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The Inshore-Marine and Estuarine Licensed Amateur Fishery of Western Australia

BY

R. C. J. Lenanton

DEPARTMENT OF FISHERIES AND WILDLIFE

PERTH

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THE INSHORE-MARINE AND ESTUARINE LICENSED AMATEUR FISHERY OF WESTERN AUSTRALIA

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ABSTRACT

A description of the inshore-marine and estuarine licensed amateur fishery of Western Australia is reported, emphasising important historical events which influenced the development of the fishery. The increasing trend in the number of licences issued annually is presented and is shown to correlate significantly with the increase in an index of *per capita* surplus income.

The factors which might influence the present rapid rate of increase in the number of people participating in the fishery, and results of past attempts to collect information on the activities of licensees are discussed. In situations where all the following species occurred, the preferences of licensees in order of importance were prawns, rock lobster and fish.

A new system for the collection of information on the activities of licensees is described.

I. INTRODUCTION

Coastal fish populations are increasingly subjected to the pressures of commercial and amateur fishing activities, environmental disturbances, and other activities such as pleasure boating and water skiing which result from the increased urbanisation of the coastal zone. Of these, amateur or sport fishing is acknowledged as a major pressure in countries such as the United States of America (Deuel and Clerk, 1968; De Sylva, 1969; Bureau of Sport Fisheries and Wildlife 1965, 1970) and Great Britain (Clark, 1971), both with respect to the amount of fish harvested and in terms of its capacity to compete for operating space in a basically finite physical coastal habitat.

In Western Australia, amateur line fishermen who operate in the estuarine and marine environment are not required to hold an amateur fisherman's license. However any person, other than a licensed professional fisherman, who wishes to catch fish* except crabs, by means of a fishing net, or rock lobsters by any means whatever, must hold an amateur fisherman's license issued under Regulation 3A, (Appendix 1), of Section 6 of the Fisheries Act, 1905-1975.

Due mostly to the coastal location of the vast majority of the Western Australian population, and the availability of many species of edible fish and crustaceans, a large proportion of the State's population have the opportunity to participate in amateur fishing. To date, there have been no State-wide censuses to determine the relative magnitudes of catches taken by commercial, amateur line, and licensed amateur fishermen. However, the results of several localised surveys have shown that for certain species of fish taken from the estuarine and inshore marine environment, catches of amateur line fishermen are capable of being at least equal to (Lenanton and Hall, 1976) or considerably greater than (Lenanton and Caputi, 1975) commercial catches. There is additional evidence to suggest that the estuarine licensed amateur net fishery (Lenanton, 1974) and the licensed amateur rock lobster fishery (P. Norton, unpublished) do not make a great contribution to the total estuarine fish and rock lobster catch respectively. Therefore it would appear at present that the unlicensed

amateur line fishery is the major contributor to the total amateur catch of fish in Western Australia. Indeed this assumption is supported by results from a recent recreational survey of the south coastal estuaries of Western Australia (Caputi and Lenanton 1977) which concluded that estuarine rod and line fishing was much more popular with tourists than net fishing.

However the sharp increase in the number of amateur licenses issued annually (Table 1, Figure 2) means that this component of the amateur fishery is rapidly achieving the potential to make a real contribution towards both a greater catch of certain fish and crustacean species, and an increased level of conflict between the various users of aquatic habitats adjacent to the coastal strip. Both these fish stocks, and their environment need to be managed, for the benefit of the stocks themselves, and for the benefit of their major users, i.e. man. This paper will attempt to bring together all the available information which is considered necessary for this management, and which may be of use to other bodies concerned with future planning and the provision of facilities for sport fishing. This will include an account of the history of the fishery. It will also report the results of some initial attempts to collect more detailed research information on the activities of license holders, which lead to the introduction of a new system of data collection and licensing.

II. HISTORY OF LEGISLATION RELATING TO AMATEUR FISHING LICENSES IN WESTERN AUSTRALIA

Prior to 1899, no Western Australian fisherman was required to hold a licence.

The Fishery Act of that year specified that persons catching fish for sale and persons fishing with a seine net must hold a "Fisherman's License" The fee payable for this license was 10 shillings in the case of adults and 5 shillings for persons under 21 years of age. Licenses expired on December 31 of the year of issue, a half fee being payable on licenses issued after June 30.

The Fisheries Act of 1905 repealed all previous fisheries legislation. However, the portion of this new Act relating to the Fisherman's license differed only slightly from the 1899 Act in that persons catching fish by any means for the purpose of selling them were required to

* Fish means and includes all or any of the varieties of marine or freshwater fishes and crustacea or marine animal life.

hold the license noting that people who owned a seine net still were required to hold a license. The fee was 10 shillings irrespective of age and a penalty of 2 pounds was prescribed for persons contravening the licensing requirement. Section 34 of this act placed on the accused the burden of proof that fish were not caught for sale.

The legislation remained unchanged until 1940, when the Act was amended to require all persons fishing with a net, not just seine nets, to hold a licence.

It is apparent from perusal of Fisheries Department records* that the Government constantly received submissions from professional fishermen's organisations expressing concern at the activities of amateur net fishermen. The principal complaints alleged interference by amateurs with the operations of professional fishermen and that the sale of fish by amateurs interfered with orderly marketing and thereby jeopardised professionals' income.

In replying to one such submission from the South Coast Licensed Fishermen's Association (Albany) in 1945, the then Minister for Fisheries held the view that part-time or weekend professional fishermen had equal status with full-time professional fishermen and that their catches materially increased production generally. He therefore considered that there could be no reasonable objection to their operations.

At this time the provisions of the Fisheries Act and Regulations did not distinguish between professional and amateur (called at the time "domestic") fishermen, except in respect of the requirement that boats used in taking fish for sale had to be licensed. The Fishermen's Consultative Committee had requested that the activities of domestic fishermen be curtailed by suggesting that restrictions be placed on the length of net that they used, and by amending the regulation concerning priority among netters on fishing grounds to give preference to professionals.

It was also suggested that the issue of Fisherman's Licenses should be restricted to members of legally constituted Fishermen's Associations or unions. The Department was not in favour of this course of action, putting forward the view that it would deprive citizens of this State of a historical right—

"Annually, at least some hundreds of licenses are issued to amateurs who desire to use a net for pleasure fishing and to supply household needs."

The Department suggested the following amendments to the legislation.

- (a) Introduction of a separate form of license for amateur fishermen.
- (b) The prevention of the sale of fish by amateurs.
- (c) The restriction of the length of net used by amateurs to 50 yards.
- (d) Changing the priority in netting regulation (No. 13) to give preference to professionals.

These proposals were circulated to all fishermen's associations for their comments, with the result that they received unanimous approval. However, the Government decided not to introduce a separate license at this time.

* Fisheries Department Records referred to in this section of the Bulletin are the Files 19/32 Amateur fishermen's licenses—General Correspondence; 19/45 Operations of part-time or domestic fishermen; and 97/48 Fisheries Regulations—Amendments.

In November, 1946 the Chief Inspector of Fisheries, noted:

"The question has been dealt with in the amending Bill which has just passed both Houses. The Hon. Minister considered that it was preferable to deal with the matter by empowering the licensing officers to impose conditions on licenses. Section 17 was accordingly replaced with a new Section 17."

The amending Bill referred to above resulted in the Amendment Act, 1946 which broadened the powers of the Minister to direct licensing officers to impose conditions on licenses. These conditions related to areas fished, species taken, gear used etc, and "such other conditions as the Minister may consider shall be in the interests generally of the fishing industry or of the State."

In January 1947 the South Coast Licensed Fishermen's Association wrote to the Department of Fisheries on the subject of the sale of fish by amateurs:—

"In view of the amount of fish being sold by other than professional fishermen . . . whether or not it would be advisable and possible, to distinguish between licenses issued to professional and holiday or weekend fishermen."

The Department, however, emphasised that two alternative points of view needed to be considered:—

- (a) The question of amateur fishermen interfering with the livelihood of professional fishermen had been a sore point with the latter for some considerable time. Professional fishermen throughout the Commonwealth had been making representations to their respective Governments to withhold licenses from any but full-time professional fishermen. Thus, amateurs who use nets from time to time for the pleasure of it should not be permitted to enter into competition with men who are the backbone of the industry and dependent on the fish they catch for their livelihood.
- (b) The Act contained no definition of the term "professional fishermen" and, in fact, many persons who considered themselves full-time fishermen were seasonally employed in other occupations. It is therefore difficult to maintain the thesis that a man who engages in only part-time fishing, say at weekends, is any less entitled to hold a fisherman's license and to sell his catch than a man who spends part of his time at, say farming, and maintains the proceeds of such seasonal employment.

In view of the difficulty of this decision, a reply was forwarded to the Association in September 1947 assuring them that the matter was under consideration by the Department and that suitable action would be taken when a satisfactory solution was worked out.

No new legislation governing fishing licenses was introduced until late 1949. In that year, an Amendment Act (No. 48, assented Oct. 26), repealed sections of the Fisheries Act dealing with the issue of fishing licenses for men and boats. Such licenses were subsequently dealt with by regulations issued under the authority of Section 6 of the Act. All such regulations were now promulgated and amended by notice in the *Government Gazette*.

The remaining account of the history of the fishery is restricted to discussion of the various introductions of, or amendments to relevant Fisheries Regulations, as they appeared in the *Government Gazette*.

Government Gazette, December 16, 1949

Regulations were introduced which, for the first time, enabled differentiation between professional and amateur fishermen.

Persons catching, or assisting or attempting to catch fish for sale by any method were required to obtain a professional fishermen's license. Boats used by professional fishermen were also required to be licensed.

With respect to amateur fishermen, Regulation 3A stated that:—

"The owner or person in charge of any net which is being used for catching or attempting to catch fish for domestic purposes shall hold an amateur net fisherman's license."

The penalty for breach of this regulation was 10 pounds. The fee for the amateur fishermen's license was 10 shillings and under this regulation, no license holder was permitted to use a net longer than 50 yards. For the purposes of the Regulation, the term "net" did not include a dip, scoop or landing net of less than 2 feet in diameter. The license expired on December 31 of the year of issue, a half fee being payable on licenses issued after June 30.

In February 1950, the Western Australian League of Professional Fishermen's Associations lodged objections with the Minister regarding the high fee charged (5 pounds) under the new regulations for a professional fisherman's license. At the same time, the League suggested that the length of net permitted for amateur fishermen be 100 yards in ocean waters and 50 yards in estuaries.

The Minister's decision (in addition to reducing the professional license fee to 2 pounds) was that amateurs' nets were to be no longer than 132 yards in ocean waters and 66 yards in estuaries.

Furthermore in February 1950, it was suggested within the Department that amateurs' nets be restricted to a minimum mesh size of 2½ in. and 40 meshes deep in estuaries and 2 in. and 40 meshes deep elsewhere, on the grounds that such nets should do the least harm in the catching and destroying of undersize fish in the hands of amateurs.

Government Gazette, May 5, 1950 and August 4, 1950.

As a consequence of the above, the following regulations specifying the nets to be used by amateur fishermen were introduced.

"In any estuary, river or inlet or in the entrance waters of any estuary, river or inlet—no net was to be longer than 66 yards, with meshes not smaller than 2½ in.

"In other waters, up to 3 miles from high-water mark—no net was to be longer than 132 yards with meshes not smaller than 2 in.' Such a net was not to contain any bag or pocket."

The regulations governing licensed amateur fishing remained unchanged for the next eleven years. However, in October 1961, amendments to several of the Fisheries Act Regulations were proposed. Included among these proposals were certain modifications to Regulation 3A, relating to the amateur net fisherman's license.

The objectives of these modifications were to broaden the scope of the license to cover the use of prawn scoop nets, crab drop nets, rock lobster pots and marron traps; and to increase the license fee to £1

However, these proposed amendments to Regulation 3A were not accepted by the Government.

At this time, the legislation and resources of the Department of Fisheries and Fauna were increasingly involved in the management of the rapidly growing professional rock lobster (then known as "crayfish") fishery.

The Department stressed the need for additional inspection staff to cope with the growth in the rock lobster industry. In order to offset some proportion of the cost in employing these men, proposals were made to increase the license fees payable by professional fishermen and introduce a fee of 2 shillings for each pot used by professional rock lobster fishermen.

In addition, following many requests from professional fishermen, marron enthusiasts and Departmental officers, it was suggested that Regulation 3A should be re-drafted to include amateur rock lobster fishermen, crabbers and marroners, with limits on the number of nets, pots etc. which could be used. It was also suggested that the fee be increased from 10 shillings to 1 pound a year.

