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SOUTHERN SHARK FISHERY MONITORING DATABASE

USER MANUAL AND TECHNICAL SPECIFICATIONS

A. S. Gason
T. I. Walker

Technical Report No. 80

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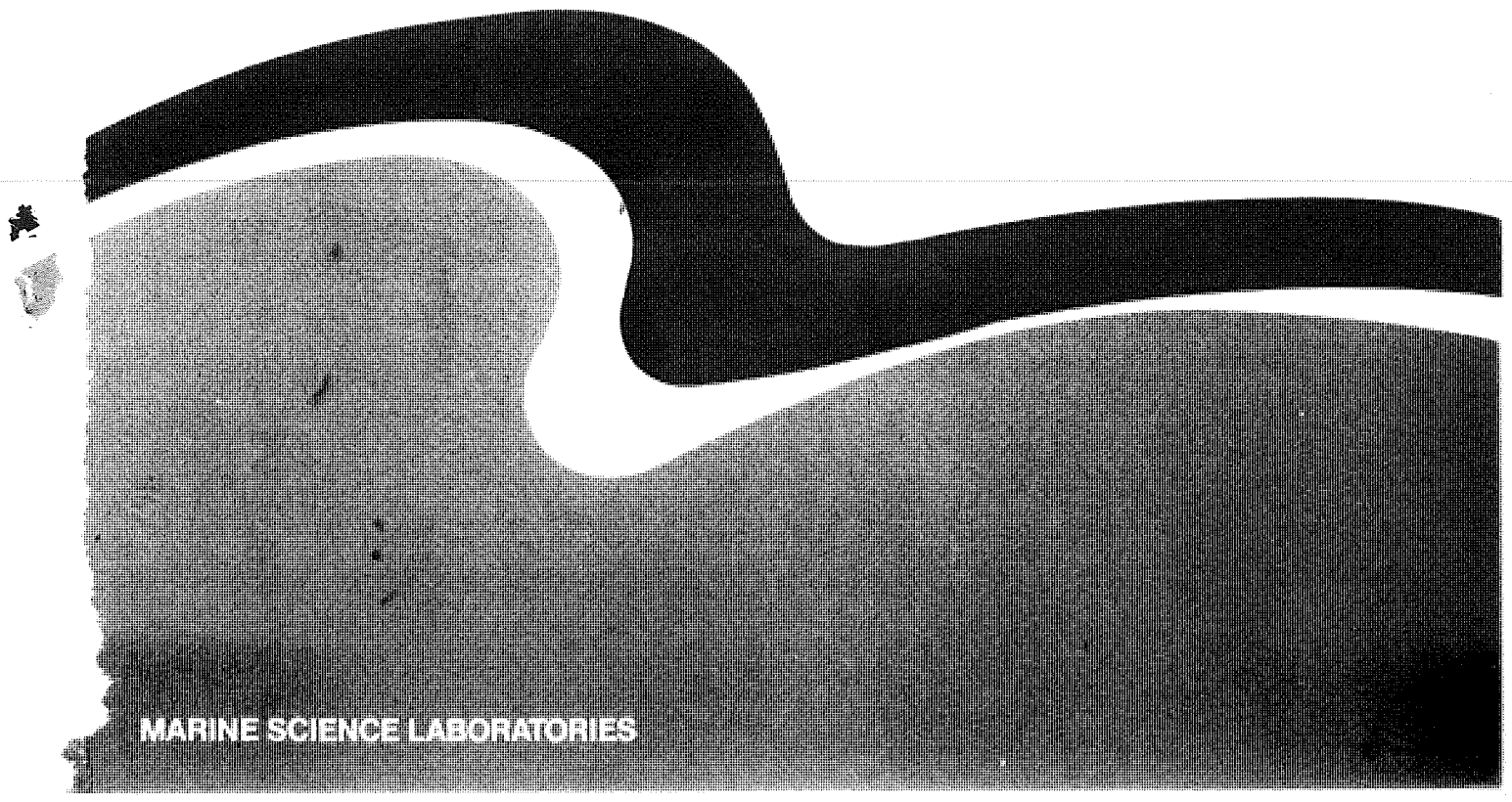

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USER MANUAL AND TECHNICAL SPECIFICATIONS FOR DATABASE OF THE SHARK FISHERY OF SOUTHERN AUSTRALIA

Abstract

Gason, A. S. and Walker, T. I. (1990). Southern Shark Fishery Monitoring Database User Manual and Technical Specifications. Mar. Sci. Lab. Tech. Rep. No xx. xxpp .

