a pilot operations are carried out in plants or laboratories cost analysis can be included as part of the project. Much data is available on costs of fishing with various types of vessels and gear but plant cost data will mainly have to be based on the records of the company concerned. The Economics Service will be prepared to assist on request.

(Western Fisheries

May, 1966).

EROSION STUDIED WITH COLORED SAND

A California concern, General Oceanographics, Inc., of San Diego, has used red and green sand to trace the path taken by thousands of tons of sand that wash away from Pacific beaches each year. Grains of the dyed sand were observed by SCUBA divers, were collected in samplers and were photographed by deep underwater cameras during the course of the two-year study. The scientists found a definite pattern of sand movement that may prove valuable in controlling erosion of beaches.

(International Oceanographic University of Miami April 1966)