The Minister recommended to Cabinet that the Department's proposals be adopted, pointing out, in reference to the increase in the amateur fisherman's license fee, that a good deal of work was involved for Departmental officers in regard to the operations of amateur fishermen. All the proposed amendments to the regulations were approved by Cabinet, with the exception of increases in any fees other than those associated with the introduction of rock lobster pot licenses.

Government Gazette, September 3, 1963

The above recommendations were included in a new Regulation 3A which was published in this Gazette and took effect from January 1, 1964.

In the new regulation there were eight variations from the provisions of the previous Regulation 3A.

1. The license was now called "Amateur Fisherman's License".
2. Persons catching, or attempting to catch **any** fish for personal use by means of any fishing net, crayfish pot or marron trap required an amateur fisherman's license.
3. The maximum length of net permitted to be used by amateurs in estuaries, rivers, etc. was changed to 100 yards.
4. Not more than 2 craypots, or 6 drop nets or traps for crabs or marron, or one scoop net or dredge net for prawns, was permitted to be used or carried at any one time.
5. No more than 2 gallons of prawns were to be taken on any one day.
6. Prohibition on the use of a bag or pocket in a net used in waters other than those of estuaries, rivers and other inland waters was deleted.
7. The sale of fish taken under the authority of the Amateur Fisherman's License was forbidden. (Hitherto, there had been no provision of this nature in the regulation concerning amateur fishing. The stipulation had been, and still is, that persons taking fish for sale hold a professional fisherman's license.)

8. The penalty for failing to hold an amateur fisherman's license was no longer included in Regulation 3A. The penalty was subsequently determined by the provisions of Section 47 of the Fisheries Act.

In October 1963, it was moved in Parliament that all references to the taking of crabs in the Regulations governing amateur fisherman's licenses be deleted. This was accepted by the Minister and the appropriate amendments were published in the *Government Gazette*, December 3, 1963. Up until the present day, amateurs who take crabs are not required to hold a Amateur Fisherman's License.

No further amendments were made to the regulations covering amateur fishing activities until late 1969. However, in the interim years, evidence became available to indicate that professional fishermen were still unhappy with the activities of amateur net fishermen.

In October 1965, the then Director of the Department of Fisheries and Fauna, noted that the Minister, had received complaints from professional fishermen concerning the netting activities of amateurs in estuarine waters. It was the Minister's wish that the Department consider the prohibition of the use of nets by non-professionals. The matter was discussed at meetings of Departmental branch heads and Departmental field officers, with the outcome that:—

"It was felt there was insufficient evidence that amateurs with nets created a problem, and that as the use of nets by holidaymakers was traditional, they should not be banned."

These comments were noted by the Minister and no further action was taken.

Since the introduction of the new fishing Regulation 3A in 1963 persons wishing to fish for marron were required to hold an amateur fisherman's license. However, it was considered necessary for management purposes to obtain an accurate picture of the number of persons engaged in this socially important and exclusively amateur fishery. Therefore a separate license was introduced for persons fishing for marron and other, less important freshwater species. (For details see Morrissy, 1978.)

Government Gazette, December 17, 1969

The inland fisherman's license was introduced under Regulation 3AA of the Fisheries Act. This license is required by all persons fishing for marron, brown trout, rainbow trout, redbfin perch, freshwater cobbler, barramundi and cherabin by any means.

As a consequence of the introduction of the inland fisherman's license, references to marron were deleted from Regulation 3A. This opportunity was taken to make some additional amendments to Regulation 3A. The revised regulation differed in seven ways from the previous regulation.

1. Persons taking rock lobster by any means were required to hold an amateur fisherman's license.
2. The fee for the license was increased to \$2.00.
3. A bag limit of 8 rock lobsters per day was introduced.
4. Each rock lobster pot used was required to bear a float marked with the number of the user's amateur fisherman's license.
5. A minimum mesh size of 2½ in. was prescribed for nets set in any estuary, river or inlet or in the entrance waters thereof.

6. Scoop nets, drop nets, etc. less than 2 feet in diameter were no longer precluded from the provisions of the regulation
7. A person holding a professional fisherman's license was not permitted to hold an amateur fisherman's license.

Government Gazette, July 3, 1970

It had been the practice for all fishing licenses to expire on December 31 following the day of issue, with the proviso that a half fee be charged for licenses issued after June 30.

From its inception, the Inland Fisherman's License was issued with an expiry date of June 30 following the day of issue. Since many people would be obliged to hold both, it was desirable that the expiry date should be the same for both amateur and inland fishing licenses.

An amendment was made to Regulation 3F, which specifies details concerning the issue of licenses. Below is a summary of the amended Regulation.

1. All licenses other than amateur and inland fisherman's licenses expire on December 31.
2. Amateur and inland fisherman's licenses expire on June 30.
3. Licenses may be renewed in the period within one month prior to the expiry of the license being renewed.
4. The expiry date of amateur fisherman's licenses issued during 1970 was changed from December 31, 1970 to June 30, 1971.
5. Half year fees on licenses (other than boat licenses) were no longer permitted. (Thus removing what was described as a "constant clerical and audit problem").

In August 1972, a senior member of the Department of Fisheries and Wildlife, cited an instance of an amateur fisherman using three separate nets, each net being no longer than the permitted length, but together forming a net some 300 yards in length. He recommended that the regulations be amended to permit the use of only one net by an amateur fisherman.

At a meeting of the General Fisheries Advisory Committee in June 1973, a recommendation was made that the length of net to be used by amateur fishermen should be reduced from 100 yards to 66 yards.

Government Gazette, January 1973

The one mile closure on the taking of rock lobsters was lifted.

Government Gazette, May 1973

Prohibition was imposed on the taking of rock lobster by means of spearguns, harpoons, Hawaiian slings, gidgies and all other pointed instruments.

Government Gazette, October 1973

In this Gazette, notice was given that net sizes and all other specifications in the regulations were converted from imperial to metric units.

In November 1973, regulations were prepared incorporating the above two recommendations, i.e. that an amateur fisherman be allowed to use only one net and that the length of that net be reduced from 100 to 66 yards. However, at this time, these revised regulations were not submitted for Cabinet approval.

However, by 1975 considerable pressure had mounted demanding that the amateur fisherman's right to use a net be withdrawn. The reasons for this were that amateur fishermen had been known to:—

- (i) Take fish clearly in excess of any domestic requirement. In order to achieve this, they had, on occasions been known to use a net with a bag or pocket as a beach seine, and
- (ii) To sell those fish over and above those that were required for their personal use.

To help overcome these problems the following amendments were made to Regulation 3A.

Government Gazette, October 22, 1975

Regulation 3A was revoked. The redrafted or current form (Appendix 1) incorporated the three changes listed below:—

1. No more than one fish net was permitted to be used at one time.
2. No net used was to exceed 60 metres in length.
3. No net used was to contain any bag or pocket.

In addition, Regulation 3 was amended to increase the penalty imposed on persons taking fish for sale without holding a professional fisherman's license from \$100 to \$500.

III. METHODS OF RESEARCH DATA COLLECTION

Licenses are issued either over the counter by licensing officers at all Department of Fisheries and Wildlife offices throughout the State (Appendix 3, 1975–76), or by post. The annual license fee at present is \$2.00. During the years preceding December 31, 1969 all licenses issued (Appendix 2 (i)) expired on December 31 of the year of issue. The total number of licenses issued during any one year throughout the entire State was obtained in the following manner from Departmental records of revenue received from the sale of these licenses.

$$\text{Number of licences issued annually} = \frac{\text{Revenue in dollars received from the sale of licences}}{2}$$

The Department of Fisheries and Wildlife is responsible for the issue of a number of licenses under both the State and Commonwealth Fisheries Acts, and the State Fauna Conservation Act. As most licenses issued under these acts expired on December 31, the renewal of this large volume of licenses generated considerable administrative problems during the last month or so of each year. In order to help alleviate these problems, the regulations relating to the Amateur Fisherman's License were amended so that the license expired on June 30 of each year. The newly established Inland Fisherman's License also expired on June 30 of each year. The issue of licenses, therefore was more evenly spread throughout the year. Amateur fisherman's licenses issued in 1970 from January 1 onwards, which normally would have expired on December 31, 1970, now expired on June 30, 1971 (see Section II above). All licenses issued subsequent to the above date expired on June 30 following their date of issue.

Prior to the change in licensing period, the only research information available was the number of licenses issued annually. However more detailed information on the operations of amateur fishermen was needed to provide a basis for better management of this developing fishery. New license forms needed to be printed to accommodate the change in the licensing period. This opportunity

was taken to redesign the license to include a research information section. This additional section of the license (Appendix 2 (ii)) recorded the species preferences of, and the number of rock lobster pots, prawn nets, fish nets and spearguns owned by the license holders. The information is provided by the licensee and is actually recorded on the license by the licensing officer when the license is being purchased. Therefore research information was unable to be obtained from licenses issued by post. Stocks of the old license books (Appendix 2 (i)) had to be used before the new book could be introduced. The licensing districts with the greatest turnover, such as Perth were the first districts to use the new license. The initial introduction of the new books (Appendix 2 (ii)) was made at the Perth licensing district late in the 1970/71 licensing period. It was not until the 1971/72 licensing period that the new license became more widely introduced throughout the State.

All licenses are completed in triplicate. The original copy is held by the licensee; the duplicate is forwarded to the Department's administrative head office where it is sorted into alphabetical order according to the name of the licensee; and the triplicate is held at the district office which issued the license. The only way to obtain the research information from the district of issue was to have officers of the research section visit each district office at the completion of each licensing period, to extract the necessary data from the triplicate copy of the license. This procedure was adopted during the three licensing periods from 1970/71 to 1972/73 (inclusive). However as the number of licenses and licensing districts increased, this data extraction procedure became extremely time consuming. This problem was overcome in the 1973/74 licensing period by relocating the research information on a detachable section on the bottom of the license (Appendix 2 (iii)). This enabled the research information slips to be detached from the duplicate licenses at the head office and forwarded to the research staff at Waterman. However, following the introduction of these "tear off" slips in 1973/74, many districts still continued to use stocks of old license books (Appendix 2 (ii)). Therefore to enable the various preferred species of, and gear owned by licensees in the different districts to be expressed as percentages, it was necessary during that year to have various district licensing officers provide the proportion of licenses issued in the old format (Appendix 2(ii), 3, 1973/74).

There was provision on the first version of the license designed to collect research information (Appendix 2 (ii)), for records to be obtained of the number of licensees who owned spearguns, because at that time rock lobster were able to be legally taken by means of a spear gun. However, on the 7 May, 1973, a notice was issued in the *Government Gazette* (No. 32), prohibiting the taking of rock lobster by means of a speargun or any other pointed instrument. Therefore "speargun" was excluded from the "gear owned" section of licenses printed after this date. However, old stocks of books are required to be used before new ones can be introduced, so information on the number of spearguns owned by licensees continued to be collected until the initial issue of books ran out during the 1974/75 licensing period.

Records of infringements of Fisheries Legislation have been kept by Department of Fisheries and Wildlife administrative staff since 1968. All infringements relating to the licensed amateur fishery are available from these records.

IV RESULTS

A. License numbers

An estimate of the number of amateur fisherman's licenses issued in Western Australia made from revenue date each year from 1950 to 1977, and an estimate from 1970/71 to 1976/77 of the number of research information slips examined for research information is shown in Table 1.

Only a small proportion of those licenses was issued by post.

Assuming that the majority of postal licenses is issued from the Perth office, then during 1968, before research data slips were introduced, 20.8 per cent of the licenses issued from the Perth districts were issued by post. However, during 1975/76, after the research data slips had been introduced, only 12.4 per cent of the Perth licenses were issued by post.

The number of licenses issued monthly during both 1971/72 and 1975/76 is presented in Figure 1, to show that at least during the 1970's most licenses are issued during the summer holiday period when participation in aquatic recreational activities is at a maximum (Caputi and Lenanton, 1977).

Figure 2 compares the annual increase in the number of amateur fisherman's licenses issued, the number of registered private power boats (Harbour and Light Departmental files), the Western Australian population (Australian Bureau of Census and Statistics, 1975), and the Western Australian *per capita* household income (in dollar terms) adjusted to constant prices (i.e. adjusted for inflation).

The latter figure is intended to provide a measure of growth of the amount of disposal or surplus income available to the individual each year, assuming that a relatively constant proportion of each year's income is spent on essentials i.e. food and clothes. This figure has been derived by weighing the *per capita* household income by the Consumer Price Index (C.P.I.) (with an index value of 100 in the base year 1966/67) (Australian Bureau of Census and Statistics, 1977), i.e. for any given year adjusted *per capita* household income =

the *per capita* household income $\times \left(\frac{100}{\text{CPI}} \right)$. The regressions

of both amateur fisherman licenses and boat licenses on the adjusted *per capita* household income are presented in Figures 3 and 4. Statistics for both regression equations are shown in Table 2.