The Southern Shark Fishery Monitoring Database is a database containing four types of data (catch and effort, processor, sex and length-frequency composition of the catch and vessel licence history). Data were obtained about the catches of edible sharks(18 species) landed by commercial fishers operating off southern Australia. The data are processed by a suite of Command Program Language jobs, FORTRAN Programs and the Scientific Information Retrieval Database Management System running under the PRIMOS operating system on a PRIME minicomputer operated by the Victorian Department of Conservation and Environment.

The data are stored as raw data and as various levels of aggregation to facilitate data validation; data browsing; data editing; standardisation of units of weight, length and depth; standardisation of various reported landed weights of sharks to `untrimmed carcass weight'; weighting for missing data; data analysis; data reporting; and downloading of data for processing outside the database.

The raw data and the steps of data processing are described.

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1. INTRODUCTION

Commercial catches of several species of edible shark such as gummy shark *Mustelus antarcticus*, school shark *Galeorhinus galeus* and several species of scale fish such as warehou *Seriolella brama*,spotted trevally *Seriolella maculata* have been recorded since the origins of the fishery in the mid-1920s but not until the 1960s were data on the fishing effort collected systematically. Since 1970 the Victorian Government's fisheries agency has monitored the sex and the length-frequency composition of the sharks in commercial catches. More recently the agency has also collected details of quantities of sharks handled by fish processors.

Since 1984 such data have been collected by a research unit, the Southern Shark Assessment Group (SSAG), established at the Marine Science Laboratories (MSL) of the Fisheries Division of Victoria.

One of the SSAG's projects, the "Southern Shark Database Project", which was funded from the Fishery Industry Research Trust Account, has been to set up a database designed to enable fisheries agencies to manage the shark stocks off southern Australia.

The database, the Southern Shark Fishery Monitoring Database (SSFMDB) contains four types of data: catch and effort reported by fishers to the fisheries agencies of Victoria, Tasmania and South Australia; weight of shark handled by fish processors and auctioneers; sex and length-frequency composition of commercial catches of shark; and details of licenced vessels.

These data are processed by a suite of Command Program Language jobs, FORTRAN programs and Scientific Information Retrieval Database Management System (SIRDBMS) (version 2.2) running under the PRIMOS operating system on the PRIME 6350 minicomputer.

In this report we provide details of the four types of data and their processing. The SSAG's aim is to routinely provide summaries of data from the SSFMDB to the Bureau of Rural Resources and the Australian Fisheries Service of the Commonwealth Department of Primary Industries and Energy, the Fisheries Division of the Victorian Department of Conservation and Environment, the Sea Fisheries Division of the Tasmanian Department of Primary Industry, the South Australian Department of Fisheries, and the Southern Shark Research Group which reports to the South Eastern Fisheries Research Committee, and the Southern Shark Fishery Management Advisory Committee (SSFMAC).

The SSFMAC comprises representatives from the fisheries agencies of the Commonwealth, Victoria, Tasmania, and South Australia and from the shark fishing industry in each of Victoria, Tasmania and South Australia. The committee's primary role is to co-ordinate management of the fishery.

2. DESCRIPTION OF DATA

2.1 Catch and Effort Data

The fisheries agencies of Victoria, Tasmania, South Australia, and the Commonwealth have agreed that data on catch and effort be collected by the States; that the data form part of each State's routine catch and effort system; and that after the data have been entered and validated in each State's database the data be downloaded by way of magnetic tapes to the SSFMDB. After integration and further processing in the SSFMDB, the data are forwarded on magnetic tape to the Commonwealth AFZIS database. The Australian Fisheries Service is arranging for AFZIS to receive the data directly from each State's databases.

The fisheries agencies have also agreed:

(a) that resolution of data collected on the fishers' Return Forms of each state be compatible;

(b) that the data be collected on a shot by shot basis so that adequate partitioning of effort between the various species targeted by fishers and, because the fishers tend to operate over a wide area, to provide provision for accurate assignment of catch and effort to a geographical location and depth of fishing;

(c) that the fishers' Return Forms include returns for both gill net and long-line shark fishing;

(d) that the fishers' Return Forms include provision for data collection within a 30 minute by 30 minute geographic grid system (Mercator Projection) and information on minimum and maximum depths of fishing for each shot;

(e) that the fishers record fishing time as the period from when they finish setting the gear to when they begin hauling it.

The only fishers' Return Form designed for recording all the data at this level of data resolution is the one in current use first issued during 1988 to Tasmanian based fishers holding Commonwealth Licences allowing them to use gill nets for catching sharks.

Victoria has printed an appropriate new form but it will not be issued to fishermen until late 1990. South Australia has designed a new form but the time for its issue has not been decided.

The SSFMDB currently contains all available catch and effort data for all shark taken by shark gill nets and shark long-lines from Victoria during 1950-89, from Tasmania during 1970-89 and from South Australia during 1973-89.

Fishers recorded these data on 11 separate forms. Details of data resolution are tabulated and a copy of each Return Form, with instructions and geographic grid where available, are presented in Appendix 1.

As part of a project by the former Victorian Fisheries and Wildlife Division catch and effort data from Victoria and Tasmania fisheries for 1970-78 and from South Australia fishery for the 1973-78 were prepared as part of earlier projects conducted by the former Victorian Fisheries and Wildlife Division. These data were stored on a Burroughs B6800 mainframe computer at the Victorian Government Computing Service . This database is referred to as the B6800 Shark Database (B68). These data have subsequently been downloaded to the SSFMDB.

Catch and effort data for the period 1979-present have been downloaded via magnetic tape to the SSFMDB from databases maintained by the fisheries agencies of Victoria, Tasmania, and South Australia.

Catch and effort data for the Victorian shark fishery for the period January 1950 - June 1963 and as ABS data summaries for the period July 63 - December 69 were prepared and entered recently into the SSFMDB. No attempt has yet been made to enter data from Victoria before 1950, from Tasmania before 1970 or from South Australia before 1973.

A flowchart showing the flow of catch and effort data through the data processing stages is shown in Appendix 4.1.1.

2.2 Data from Processors

The weight of shark handled daily by fish processors (including auctioneers) are required for each fisherman for partial validation of catch and effort data provided by fishermen and for improving estimates of total catch.

Victoria is the only State with a legislative requirement (existing since 1 October 1985) for processors to submit monthly return forms providing the weight of shark received daily from each fisher.

Tasmania and South Australia also require processors to provide monthly return forms but require only weight of shark received for each species of shark aggregated over all fishermen for the month. these data are not entered into the SSFMDB.

Details of the processors' daily purchases for 1970-79 in Victoria and for 1973-76 in South Australia and Tasmania were collected as part of the earlier projects conducted by the former Victorian Fisheries and Wildlife Division. The SSAG attempted to collect daily records for the period from 1979 to the present in South Australia, Tasmania and Victoria by transcribing records maintained by the processors but found that detailed records before 1984 had been destroyed. Consequently a complete set of data is available only after 1984.

Most of these data were collected from processors by members of the SSAG or staff conducting the earlier projects by transcribing the data onto three separate processor forms. Copy of these forms (Form Nos 1.2.1,2,3) are presented in Appendix 1.

The data were key punched to magnetic tape and then loaded into the SSFMDB.

A flowchart showing the flow of processor data through the data processing stages is shown in Appendix 4.1.2.

2.3 Data from Samples of Catch

The sex and length-frequency composition of sharks in commercial catches (or batches from the catch where the entire catch is not available for sampling) are assessed from samples collected by fish measurers at major fishing ports in South Australia and Tasmania and at the Melbourne Fish Market in Victoria.

Species, sex and partial length of 40-100 shark carcasses (or less where the total catch or available batch consists of less than 40 carcasses) from each of several hundred commercial catches (or batches) are record annually.

During January 1970 - September 1985 the partial length L_{STN} for sharks sampled in Victoria was measured but since October 1985 in Victoria and for all samples taken in Tasmania and South Australia the partial length L_{BCF} has been measured for gummy shark and school shark. L_{BCF} of the small number of common saw shark, southern saw shark and elephant fish sampled in all three States, was also measured.

During September 1972 - June 1985 representative samples of school shark in Victoria were not available because large school sharks landed illegally during this period were not sold through the Melbourne Fish Market where most of the other sharks were sampled.

Species, sex and partial length of a shark is recorded by Fish Measurers piercing a transparent celluloid strip at the appropriate positions. The information is subsequently transcribed to Form No 1.3.1 in Appendix 1.3.

Samples were collected as part of earlier projects conducted by the former Victorian Fisheries and Wildlife Division in Victoria during the January 1970 - June 1985 and by the SSAG for the period July 1985 - present.

Data for 1970-85 were validated, stored and processed by a suite of FORTRAN Programs on the former Fisheries and Wildlife Division's DEC PDP 11/77 Minicomputer developed as part of earlier projects conducted by the Division. These data and Programs are referred to as the PDP Shark Database. The data have subsequently been downloaded to the SSFMDB.