For the calendar years up to and including 1969, the number of amateur licenses for any given calendar year were plotted against the adjusted *per capita* household income of the preceding financial year, i.e. 1950 amateur licenses against the 1949/50 adjusted *per capita* household income. For the financial years after 1969, i.e. 1970/71 onwards, a direct comparison was made of data from each year. This was also applied to the plot of registered power boats against the index of *per capita* surplus income.

B. Activities of License Holders

The first section of the research information slip relating to preferred species (Appendix 2 (iii)) was completed in a number of different ways by the licensing officer.

- (i) A preference was listed for all three species.

- (ii) A preference was indicated for two species only.
- (iii) Preference for only one species was indicated.
- (iv) Three, two or only one species was indicated without preference, i.e. indication was by means of a tick, not by numbered preference.
- (v) The slip was left blank, usually indicating that the license has been issued by post.

As a result, there are 20 permutations of the way in which species preferences are able to be indicated (Table 3). As mentioned in Section III, during the first year of the new license introduction, Perth was the only district to introduce the new license, and this was only in the last two months of the licensing year. Therefore very little research information was available during 1970/71 (Appendix 3, 1970/71). During the following two years, and prior to the introduction of the tear-off slip, all licensing districts were collecting significant quantities of research information. During these 2 years, research staff were required to travel to each licensing district to extract data. This exercise proved extremely time consuming and resulted in research information which was available in one or other of the 20 forms illustrated in Table 3 not being collected as such, but being lumped into the two categories of ordered and unordered preferences. In 1970/71 and 1971/72 preferences listed as 1, 2 and 3; 1 and 2; and 1 only were combined and called ordered preferences, and either three, two or one tick were combined and called unordered preferences (Appendix 3, 1970/71, 1971/72). A similar combination of preferences was used in the 1972/73 data extractions with the exception that the ordered preference 1 was included with the unordered preferences (Appendix 3, 1972/73). During 1973/74 onwards, the "tear-off" slips were introduced. All research slips were sent to Waterman, and the information collected was grouped into the 20 possible formats. However, during 1973/74 there were still a number of districts which had stocks of the first version of the new license (Appendix 2 (ii)) to use before the second version could be introduced. Therefore even though information may have been recorded on these original new licenses, it was not available to research staff, because visits were no longer being made to every district at the end of the year to extract the data. However, to obtain a record of the number of these licenses issued during 1973/74 a letter was sent to each district early in the 1974/75 season, requesting that the number of old style licenses (Appendix 2 (ii)) issued in the previous year be forwarded to the research branch. This figure has been included in Appendix 3, 1973/74. From 1974/75 onward all licensing districts exclusively used licenses with the new "tear-off" slips. All data received during these years is presented in the format outlined in Appendix 3, 1974/75, 1975/76, 1976/77.

As explained above, because of the problems encountered with data extraction in the pre 1973/74 years, only data from years 1973/74 to 1976/77 could be used for district comparison.

The original objective of the question on preferred species was to have licensees indicate their preference from 1 to 3 for prawns, fish and rock lobster. From the available data (Appendix 3) the percentage of licenses issued from each licensing district with either prawns, fish or rock lobster as their first and/or only preferred species (Table 4) was considered to provide the best index of changes in species preference between districts for any one year, and between years.

The second section of the research information slip requires the licensee to indicate, by means of a tick, which item of gear he or she owns. All data extracted from this section of the license is presented in Appendix 3. Again failure to complete this section of the license was usually indicative that the license was issued by post.

Estimates of the absolute numbers of units of the different gear types owned by the various districts licensees over this period is presented in Table 5.

Estimates of the number of units of gear owned by all license holders were made each year by weighting the figure obtained from the research information slips (Appendix 3), by the total number of licenses issued during that year divided by the number of those licenses which contained research information (Table 6).

Infringements of Fisheries Legislation by amateur fishermen

Table 7 summarises the recorded infringements of Fisheries Legislation by amateur fishermen over the period 1968/75. Because of the manual system employed for data collection, the data for 1968 to 1970 may well have slightly under-estimated the numbers of infringements and the numbers of inspectorial staff employed. However from 1971 onwards, computerisation has provided more accurate information.

V. DISCUSSION

A. License Numbers

An attempt has been made to determine the major reason for the steep increase in the number of amateur licenses issued annually over the last fourteen years (Table 1) (Figure 2). The gross factors which normally influence recreational activity (United States Department of the Interior, Fish and Wildlife Service, 1970) include total population growth, changes in population distribution and age structure etc., increased leisure time and larger incomes.

In Western Australia the reason is clearly something more than straight population increase. The rate of population increase over the corresponding period is far less than the rate of license increase (Figure 2). Thus, whether due to young people reaching an age where they wish to participate in the fishery as licensed individuals, or other population groups wishing to be part of the fishery there is at present an increasing proportion of the population electing to participate in this licensed amateur fishery.

Probably the licensed aquatic activity which is most closely associated with the licensed amateur fishery is power boating. This was found to be the case in Oregon State, U.S.A. (Oregon State Marine Board, 1972) where 82 per cent of all boat owners cited fishing as a prime activity. The trend in the number of power boats registered in Western Australia in the majority of years since the inception of the registering system in 1963/64 is very similar to the trend in amateur licenses issued over the corresponding period (Figure 2). Although a proportion of this increase in registered power boats could be attributed to yachts with auxiliary motors, or ski boats, both these types of boats could be used to set rock lobster pots or fish nets. Thus of those factors listed above, intuitively it would seem likely that participation in both power boating, and the

licensed amateur fishery is directly or indirectly a function of both available leisure time (including holidays) and surplus (disposable) income a given person has available. For example a person who was inclined towards recreation on the water, particularly fishing, would probably buy a power boat if and when his surplus income rose to a level that would allow the purchase to be made, and provided he had sufficient time to make use of such a boat. Once he had purchased his boat, then he would be tempted, for a relatively small increase in expenditure, to purchase either rock lobster pots or a fish net in order to enjoy his sport to the maximum.

With or without a boat more surplus income may also encourage a person to spend holidays, which may have formerly been spent in the metropolitan area, or even working at another job to earn more money, away from the metropolitan area, most probably at a seaside or estuarine resort. The fact that he was in a place where fishing/rock lobster fishing was potentially good may prompt him to use a net/rock lobster pots, and boat to participate in the amateur fishery. Irrespective of whether he sought fish or rock lobster, he would be required to purchase an amateur fisherman's license.

A satisfactory index of leisure time could not be obtained. In any event, recent analyses of trends in leisure time of Australians (Perry, 1977) showed that increased leisure time although potentially available is not being utilised. In fact, for a variety of reasons, the recent trend has been toward a longer working week and reduced leisure time. Therefore, Australians are endeavouring to earn more money which will in turn provide the material benefits, such as power boats, and presumably the status they desire. Thus, it is not surprising, that the regressions of both the numbers of amateur fisherman's licenses, and registered power boats on the adjusted *per capita* household income over the respective licensing periods give a highly significant positive correlation at the 0.1 per cent level (Table 2) (Figures 3 and 4).

Other factors which may have contributed to the increase in the number of licenses issued are the increase in recent years in the penalties for illegal fishing (particularly illegal rock lobster fishing) and the increased level of actual prosecutions, (Table 5) and increased levels of surveillance by inspectors. This situation is likely to force people, who previously had not bothered to buy licenses to legalise their participation in the fishery.

At present there is a rapid rate of increase in the number of people participating in the amateur licensed fishery. However, this rate will only remain high as long as there are no constraints placed on factors which are responsible for the increase. Some of the more important constraints, which may lessen the rate of increase, or even cause a decrease in the numbers involved in the fishery include reductions in the leisure time and surplus income; and hence standard of living; unsuitable public access (Keiffer, 1973), for example congestion and conflict at fishing facilities such as jetties, piers and boat ramps, and between fishermen and other users of the aquatic environment such as water skiers; levels of sharp increases in fuel costs; and unacceptable levels of competition for stocks of fish, prawns or rock lobsters commonly sought by fishermen, which would mean a smaller catch available for each person.

However ultimately, despite the obvious effect of each of the above factors, the Government's attitude to future sport fishing development is singularly a very important factor which could influence the future development of this industry in Western Australia.

In the United States of America, Governments have recognised the important contribution made by salt water recreational fishing to the overall economic growth of the fishing industry in the country (De Sylva, 1969; Stroud, 1976). In many parts of America, salt water sport fishing has reached such proportions that both sport and commercial fishermen are competing directly and intensively for shares of many stocks of edible marine fish (Haw, Wendler and Deschamps 1967; Mathews and Wendler, 1968; MacCall, Stauffer and Troadec, 1976). In some fisheries such as the Washington State salmon fisheries, the State's Department of Fisheries favoured anglers, not commercial interests to utilise surplus hatchery stocks (Haw and Mathews, 1969); and more recently, the amateurs not professionals have been favoured by the recent introduction of regulative legislature (H. Wendler, pers. comm.). Another example of the intense competition between these groups is the claim that increased effort by the commercial Californian anchovy fishermen might reduce these stocks to a level which may affect the abundance of their predators such as bonito, barracuda, yellowtail, albacore and sea bass which are prize sport fish in that State (Mathews, 1971). However more recently doubt has been expressed that interdependence of these predator-prey species is demonstratable (MacCall, Stauffer and Troadec, 1976).

Research in the U.S.A. has clearly shown that there are considerable community benefits to be derived from sport fishing. They include economic benefits for industries serving tourist-amateur fisheries both in the form of employment opportunities and as a result of consumption of goods and services by anglers. Other benefits include welfare considerations to the individual angler and angling families gained from the recreational and food supplying aspects of the fishery.

Thus, unless constraints are imposed by the Western Australian Government it seems likely that the development of both the amateur line and licensed amateur fisheries will be continued and there will be an increasing public participation in these fisheries.

B. Activities of Licence Holders

Prawns (*Metapenaeus dalli* and *Penaeus latisulcatus*) are available from the Swan-Canning, Peel-Harvey and Leschenault estuaries of the lower west coast; western rock lobster (*Panulirus cygnus*) from the inshore marine environment from approximately Bunbury in the south to Carnarvon in the north; and fish from estuaries and the inshore marine environment of the entire coastline of the State. From the data presented in Tables 4 and 5, it is clear that where crustaceans are available, they are generally sought in preference to fish; and that of the two types of crustaceans most commonly taken, prawns are preferred to rock lobster. For example the fact that prawns are usually plentiful in the Swan-Canning estuary is reflected in the fact that between 50 and 60 per cent of the Perth district licensees preferred prawns to fish (Table 4). This trend is supported by data presented in Table 5, where prawn nets are the principal type of gear owned by licensees from the Perth district. Similarly, in the Esperance area, where neither prawns or rock lobsters are abundant there is a definite amateur preference for fish (Tables 4 and 5).

In the Albany district, fish are normally much more abundant than either prawns or rock lobster and thus mostly sought after, which is reflected in the results in Tables 4 and 5. However, it is interesting to note that during the summer of 1974/75, 1975/76 and 1976/77 king prawns (*P. latisulcatus*) were abundant in some of the estuarine systems west of Albany. This immediately resulted in a significant increase in both the number of people electing to fish for prawns and the gear owned by these licensees (Tables 4 and 5).

However, there are some inconsistencies between the data presented in Tables 4 and 5. For example, during 1973/74, 100 per cent of Waroona licensees indicated a preference for prawn fishing (Table 4) but apparently collectively owned no gear with which to catch these crustaceans (Table 5). One possible explanation for this apparent anomaly is that these people were fishing for prawns using a borrowed net from friends who did not purchase their license in the Waroona district.

C. Collection of Research Information

Problems with the previous system

There were a number of problems both with respect to the type of information being collected, and the data collection and analysis techniques.

- (i) Although the present system provides information on the licensees species preferences, there is no provision for the licensee to record the amount of time spent attempting to catch each species, i.e. fishing effort. Obviously to provide this information in the framework of the present system, the licensee would need to estimate the intended frequency of his fishing trips for the coming year. This seems an unreasonable thing to expect a licensee to provide, and may not be a very good estimate of the number of times he actually went fishing during that year. So rather than continuing to collect intended species preferences, the research information slip needed to be redesigned to record the actual effort spent attempting to catch the various species during the past year.
- (ii) The variation in interpretation of the preferred species question on the present research information slip has resulted in the answers to this question being provided in 20 different formats (Section IV B). This obviously makes data analysis and interpretation of results extremely difficult. This problem is largely due to the fact that the research information section is actually physically part of the license. At licensing time, particularly if the office is busy, much pressure is placed on the licensee to answer the questions quickly to avoid both delays in the issue of licenses, and undue waste of the licensing officers time. Therefore to help solve this problem, the research information needs to be contained in a separate form which the licensee is required to complete at his leisure, before he is issued with a license.
- (iii) Prior to 1970, the number of licenses issued annually was relatively low allowing all data processing to be done manually. However, in recent years, the sharp increase in licenses issued annually has meant that manual data processing has become extremely time consuming. Therefore to cope with the anticipated future increase in license numbers computer analysis of data has been introduced.

A new system

In an attempt to overcome all of the above problems, particularly the ambiguity associated with the preferred species question, potential licensees now complete an application form (Appendix 4) before they are issued with a license. The form is designed to provide a record of both the gear owned by licensees and the actual effort data from the previous years fishing. It also provides other items of necessary information such as the district of license issue, the district of residence of the licensee and the month of the license purchase.

The completed application forms are forwarded via the Department of Fisheries and Wildlife head office to the Western Australian Marine Research Laboratories for checking, then to the University of Western Australia for punching in preparation for computer analysis. This new system caters both for the initial purchase of a license and license renewal (Appendix 4). It is not possible to collect information relating to licensee's activities when the application for a license is made by post, or when the license is collected by a person who is unaware of the licensee's past activities. However provision has been made on the new form for records to be kept of all licenses issued under these circumstances.

All questions on the new form are self explanatory. The licensing officer does not need to spend time either questioning the applicant about his fishing activities or the correct spelling of his name, or completing the research information section of his license.

After checking to ensure that all necessary questions on the application form are answered, the licensing officer need only complete the small "office use only" section of the form, transcribe the licensee's personal details onto the license form and complete the issue of the license in the usual way.

The new system was introduced at the commencement of the 1977/78 licensing season. After almost one year of data collection, which included the busy Christmas-New Year holiday period, indications are that this new system is working extremely well. The vast majority of those data sheets returned over this period have had the research information question correctly completed. An annual summary of the results of this data collection system will be made available at the conclusion of each licensing year, to those concerned with the management of the licensed amateur fishery of Western Australia.

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REFERENCES

- Australian Bureau of Census and Statistics (1975). Western Australian Year Book 1975 (Government Printer: Western Australia).
- Australian Bureau of Census and Statistics (1976). National Income and Expenditure, 1974-75. In "Australian National Accounts" (Australian Government Publishing Service: Canberra).
- Bureau of Sport Fisheries and Wildlife (1965). National survey of fishing and hunting 1965. *Resource Publication* 27, 1-75 (U.S. Government Printing Office: Washington, D.C.)
- Bureau of Sport Fisheries and Wildlife (1970). National Survey of Fishing and Hunting, 1970. *Resource Publication* 95, 1-108 (U.S. Government Printing Office: Washington D.C.)
- Caputi, N. and Lenanton, R. C. J. (1977). A survey of the recreational usage of the south coastal estuaries of Western Australia *Fish Rept. West. Aust.* 27, 1-41.
- Clark, R. B. (1971). Changing success of coastal sport fishing *Marine Pollut. Bull.* 2(10), 153-156.
- De Sylva, D. P. (1969). Trends in marine sport fisheries research *Trans. Amer. Fish. Soc.* 48(1), 151-169.
- Deuel, D. G. and Clarke, J. R. (1968). The 1965 salt water angling survey *Bureau of Sport Fisheries and Wildlife Resource Publication* 67, 1-51.
- Haw, F., Wendler, H. O., and Deschamps, G. (1967). The development of Washington salmon sport fishery through 1964. *Washington Dept. of Fisheries, Bull.* 7, 192p.
- Haw, F. and Mathews, S. B. (1969). Recreational use of surplus hatchery coho salmon. *Trans. Amer. Fish. Soc.* 98(3), 487-496.
- Keiffer, E. (Ed.) (1973). Future of saltwater sport fishing depends on public access. *New England Marine Resources Information* 51, 2-3.
- Lenanton, R. C. J. (1974). Biological aspects of coastal zone development in Western Australia. II Fish, crustacea and birds. In "The Impact of Human Activities on Coastal Zones" Proceedings Australian UNESCO Committee for Man and the Biosphere National Symposium Sydney, May 1973.
- Lenanton, R. C. J. and Caputi, N. (1975). The estimation of catches by amateur and professional fishermen of the Blackwood River estuary during 1974-75. Report to the Estuarine and Marine Advisory Committee of the Western Australian Environmental Protection Authority, Perth.
- Lenanton, R. C. J. and Hall, N. G. (1976). The Western Australian amateur fishery for Australian herring (*Arripis georgianus*) Results of the 1973 creel census. *Fish Rept. West. Aust.* 25, 1-59.
- MacCall, A. D., Stauffer, G. D. and Troadec, J. (1976). Southern Californian recreational and commercial marine fisheries. *Marine Fisheries Review* 38(1), 1-32.
- Mathews, S. B. (1971). Sport commercial conflicts in development of California wetfish fishery. *California Co-operative Fisheries Investigations Report* XV, 22-25.
- Mathews, S. B. and Wendler, H. O. (1968). Economic criteria for division of catch between sport and commercial fisheries, with special reference to Columbia River chinook salmon *Wash. Dept. Fish. Res. Pap.* 3(1), 93-105.
- Morrissy, N. M. (1978) The amateur marron fishery in Western Australia *Fish. Bull. West. Aust.* 21, 1-44.
- Oregon State Marine Board (1972)—Pleasure boating in Oregon—1972. Cited in Anon (1973) *Sport Fishery Institute Bulletin* 249, 1-2.
- Perry, P. (1977). Trends in work and leisure time in Australia In E.A.D. Mercer "Leisure and recreation in Australia" pp 35-39 (Sorrett Publishers: Melbourne).
- Stroud, R. H. (1976). Sharing coastal fish stocks. *Sport Fishing Institute Bulletin* 273, 1-2.
- United States Department of the Interior, Fish and Wildlife Service (1970). *National Estuary Study*, Vol. 5. (U.S. Govt. Printing Office, Washington D.C.)

TABLE 1—THE NUMBER OF AMATEUR FISHERMAN'S LICENSES ISSUED IN WESTERN AUSTRALIA EACH YEAR FROM 1950 TO 1977, AND THE NUMBER OF RESEARCH DATA SLIPS EXAMINED FOR RESEARCH INFORMATION

Year	Number of licenses (Estimated from the revenue received at Head Office)	Research data slips examined for research information
1950	322	N.A.
1951	896	N.A.
1952	639	N.A.
1953	535	N.A.
1954	487	N.A.
1955	535	N.A.
1956	1 094	N.A.
1957	1 459	N.A.
1958	1 535	N.A.
1959	1 493	N.A.
1960	1 007	N.A.
1961	925	N.A.
1962	1 105	N.A.
1963	1 386	N.A.
1964	3 770	N.A.
1965	2 826	N.A.
1966	3 798	N.A.
1967	5 671	N.A.
1968	7 058	N.A.
1969	7 894	N.A.
1970/71*	8 195	1 021†
1971/72	8 730	7 869
1972/73	9 534	9 142
1973/74	11 006	8 225‡
1974/75	13 141	12 839
1975/76	18 729	18 471
1976/77	22 400	22 330

* This figure is for 18 months from January 1970 to June 1971. The figure for the six months from January to June 1970 was not available. It was estimated by averaging the number of licenses issued in the first six months of 1969 and 1972, and adding this figure to the total number of licenses issued during the twelve months 1970/71.

† Introduction of new license.

‡ Introduction of "tear off" research data slips.

N.A. denotes not available.

TABLE 2—STATISTICS FOR REGRESSIONS OF BOTH THE ANNUAL NUMBER OF AMATEUR FISHERMAN'S LICENSES AND REGISTERED PRIVATE POWER BOATS ON THE ANNUAL ADJUSTED PER CAPITA HOUSEHOLD INCOME IN WESTERN AUSTRALIA

Plot	Intercept (a)	Slope (b)	Correlation Coefficient (r)	Number of Observations	Years covered by Observations
Amateur Licenses (y) on Household Income (x)	-11 128	+11·318*	0·955*	26	1949/50-1975/76
Boat registration (y) on household Income (x)	-26 016	+28·614*	0·979*	13	1963/64-1975/76

* Correlation was significant at the 0·1% level.

TABLE 3—PERMUTATIONS OF THE DIFFERENT WAYS IN WHICH THE ACTIVITY PREFERENCES ARE ABLE TO BE INDICATED ON THE RESEARCH INFORMATION SECTION OF THE AMATEUR FISHERMAN'S LICENSE

Preferences available to the Licensee	....	Prawns	Fish	Rock Lobster
		1	2	3
		1	3	2
		3	1	2
		2	1	3
		2	3	1
		3	2	1
		1	2	....
		1	....	2
		....	1	2
		2	1	....
		2	....	1
		....	2	1
		✓
		✓
		✓
		✓	✓
		✓	✓
		✓	✓	✓
		✓	✓	✓
	

.... Indicates the space was left blank.

TABLE 4—THE PERCENTAGE OF LICENSES ISSUED AT EACH LICENSING DISTRICT WITH PRAWNS, FISH OR ROCK LOBSTER RECORDED AS A FIRST AND/OR ONLY PREFERRED SPECIES

Preferred Species															
1973/74				1974/75				1975/76				1976/77			
Prawns		Fish	Rock Lobster	Prawns		Fish	Rock Lobster	Prawns		Fish	Rock Lobster	Prawns		Fish	Rock Lobster
Esperance	...	89	11	4	85	11	...	...	39	76	24	...	...	88	12
*Albany	11	74	15	42	54	4	...	...	...	58	3	...	34	61	5
Pemberton	...	...	...	...	...	...	...	...	18	...	...	...	33	67	...
Manjimup	...	...	...	...	...	...	...	...	...	76	6	...	14	77	9
Katanning	...	...	...	...	...	...	...	...	...	...	...	...	...	100	...
Wagin	...	...	...	...	...	...	...	...	...	...	...	...	56	44	0
Narrogin	...	...	...	...	...	...	...	...	...	...	...	...	71	20	9
Collie	...	...	...	...	...	...	...	...	...	...	...	...	66	17	17
*Busselton	5	83	12	22	56	...	...	...	15	...	...	...	15	54	13
*Bunbury	54	25	21	42	42	16	61	79	61	25	14	...	64	21	15
Harvey	...	...	...	61	35	4	...	...	...	20	1	...	66	31	3
Pingelly	...	...	...	...	...	...	...	...	18	50	32	...	12	52	36
Waroona	100	...	...	5	...	...	...	...	63	29	8	...	69	29	2
*Mandurah	56	34	10	48	95	...	...	...	63	29	8	...	53	39	8
*Fremantle	56	25	19	41	44	28	...	...	...	23	23	...	60	17	23
*Perth	60	18	22	51	31	28	...	...	62	16	22	...	66	12	22
Lancelin	...	...	100	...	5	95	...	...	2	...	98	...	...	4	96
Jurien Bay	...	56	44	2	16	82	...	...	2	17	81	...	5	15	80
Moora	...	...	...	...	...	...	...	...	...	100	...	...	...	100	...
Wongan Hills	...	...	...	...	75	25	...	...	...	42	58	...	7	29	64
Mt. Magnet	...	...	...	...	...	100	...	...	...	...	...	...	...	...	100
*Dongara	...	39	61	3	28	69	...	...	2	23	75	...	3	12	85
*Geraldton	1	13	86	1	4	95	...	...	1	6	93	...	2	11	87
Shark Bay	...	...	...	...	...	...	...	...	...	70	30	...	8	55	37
*Carnarvon	...	...	...	...	...	96	...	...	1	26	73	...	1	15	84
Bloome	...	...	...	...	4	...	...	...	...	100	...	...	...	100	...
Derby	...	...	...	...	100	...	...	...	...	100	...	...	...	100	...
Wyndham	...	97	...	...	100	...	...	...	...	100	...	...	...	100	...
Total	53	23	24	41	28	31	51	22	52	20	27	28			

* Major licensing districts.

TABLE 5—THE NUMBER OF UNITS OF GEAR OWNED BY AMATEUR FISHERMEN WHO PURCHASED LICENSES AT THE LICENSING DISTRICTS LISTED BELOW

Licensing Districts	Types of Gear																			
	1973/74					1974/75					1975/76					1976/77				
	Prawn nets	Fish nets	Lobster pots†	Spear- guns		Prawn nets	Fish nets	Lobster pots†	Spear- guns		Prawn nets	Fish nets	Lobster pots†	Spear- guns†	Prawn nets	Fish nets	Lobster pots†	Spear- guns†		
Esperance	8	50	27	...	12	61	40	6	5	41	24	...	...	...	5	44	19	...	...
*Albany	16	84	14	...	338	388	40	...	372	501	76	...	...	...	387	479	100	...	...
Pemberton	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	4	1	...
Manjimup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65	95	27	...	...
Katanning	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	...	...	...
Wagin	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	5	...	...	...
Narrogin	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25	9	...	...	...
Collie	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35	52	25	...	...
*Busselton	25	160	25	...	60	172	72	67	62	199	109	...	...	...	77	204	132	...	...
*Bunbury	466	303	152	...	739	658	328	130	1 165	754	405	...	...	...	1 006	570	308	...	...
Harvey	...	...	...	...	41	31	13	6	100	97	66	...	...	...	94	79	25	...	...
Pingelly	...	...	...	...	...	...	...	...	13	19	10	...	...	...	13	18	15	...	...
Waroona	...	...	...	...	17	15	11	...	30	27	7	...	...	...	103	95	95	...	...
*Mandurah	509	376	174	...	567	512	212	30	1 001	678	290	...	...	...	1 139	857	403	...	...
*Fremantle	1 243	755	744	...	1 252	1 074	932	273	2 118	1 418	1 344	...	...	...	2 261	1 432	1 522	...	...
*Perth	3 037	1 703	1 811	...	3 313	2 512	2 846	8	6 024	3 879	4 270	...	...	...	5 799	4 512	4 747	...	...
Lancelin	2	...	22	...	5	5	40	8	3	5	52	...	...	...	2	5	59	...	...
Jurien Bay	2	9	8	...	4	12	38	4	5	21	80	...	...	...	12	22	67	...	...
Moora	...	...	...	...	...	...	...	...	5	13	33	...	...	...	54	79	88	...	...
Wongan Hills	...	...	...	...	...	...	...	...	20	32	37	...	...	...	30	32	38	...	...
Mt. Magnet	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...
*Dongara	3	27	54	...	7	44	92	...	...	...	...	...	...	...	13	48	125	...	...
*Geraldton	50	154	695	...	133	246	990	42	181	359	1 197	...	...	...	224	543	1 370	...	...
Shark Bay	...	...	...	...	...	...	...	...	6	7	4	...	...	...	19	35	19	...	...
*Carnarvon	...	...	...	...	6	38	14	...	...	153	119	...	...	...	42	177	145	...	...
Broome	...	...	...	...	1	6	...	1	24	28	11	...	...	...	20	23	12	...	...
Derby	...	...	...	...	...	...	...	...	17	25	14	...	...	...	20	28	20	...	...
Wyndham	10	53	4	...	34	63	...	...	52	56	...	...	...	...	38	45	1	...	...
Total	5 371	3 677	3 730	453	6 529	5 838	5 672	605	11 306	8 424	8 271	...	...	...	11 498	9 497	9 370	...	...

*** Major licensing districts.**

+ Each licensed amateur is entitled to own two lobster pots. Therefore the maximum number of pots owned can be obtained by doubling the figures listed above.

† The number of spearguns owned by licensees was not collected during 1975/76 or 1976/77.

§ The number of spearguns owned by licensees was not collected by "Head Office" staff.

**TABLE 6—ESTIMATES OF THE NUMBER OF UNITS OF GEAR OWNED BY
HOLDERS OF AN AMATEUR FISHERMAN'S LICENSE OVER THE PERIOD
1970/71 TO 1976/77**

Year	Gear Owned			
	Prawn Nets	Lobster Pots*	Fish Nets	Spearguns
1970/71†	1 418	2 522	2 482	517
1971/72	5 349	3 432	3 210	983
1972/73	5 457	3 996	3 779	1 569
1973/74	5 916	3 998	3 869	468‡
1974/75	6 629	5 799	6 039	695‡
1975/76	11 149	8 277	8 560	....
1976/77	13 777	11 227	11 379	....

* Each licensed amateur is entitled to own two lobster pots. Therefore the maximum entitlement of pots owned can be obtained by doubling the figures listed above.

† As this was the initial year of the new license introduction, these estimates are based on a very small sample of research information collected only from the Perth licensing district.

‡ In 1973, the taking of rock lobsters by means of spearguns was prohibited. Speargun data collected subsequent to this date was acquired by the practice of using up stocks of old license books, before new ones were introduced (for further explanation see Section III of text.)

**TABLE 7—SUMMARY OF INFRINGEMENTS OF FISHERIES LEGISLATION BY AMATEUR FISHERMEN
OVER THE PERIOD 1968-1975**

Type of Offence	Action*	1968	1969	1970	1971	1972	1973	1974	1975
Rock Lobster—									
Undersize	Penalty	14	10	14	9	30	41	29	37
	Other	13	13	11	9	13	27	20	20
No License	Penalty	1	1	2	1	8	1	7	12
	Other ....	....	....	....	1	4	....	4	3
Other Offences†	Penalty ....	....	2	....	3	4	3	13	11
	Other	1	2	1	....	4	3	5	12
Rock Lobster Total ....	....	29	28	28	23	63	75	78	95
Other Fish‡—									
Undersize	Penalty	2	....	....	2	1	....	13	9
	Other ....	....	....	....	....	1	....	4	4
No License	Penalty ....	....	....	....	....	4	2	2	5
	Other ....	....	....	....	5	3	4	6	11
Other Offences—....	Penalty ....	....	3	6	20	25	17	22	25
	Other	4	9	....	9	12	11	18	9
Other Fish Total ....	....	6	12	6	36	46	34	65	63
TOTAL ....	....	35	40	34	59	109	109	143	158
Number of fisheries inspectors engaged as of June 30 each year ....	....	37	40	40	50	49	47	46	49

* "Penalty" indicates that a fine etc. was imposed for the infringement.

"Other" indicates that a warning letter was issued, no action taken, or there was an unsuccessful prosecution.

† "Other Offences" include infringements against legislation concerning bag limits, closed seasons, gear used etc.

‡ "Other Fish" includes crabs but excludes freshwater species such as marron, trout, etc.

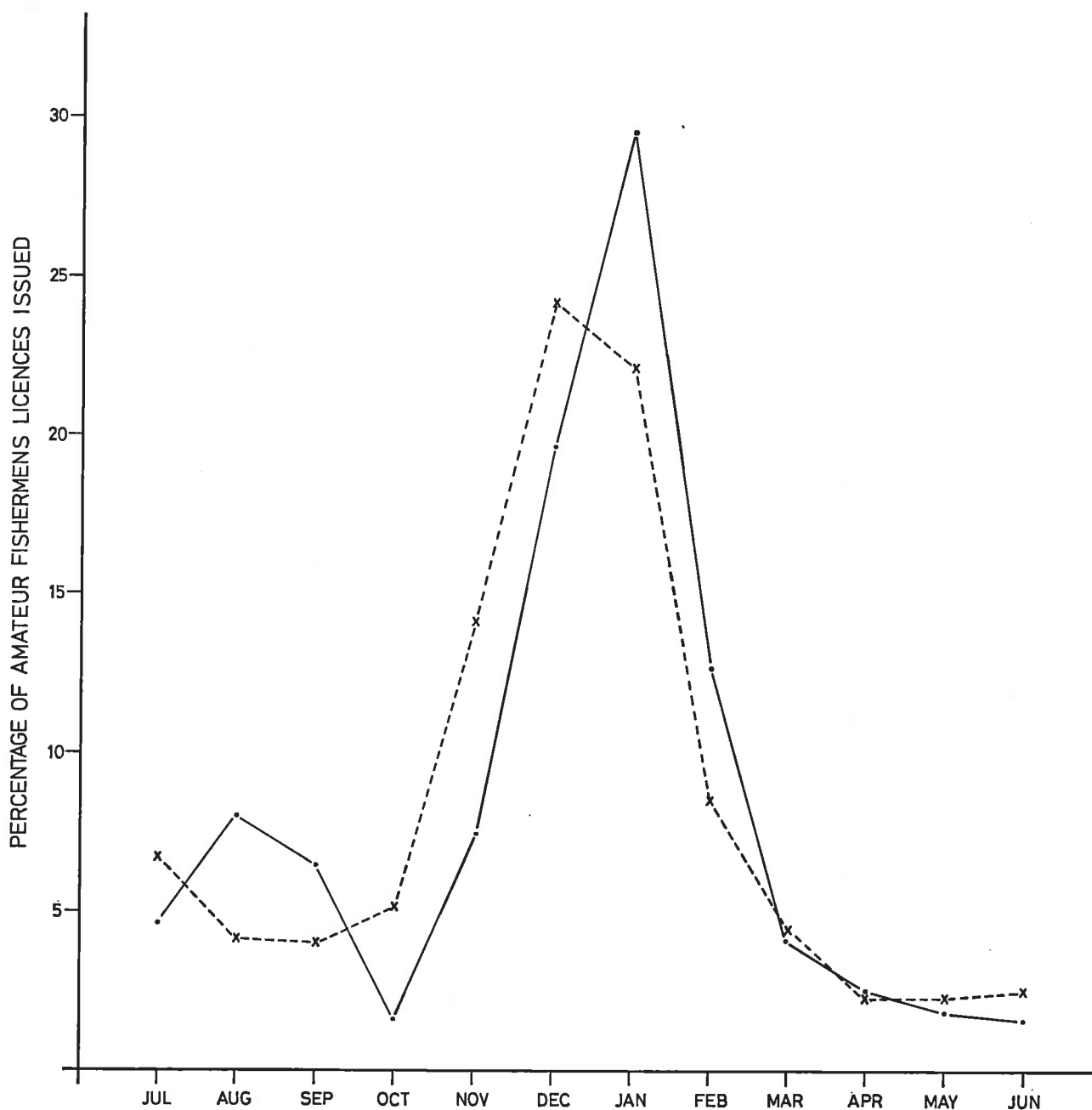


Figure 1—The percentage of amateur fisherman's licenses issued monthly during 1971/72 (·——·) and 1975/76 (x-----x).

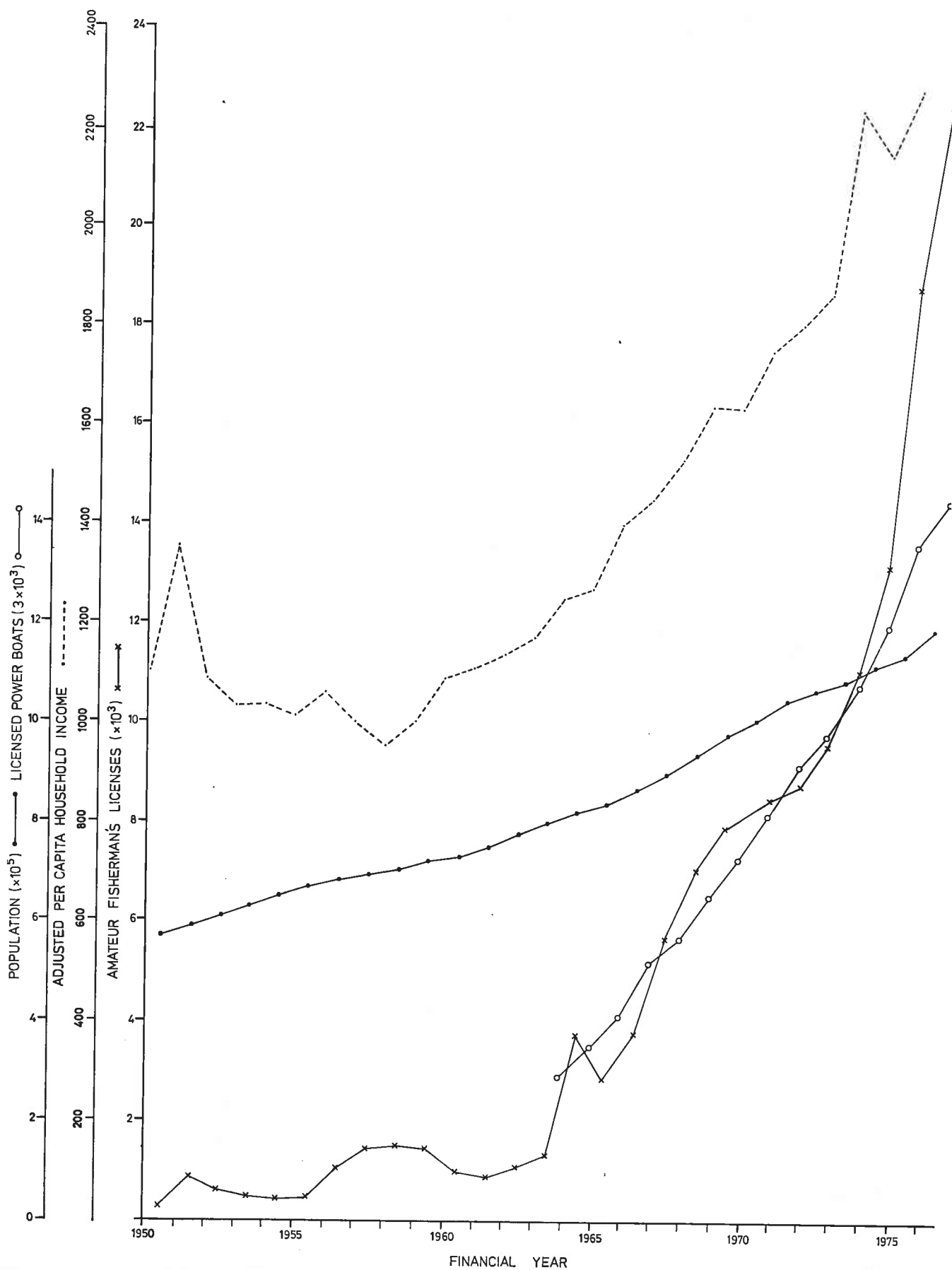


Figure 2—The population of Western Australia, the number of amateur fisherman's licenses issued, the number of registered power boats, and the adjusted per capita household income in Western Australia annually over the period 1950 to 1977.

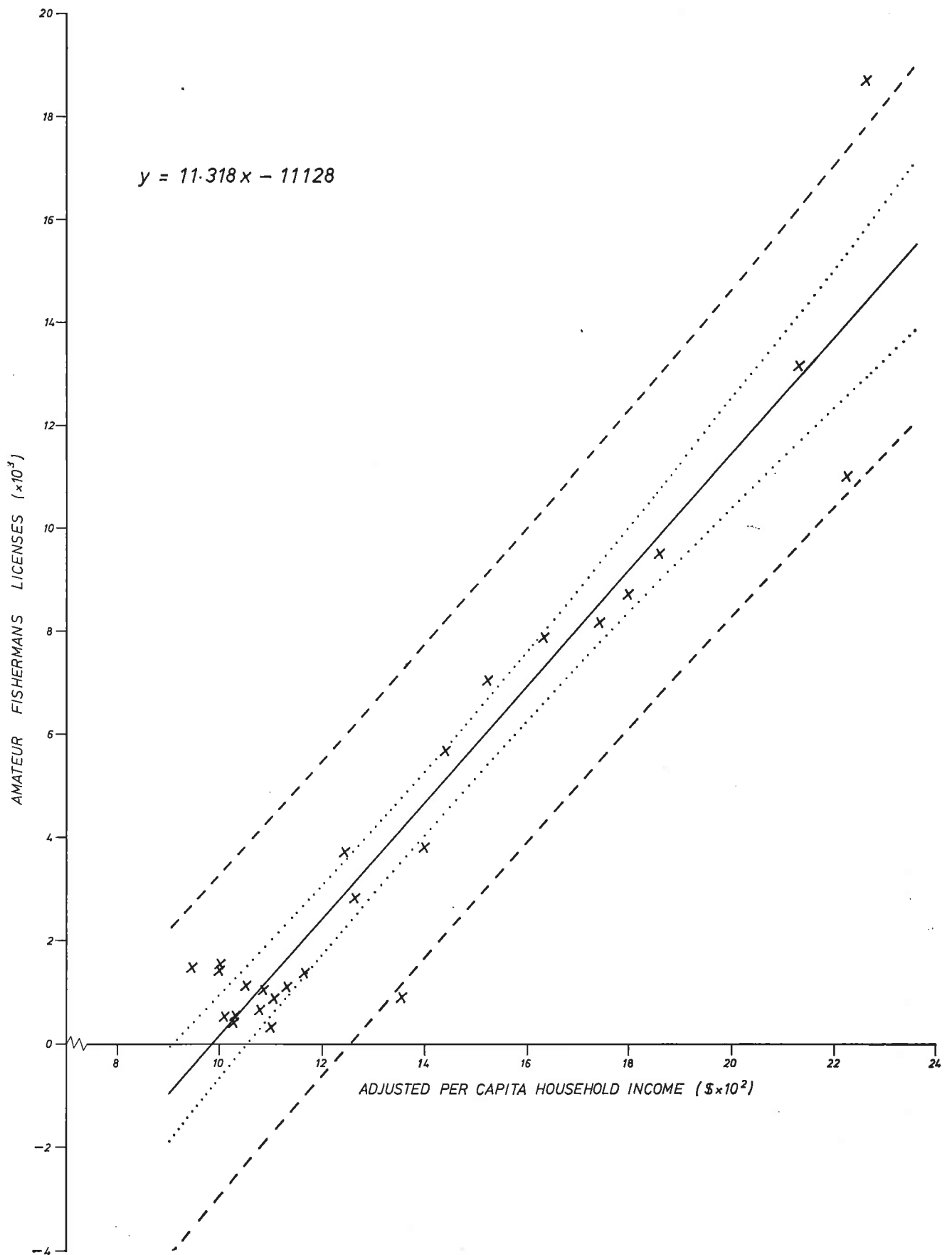
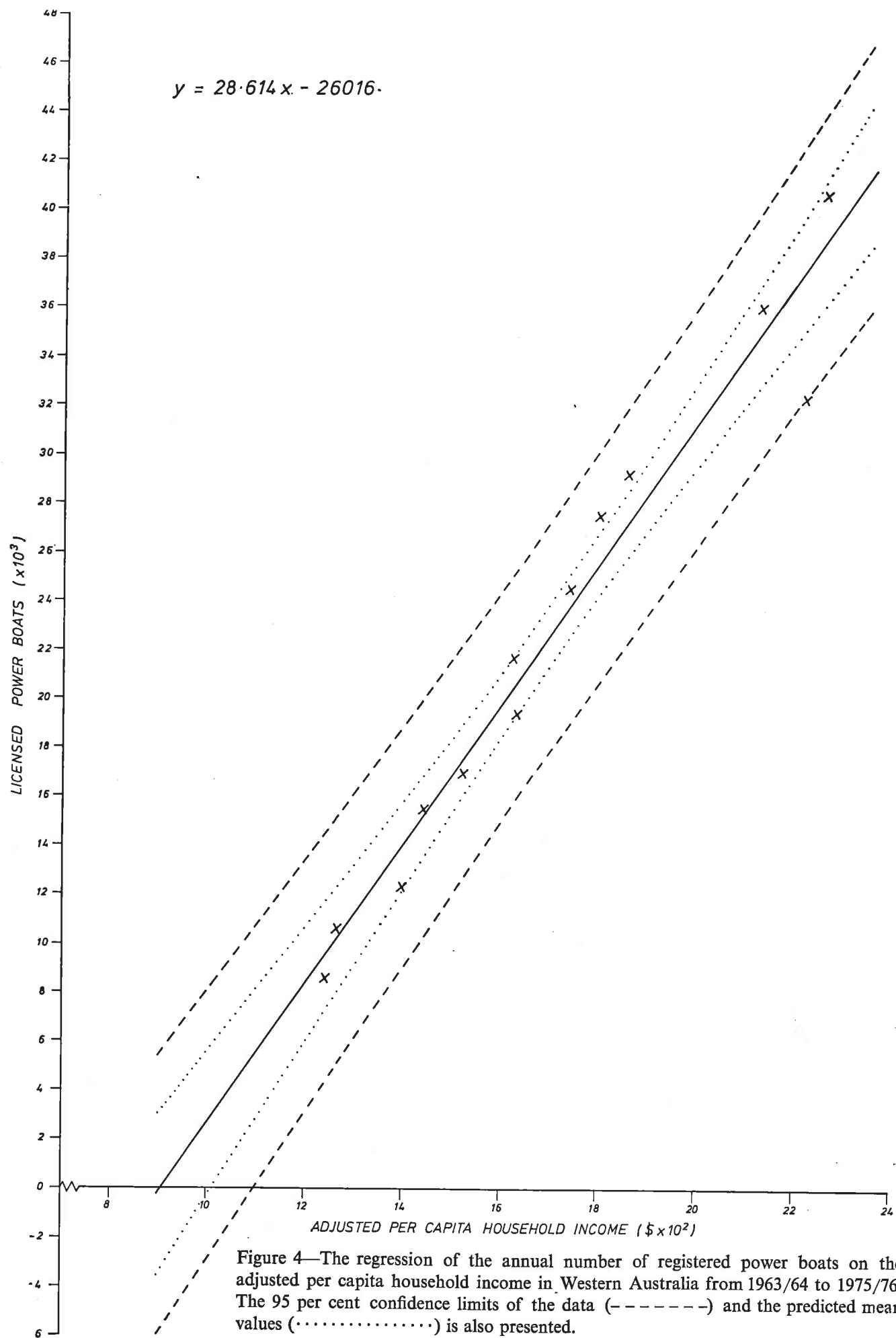


Figure 3—The regression of the annual number of amateur fisherman's licenses issued on the adjusted per capita household income in Western Australia from 1950 to 1976. The 95 per cent confidence limits of the data (-----) and predicted mean values (.....) is also presented.



APPENDIX 1

THE CURRENT FISHERIES REGULATION 3A

Amateur Fisherman's License

- 3A. (1) A person other than a person who is the holder of a professional fisherman's license shall not catch or attempt to catch—
- (a) any fish, except crabs, by means of a fishing net; or
 - (b) rock lobsters by any means whatsoever,
- unless he is the holder of an amateur fisherman's license issued under this regulation.
- (2) An amateur fisherman's license shall be in the form of Form B1 in the appendix to these regulations.
 - (3) A person who is the holder of a professional fisherman's license issued pursuant to regulation 3 of these regulations shall not obtain an amateur fisherman's license and an amateur fisherman's license that is issued to such a person is invalid.
 - (4) The holder of an amateur fisherman's license shall not directly or indirectly sell, offer or expose for sale, or consign any fish or rock lobster taken under the authority of the license.
 - (5) The fee payable in respect of the issue or renewal of an amateur fisherman's license is two dollars.
 - (6) An amateur fisherman's license expires on the 30th June next following the day of its issue and is renewable on payment of the fee prescribed by subregulation (5) of this regulation.
 - (7) An amateur fisherman's license does not entitle the holder thereof to catch any fish mentioned in the Schedule to regulation 3AA of these regulations or any marron (*Cherax tenuimanus*) or cherabin (*Macrobrachium* spp.).
 - (8) Subject to these regulations, an amateur fisherman's license entitles the holder thereof—
 - (a) to take fish by means of a net, but so that not more than one net is used at one and the same time and the net used—
 - (i) has a length not exceeding 60 metres;
 - (ii) has a mesh—
 - (A) where the net is used in the waters of an estuary, river or inlet or in the entrance of any of those waters, of not less than 57 millimetres; or
 - (B) where the net is used in any waters other than those referred to in item (a) of this subparagraph, of not less than 51 millimetres; or
 - (C) where the net is set in the waters of any estuary, river or inlet, or in the entrance of any of those waters, of not less than 63 millimetres; and
 - (iii) does not have a bag or pocket;
 - (b) to take rock lobsters—
 - (i) by means of rock lobster pots, but so that—
 - (A) not more than two rock lobster pots are used or carried on a boat at one and the same time; and
 - (B) the rock lobster pots used conform to the requirements of section 23A of the Act and are attached to a surface float that conforms to the requirements of subregulation (1) of regulation 14E of these regulations; or
 - (ii) by hand, if no other instrument is used; and
 - (c) to take prawns but so that—
 - (i) not more than one hand scoop net or one hand dip net, or one hand trawl net for taking prawns is used at one and the same time; and
 - (ii) not more than any one of the means of taking prawns referred to in subparagraph (i) of this paragraph is employed at one and the same time.
 - (9) The holder of an amateur fisherman's license shall not take or attempt to take any fish referred to in this regulation by any means other than the means authorised by these regulations in respect of any species of fish.

APPENDIX 2(i)

Form B 1

FISHERIES ACT, 1905-1967

AMATEUR FISHERMAN'S LICENSE

No. 40046

Place of Issue.....

Date.....19.....

.....
of.....
is hereby licensed in pursuance of the Fisheries Act Regulations, to catch fish for domestic purposes by means of a net, crayfish pot or marron trap, from the date hereof to December 31, 19..... and no longer.

Fee paid \$

.....
Licensing Officer.

This license is issued subject to the conditions endorsed on the back hereof.

- (i) No net having a greater length than 100 yards with any mesh smaller than $2\frac{1}{4}$ inches shall be used in any estuary, river or inlet of the entrance waters thereof.
- (ii) No net having a greater length than 132 yards and with any mesh smaller than 2 inches shall be used in any other waters.
- (iii) Not more than two crayfish pots, or six drop nets or traps for taking marron, or one scoop net or dredge for taking prawns, shall be used or carried in any boat at any one time.
- (iv) Not more than two gallons of prawns shall be taken on any day.
- (v) No fish caught while using any net or other article mentioned in sub-regulation (1) of Regulation 3A shall be sold or consigned or offered or exposed for sale.
- (vi) No set net having any mesh less than two and one-half inches ($2\frac{1}{2}$ in.) may lawfully be used in the open waters of the Swan or Canning Rivers, or Peel or Leschenault Inlets.
- (vii) Every float attached to a crayfish pot shall be legibly marked or branded with the number of this license.

APPENDIX 2 (ii)

FORM B1

FISHERIES ACT, 1905-1970

Regulation 3A

AMATEUR FISHERMAN'S LICENSE

Subject to the conditions hereover the holder of this license may catch, for domestic purposes, any fish *with the exception of* Marron, Trout, Redfin Perch, Barramundi, Freshwater Cobbler, Cherabin, or such other species as may from time to time be declared.

INFORMATION FOR RESEARCH

Please indicate your preference from 1-3 the species for which you propose to fish.

☐

Prawns

☐

Fish

☐

Lobsters

Please tick the gear which the license holder *owns*.

Prawning Net

☐

Lobster Pots

☐

Fishing Net

☐

Speargun, etc.

☐

Date of Issue.....

Licensing Officer.

License Expires: June 30, 19.....

Name

.....

Address

.....

Post Code.....

Fee Paid \$.....

AMATEUR FISHERMAN'S LICENSE No. 8 000

APPENDIX 2 (iii)

FORM B1

FISHERIES ACT, 1905-1975

Regulation 3A

AMATEUR FISHERMAN'S LICENSE

Subject to the Fisheries Act Regulations, the holder of this license may catch, for domestic purposes, any fish *with the exception of* Marron, Trout, Redfin Perch, Barramundi, Freshwater Cobbler, Cherabin or such other species as may from time to time be declared.

DATE OF ISSUE...../...../.....

.....
Licensing Officer.

LICENSE EXPIRES: JUNE 30, 19.....

FEE PAID \$.....

NAME

.....
(Surname)

.....
(Other names)

ADDRESS

..... POST CODE.....

AMATEUR FISHERMAN'S LICENSE No. 1450

RESEARCH INFORMATION

Please indicate your preference from 1 to 3 the species for which you propose to fish.

PRAWNS

☐

FISH

☐

LOBSTERS

☐

Please indicate

☒

the gear which the license holder owns.

Prawning Net

☐

Fishing Net

☐

Lobster Pots

☐

DISTRICT OFFICE.....

FOR YEAR ENDING JUNE 30, 19.....

APPENDIX 3

THE NUMBER OF AMATEUR FISHERMAN'S LICENSES FROM THE *PERTH DISTRICT DURING 1970/71 TOGETHER WITH THE PREFERRED ACTIVITIES OF, AND THE GEAR OWNED BY THE LICENSEES

Number of licenses examined	Perth
Number of licenses containing no research information	1 021
Unordered preferences (species ticked)—	813
Prawns	12
Fish	14
Rock Lobster	17
Ordered preference (1, 2 or 3 species in ordered preference)—	
Prawns—	
1st	26
2nd	21
3rd	10
Fish—	
1st	43
2nd	21
3rd	9
Rock Lobster—	
1st	61
2nd	78
3rd	7
Number of license holders who own the following—	
Prawn net	36
Fish net	63
Rock Lobster pots	64
Spearguns	13

* Perth was the only district using the new license during 1970/71 (See Section IV in text).

APPENDIX 3—continued

THE NUMBER OF AMATEUR FISHERMAN'S LICENSES ISSUED FROM THE VARIOUS LICENSING DISTRICTS DURING 1971/72, TOGETHER WITH THE PREFERRED ACTIVITIES OF, AND GEAR OWNED BY THE LICENSEES

	Albany	Bunbury	Fremantle	Geraldton	Mandurah	Perth	Total
Number of licenses examined	197	960	1 506	515	573	4 118	7 869
Number of licenses containing no research information	62	69	100	11	11	1 119	1 372
Unordered preferences (species ticked)—							
Prawns	25	335	905	38	563	507	2 373
Fish	102	212	642	118	305	368	1 647
Rock Lobster	4	18	655	496	165	426	1 864
1, 2 or 3 species in ordered preference—							
Prawns—							
1st		308	45	0		961	1 314
2nd		22	69	0		289	380
3rd		29	30	1		170	230
Fish—							
1st	No Data	48	93	1	No Data	405	547
2nd		74	49	0		471	594
3rd		18	9	0		150	177
Rock Lobster—							
1st		59	24	0		757	840
2nd		24	25	1		250	300
3rd		52	79	0		233	364
Number of license holders who own the following—							
Prawn net	22	665	964	41	509	1 780	3 891
Fish net	108	315	648	89	291	938	2 389
Lobster pots	4	134	676	463	160	1 117	2 554
Speargun	0	109	107	65	63	388	732

APPENDIX 3—continued

THE NUMBER OF AMATEUR FISHERMAN'S LICENSES ISSUED FROM THE VARIOUS LICENSING DISTRICTS DURING 1972/73, TOGETHER WITH THE PREFERRED ACTIVITIES OF, AND GEAR OWNED BY THE LICENSEES

	Albany	Bunbury	Busselton	Dongara	Fremantle	Geraldton	Mandurah	Perth	Total
Number of licenses examined	295	1 031	150	87	1 580	711	801	4 487	9 142
Number of licenses containing no research information	77	157	3	12	45	10	40	1 273	1 617
Unordered preferences (species ticked)—									
Prawns	92	316	15	0	229	22	392	1 374	2 440
Fish	149	141	105	6	237	75	202	568	1 483
Rock Lobster	12	128	54	34	200	465	61	945	1 899
1, 2 or 3 species in ordered preference—									
Prawns—									
1st		156		0	612	8	199	380	1 355
2nd		131		3	192	10	65	223	624
3rd		16		12	288	79	11	92	498
Fish—									
1st	No	118	No	11	264	29	63	224	709
2nd	Data	152	Data	20	702	87	184	324	1 469
3rd		14		1	122	9	8	63	217
Rock Lobster—									
1st		73		23	224	84	17	199	620
2nd		62		11	209	24	30	252	588
3rd		87		2	628	5	70	169	961
Number of license holders who own the following—									
Prawn net	73	510	15	8	1 106	46	640	1 909	4 307
Fish net	148	338	105	20	881	112	398	981	2 983
Lobster pots	13	152	18	66	880	603	178	1 244	3 154
Speargun	5	195	40	6	536	75	58	324	1 239

APPENDIX 3 (continued)—THE NUMBER OF AMATEUR FISHERMAN'S LICENSES ISSUED FROM THE VARIOUS LICENSING DISTRICTS DURING 1973-74 TOGETHER WITH THE PREFERRED ACTIVITIES OF, AND GEAR OWNED BY THE LICENSEES

	Albany	Bunbury	Busselton	Carnarvon	Dongara	Esperance	Freemantle	Geraldton	Jurien Bay	Kalgoorlie	Lancelin	Mandurah	Manjimup	Onslow	Pemberton	Perth	Shark Bay	Waroona	Wyndham	Total
Data slips examined	103	489	68	...	65	17	1 558	359	14	...	15	223	...	...	...	5 264	...	4	46	8 225
†Number of data slips containing no re-search information	17	37	...	...	1	1	19	17	...	...	...	9	...	...	...	1 817	...	...	...	1 918
1 species preference only—																				
*P	9	152	1	...	...	...	38	...	...	...	...	61	...	...	...	869	...	...	...	1 130
*F	44	68	48	...	10	8	14	10	2	...	...	33	...	...	...	243	...	...	37	522
*L	5	67	7	...	25	1	19	257	2	...	...	11	...	...	...	370	...	...	...	764
2 species ordered preferences—																				
Preferences																				
1st	...	53	2	...	...	...	21	...	...	...	...	37	...	...	...	139	...	...	1	253
2nd	...	10	...	...	...	...	11	2	...	...	...	1	...	...	...	122	...	...	...	146
P	...	8	...	...	13	...	1	25	...	...	...	6	...	...	...	40	...	...	...	94
F	11	28	...	...	...	...	7	...	...	...	...	20	...	...	...	49	...	...	...	115
P	...	19	...	...	...	...	3	...	...	...	...	2	...	...	...	62	...	...	...	86
L	...	2	...	...	11	...	5	1	...	...	...	3	...	...	...	34	...	...	...	58
F	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
2 species unordered preferences—																				
P + F	2	1	2	...	...	...	2	1	...	...	...	...	...	...	...	78	...	...	5	91
P + L	...	3	...	...	...	...	2	3	...	...	...	...	...	...	...	50	...	...	...	58
F + L	...	...	4	...	2	7	3	22	5	...	...	...	...	...	...	55	...	...	...	98
3 species ordered preferences—																				
Preferences																				
1st	...	25	...	...	...	...	712	...	...	...	...	17	...	...	...	668	...	3	...	1 425
2nd	...	2	...	...	...	...	66	...	...	...	...	2	...	...	...	75	...	1	...	146
3rd	...	2	...	...	...	...	131	3	...	...	...	4	...	...	...	65	...	...	...	210
P	...	7	1	...	1	...	230	1	2	...	...	8	...	...	...	169	...	...	...	422
F	...	7	...	...	...	...	68	...	1	...	...	2	...	...	...	77	...	...	1	158
P	...	3	...	...	...	...	198	4	...	...	15	3	...	...	...	146	...	...	...	370
L	...	2	...	...	2	...	8	13	...	...	...	4	...	...	...	131	...	...	2	161
F	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3 species unordered preferences																				
Number of license holders who own the following—																				
Prawn net	7	215	9	...	3	2	987	21	2	...	1	146	...	...	...	1 989	...	...	8	3 390
Fish net	37	140	58	...	27	13	600	65	9	...	...	108	...	...	...	1 115	...	...	45	2 217
Lobster pot	6	70	9	...	53	7	591	294	8	...	14	50	...	...	...	1 186	...	...	3	2 291
Spear Gun	...	37	4	...	3	...	113	14	1	...	1	18	...	...	...	77†	...	...	...	268
Licenses issued in the old format	100	491	120	28	...	45	380	450	...	7	9	523	7	10	12	...	10	...	9	2 211

* P = prawns; F = fish; L = rock lobster.

† All licensees who indicated they owned gear, did provide information on preferred species. However there were instances where licensees indicated species, but did not indicate they owned gear.

‡ The number of spearguns owned by licensees was not always calculated by Head Office staff.

APPENDIX 3 (continued)—THE NUMBER OF AMATEUR FISHERMAN'S LICENSES ISSUED FROM THE VARIOUS LICENSING DISTRICTS DURING 1974-75 TOGETHER WITH THE PREFERRED ACTIVITIES OF, AND GEAR OWNED BY THE LICENSEES

	Albany	Broome	Bunbury	Busselton	Carnarvon	Derby	Dongara	Esperance	Freemantle	Geraldton	Harvey	Jurien Bay	Lancelin	Mandurah	Mt. Magnet	Perth	Pingelly	Waroona	Wongan Hills	Wyndham	Total
Data Slips Examined	705	6	1 115	229	105	1	114	66	2 214	1 059	57	45	44	804	3	6 157	6	35	5	69	12 839
† Number of data slips containing no research information	43	1	64	1	...	...	2	2	62	26	...	...	...	32	...	1 463	6	4	1	...	1 707
1 species preference only—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*P	174	...	237	13	...	...	...	1	68	5	1	1	...	155	...	897	...	...	...	...	1 552
*F	210	4	194	108	2	1	10	23	56	14	3	2	...	110	...	360	...	...	...	30	1 127
*L	15	...	83	39	46	...	29	3	54	611	...	28	...	29	2	729	...	...	...	...	1 668
2 species ordered preferences—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Preferences	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1st	24	...	60	5	...	...	...	...	21	...	6	...	...	95	...	186	...	...	...	...	397
2nd	...	...	21	...	...	...	...	...	8	2	...	...	...	13	...	151	...	...	...	...	195
P	...	...	12	10	...	...	17	...	19	5	...	...	...	15	...	114	...	...	...	...	194
F	...	...	118	4	...	...	1	...	24	...	1	...	...	133	...	90	...	1	...	...	413
L	41	...	10	3	...	...	...	...	...	4	...	...	...	8	...	80	...	...	...	...	106
P + F	...	...	14	9	...	...	32	...	...	37	...	5	...	10	...	69	...	...	...	...	187
P + L	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
F + L	21	1	38	...	...	...	...	1	5	...	...	...	...	3	...	57	...	2	...	39	167
P + F + L	1	...	6	...	...	...	...	...	...	7	...	...	...	2	...	26	...	...	...	...	47
F + L	4	...	16	...	52	...	...	28	1	103	...	...	...	...	...	30	...	...	...	...	234
3 species ordered preferences—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Preferences	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1st	66	...	70	31	...	...	3	...	734	4	28	...	...	86	...	842	...	1	...	...	1 865
2nd	2	...	14	...	...	...	...	...	48	3	...	...	...	13	...	88	...	...	...	...	168
3rd	5	...	16	4	...	...	1	...	64	11	...	5	2	12	...	88	...	...	2	...	212
P	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
F	81	...	60	2	...	...	2	...	489	5	15	...	...	65	...	221	...	19	1	...	960
L	2	...	16	...	...	...	...	...	215	11	1	...	...	8	...	182	...	...	...	...	436
P + F	...	...	26	...	...	...	17	...	324	189	1	4	42	9	...	140	...	...	1	...	759
P + L	6	...	40	...	5	...	...	8	10	22	...	...	...	6	...	344	...	7	...	...	445
P + F + L	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of license holders who own the following—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prawn net	317	1	697	60	6	...	7	12	1 217	130	41	4	5	544	...	2 526	...	15	...	34	5 616
Fish net	364	5	620	171	38	1	43	59	1 044	240	31	12	5	492	...	1 915	...	13	...	63	5 116
Lobster pot	38	...	309	72	14	...	90	39	906	966	13	38	40	204	3	2 170	...	10	1	...	4 913
Speargun	...	1	123	67	38	...	...	6	265	41	6	4	8	29	...	†	...	...	...	...	589

* P = prawns; F = fish; L = rock lobster.

† All licensees who indicated they owned gear, did provide information on preferred species. However there were instances where licensees indicated species preferences, but did not indicate they owned gear.

‡ The number of spearguns owned by licensees was not collected by the Head Office staff.

APPENDIX 3—(continued) THE NUMBER OF AMATEUR FISHERMAN'S LICENSES ISSUED FROM THE VARIOUS LICENSING DISTRICTS DURING 1975/76, TOGETHER WITH THE PREFERRED ACTIVITIES OF, AND GEAR OWNED BY THE LICENSEES

	Albany	Broome	Bunbury	Busselton	Carnarvon	Derby	Dongara	Esperance	Fremantle	Geraldton	Harvey	Jurien Bay	Lancelin	Mandurah	Manjimup	Moora	Perth	Pingelly	Shark Bay	Waroona	Wongan Hills	Wyndham	York	Total
Data slips examined	806	28	1 650	279	273	31	126	51	3 268	1 298	123	84	56	1 372	91	35	8 680	32	13	70	41	63	1	18 471
†Number of data slips containing no research information	102	...	58	...	3	...	2	1	60	19	...	2	...	41	3	...	3 281	10	...	9	...	6	...	3 597
1 species preference only—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*P	135	...	499	10	...	...	...	...	171	2	...	...	...	469	3	...	449	1	...	3	...	...	...	1 743
*F	184	...	153	114	...	...	...	...	50	23	...	...	...	175	30	...	159	2	...	2	...	...	...	950
*L	13	...	100	47	106	...	63	8	63	454	...	44	...	7	...	...	206	...	2	...	...	...	...	1 156
2 species ordered preferences—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1st	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2nd	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P	33	...	116	4	...	...	...	...	81	...	9	...	...	195	...	...	117	...	...	4	...	...	...	559
F	...	...	74	8	...	...	...	...	17	...	...	...	...	51	...	...	65	...	...	...	...	...	...	215
L	...	...	9	23	...	...	...	...	5	17	...	...	...	10	...	...	44	...	...	...	...	...	...	144
P + F	32	...	113	...	...	...	...	...	28	...	2	...	...	138	...	...	66	...	...	3	...	...	...	387
P + L	...	...	33	...	...	...	...	...	7	8	...	...	...	24	...	...	35	...	...	...	...	...	...	108
F + L	...	...	12	14	...	...	...	...	11	50	...	...	...	6	...	...	45	...	...	...	...	...	...	174
2 species unordered preferences—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P + F	15	12	5	...	1	1	...	...	7	...	...	...	...	12	18	...	28	...	...	2	...	...	...	152
P + L	...	...	2	...	...	...	...	...	9	...	...	...	...	2	...	...	25	...	...	...	...	...	...	47
F + L	...	...	3	...	61	...	...	...	1	17	...	...	...	2	...	...	23	...	...	...	...	...	...	166
3 species ordered preference—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1st	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2nd	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3rd	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P	97	...	245	17	1	...	1	...	1 320	5	86	2	...	94	5	...	2 172	3	...	28	...	...	...	4 076
F	...	...	31	...	...	...	...	...	139	4	1	...	...	16	...	...	311	...	...	2	...	...	...	508
L	...	...	33	...	...	...	...	...	168	27	1	...	...	15	...	...	156	...	...	2	...	...	...	454
P + F	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P + L	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
F + L	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P + F + L	164	...	80	7	13	19	...	...	479	8	17	...	...	43	3	...	353	...	...	11	...	...	...	1 225
3 species unordered preferences	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of license holders who own the following—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prawn net	325	24	1 124	62	52	17	13	5	2 079	178	100	3	5	971	36	5	3 747	9	6	26	20	47	...	8 854
Fish net	438	28	728	199	151	25	47	40	1 392	354	97	21	5	658	60	15	2 413	13	7	24	32	51	...	6 798
Lobster pot	66	11	391	109	118	14	105	24	1 319	1 180	66	78	52	281	16	33	2 656	7	4	6	37	...	...	6 573

* P = prawns; F = fish; L = rock lobster.

† All licensees who indicated they owned gear, did provide information on preferred species. However there were instances where licensees indicated species preferences, but did not indicate they owned gear.

APPENDIX 3 (continued)—THE NUMBER OF AMATEUR FISHERMAN'S LICENSES ISSUED FROM THE VARIOUS LICENSING DISTRICTS DURING 1976/77, TOGETHER WITH THE PREFERRED ACTIVITIES OF, AND GEAR OWNED BY THE LICENSEES

	Albany	Broome	Bunbury	Busselton	Carnarvon	Collie	Derby	Dongara	Esperance	Fremantle	Geraldton	Harvey	Jurien	Katanning	Lancelin	Mandurah	Manjimup	Moora	Mt. Magnet	Narrogin	Pemberton	Perth	Pingelly	Shark Bay	Wagin	Waroona	Wongan Hills	Wyndham	Total
Data slips examined	807	23	1 802	367	366	74	33	152	59	3 809	1 666	169	99	10	71	1 507	139	89	1	42	7	10 720	30	69	9	117	42	51	22 330
†No. of data slips containing no research information	93	...	239	18	8	...	1	...	5	192	22	1	5	2	1	15	2	...	...	...	1	3 073	4	2	...	6	...	4	3 694
1 species preference only—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*P	141	...	754	18	1	...	...	...	...	346	4	...	2	...	...	436	2	...	...	...	...	883	...	...	...	...	...	...	...
*F	185	...	130	119	9	3	1	...	16	75	23	...	3	6	...	196	37	1	...	9	1	110	...	...	...	...	...	...	2 427
*L	23	...	99	51	23	...	...	9	3	214	269	...	34	1	47	53	3	...	...	2	...	358	...	...	...	...	...	...	928
2 species ordered preference—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1 191
Preferences	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1st	41	...	147	8	...	...	...	...	...	52	...	...	...	...	...	177	2	...	...	...	...	107	...	...	...	...	...	...	...
2nd	...	...	46	5	...	...	...	...	...	42	...	...	...	...	...	54	...	...	...	...	...	84	...	...	...	...	...	...	...
P	1	...	12	38	15	...	...	...	1	14	21	...	2	...	...	24	...	...	...	...	...	20	...	...	...	...	...	...	...
F	10	...	99	12	...	...	...	...	...	18	...	...	...	...	...	206	4	...	...	...	...	35	...	...	...	...	...	...	...
L	65	...	31	4	...	...	...	...	...	28	12	...	...	...	...	27	...	...	...	...	...	36	...	...	...	...	...	...	...
P + F	2	...	17	29	78	...	...	4	...	22	74	...	13	...	3	8	1	...	...	...	...	34	...	...	...	...	...	...	...
2 species unordered preferences—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P + F	19	10	11	3	...	...	...	...	...	8	...	...	...	1	...	17	32	...	...	3	2	14	...	...	...	...	...	...	...
P + L	...	...	2	...	...	...	...	...	...	8	...	...	...	...	...	2	...	...	...	1	...	12	...	...	...	...	...	...	...
3 species ordered preferences—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Preferences	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1st	45	...	185	14	...	35	...	...	...	1 610	24	110	1	...	...	101	6	...	...	15	...	3 397	2	4	1	61	1	...	...
2nd	...	...	34	5	...	...	...	...	...	96	4	...	2	...	...	12	...	...	...	...	...	463	1	...	...	...	...	...	...
P	7	...	21	7	...	...	...	...	...	150	127	...	8	...	...	31	...	...	...	...	...	169	6	...	...	...	...	...	...
F	3	...	64	9	...	...	...	...	...	341	11	...	1	...	...	111	...	...	...	...	...	611	7	...	...	...	...	...	...
L	159	...	36	6	...	...	...	...	...	81	16	...	3	...	...	14	...	...	...	...	...	497	5	...	...	...	...	...	...
P + F	...	...	49	14	...	...	...	...	...	503	1 039	...	25	...	...	2	...	...	...	...	...	720	4	...	...	...	...	...	...
3 species unordered preferences	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. of license holders who own the following—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prawn net	387	23	1 006	77	42	35	20	13	5	2 261	224	94	12	1	2	1 139	65	54	1	25	3	5 799	13	19	7	103	30	38	11 498
Fish net	479	23	570	204	177	52	28	48	44	1 432	543	79	22	5	5	857	95	79	...	9	4	4 512	18	35	5	95	32	45	9 497
Lobster pot	100	12	308	132	145	25	20	125	19	1 522	1 370	25	67	...	59	403	27	88	1	6	1	4 747	15	19	...	95	38	1	9 370

* P = prawns; F = fish; L = rock lobster.

All licensees who indicated they owned gear, did provide information on preferred species. However, there were instances where licensees indicated species preferences, but did not indicate they owned gear.

APPLICATION FORM FOR AN AMATEUR FISHERMAN'S LICENSE

PLEASE USE BLOCK LETTERS

SURNAME..... INITIALS.....

ADDRESS..... POSTCODE.....

PLEASE ANSWER THE FOLLOWING QUESTIONS BY PLACING A TICK (✓) IN THE APPROPRIATE BOX

- | | | | | |
|---|-----|--------------------------|----|--------------------------|
| 1. DO YOU OWN A PRAWN NET? | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| 2. DO YOU OWN A FISHING NET? | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| 3. DO YOU OWN A LOBSTER POT OR POTS? | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| 4. DID YOU HOLD AN AMATEUR FISHERMAN'S
<u>LICENSE LAST YEAR?</u> | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |

* IF THE ANSWER TO THE LAST QUESTION IS NO—ANSWER NO MORE QUESTIONS. IF YES—
PLEASE ANSWER ALL THE FOLLOWING QUESTIONS.

1. ON HOW MANY DAYS LAST YEAR DID YOU CATCH (OR ATTEMPT TO CATCH) PRAWNS?

1	2	3	4	5	6
NONE	1 TO 5	6 TO 10	11 TO 20	21 TO 50	OVER 50
(TICK ✓)					

2. ON HOW MANY DAYS LAST YEAR DID YOU USE A NET TO CATCH (OR ATTEMPT TO CATCH) FISH?

1	2	3	4	5	6
NONE	1 TO 5	6 TO 10	11 TO 20	21 TO 50	OVER 50
(TICK ✓)					

3. ON HOW MANY DAYS LAST YEAR DID YOU CATCH (OR ATTEMPT TO CATCH) ROCK LOBSTERS?

1	2	3	4	5	6
NONE	1 TO 5	6 TO 10	11 TO 20	21 TO 50	OVER 50
(TICK ✓)					

OFFICE USE ONLY

ABOVE INFORMATION UNAVAILABLE BECAUSE OF—LICENSE ISSUED BY POST

☐

OTHER REASON

☐

DATE OF ISSUE/...../19.....

DISTRICT OFFICE.....

LICENSE EXPIRES—JUNE 30, 19.....