A flowchart showing the flow of commercial catch sampling data through the data processing stages is shown in Appendix 4.1.2.

2.4 Data of Vessel Licences

Details of Commonwealth licensed vessels engaged in the shark fishery are provided by the Australian Fisheries Service.

Distinguishing Marks of Commonwealth Licensed Vessels, Licence Category (i.e., A, B or Nil), Gill Net Gear Units (i.e., 2, 3, 4, 5, 6, or 10), State of Home Port (Victoria, Tasmania or South Australia), and Status of Licence (i.e., Transferred, Amalgamated, Consolidated, or Forfeited) (see Section 1.4 Definitions) are entered through the SIR Module FORMS (see Section 3.1 User Access) into the SIR Record Type LICENCE prescribed by the SIR Record Schema LICENCE (No 52).

3. PROCESSING THE DATA

The system for the SSFMDB has been established on the DCE PRIME 6350 minicomputers and is accessed at MSL through DCE's State-wide Telecommunications Network (DCENET).

The current baud rate on the communications line to MSL is 9600 bytes per second.

On-line disk space of 120 megabytes and additional dismountable disk space of 280 megabytes are allocated to this system.

The SSFMDB is being developed and operated by the SSAG which is using CPL jobs, FORTRAN 77 and Version 2.2 of the Scientific Information Retrieval Database Management System (SIRDBMS) running under the PRIMOS operating system with the EMACS Editor used in explore mode on DCE PRIME system CFLA.

The SSFMDB occupies directory $MSL_FRED of user area MSL1A (120 megabytes).

SIRDBMS consists of seven modules, which can be accessed by CPL Jobs.

3.1 System overview

The SSFMDB contains data at five levels: `raw data', `reformatted raw data', `detailed data', `summary data' and `downloaded data'.

Holding the data as raw data and at various levels of aggregation facilitates data validation; data browsing; data editing; standardisation of units of weight, length and depth; standardisation of various reported landed weights of sharks to `untrimmed carcass weight'; weighting for missing data; data analysis; data reporting; and downloading of data for processing outside the SSFMDB.

`Raw data' are reformatted by a suite of FORTRAN programs to `Reformatted Raw Data'. The `Reformatted Raw Data' are then processed by the `SIR Component' of the SSFMDB to provide standardised `Detailed Data' which, in turn, are further processed by the `SIR Component' to provide aggregated `Summary Data'.

To reduce computing memory and disk requirements only the `Summary Data' are held permanently in the SSFMDB on-line. The `Detailed Data' are stored on a dismountable disk pack which can be reloaded to SSFMDB as required. The `Raw Data' files and, where applicable, edited versions of `Raw Data' files are stored on magnetic tapes for backup and archival purposes and can be used for reloading the SSFMDB when necessary. `Reformatted Raw Data' files are temporary and therefore not stored.

`Downloaded Data' can be written on disk or magnetic tape to SAS or ASCII files for graphical and statistical analysis outside SSFMDB or to ASCII files for the AFZIS Database.

3.1.1 Data flow chart

A data flow chart illustrating the flow of data from data forms through the data processing stages of `Raw Data', `Reformatted Raw Data', `Detailed Data' to `Summary Data' is presented for Catch and Effort Data in Appendix 4.1.1 and for shark Processor Data and Commercial Catch Sampling Data in Appendix 4.1.2.

The names of the data files and SIR Record Types are given in lower case alpha-numeric characters while the names of CPL Jobs, FORTRAN Programs and SIR Procedures are given in upper case alpha-numeric characters.

3.2 CPL Jobs

CPL jobs are used to access the seven modules of SIRDBMS.

3.2.1 SIRDBMS Modules

SCHEMA is an interactive system for generating the records used in DBMS, SQL+ and FORMS modules to create a SIRDBMS database, a set of tables, or a Form definition. By filling in SCHEMA's set of screens for defining each part of the data dictionary SCHEMA writes appropriate code for SIRDBMS Procedures and SIRDBMS Record Schemas. This module has not been used for development of the SSFMDB.

HELP can be accessed from any module and the PRIMOS Operating System for information about the SIRDBMS.

SQL+ is an English-like, non-procedural language whose primary functions are to retrieve data from databases and tabfiles, to create new tables which can be queried and used in other SIR/DBMS modules, and to create and display formatted reports

FORMS is an interactive, screen-orientated system for retrieving, entering, modifying and deleting data from SIR Record Types and tables in tabfiles. With a set of screens called FORMS an end-user can retrieve data by searching for a particular SIR Record or set of SIR Records or by stepping through the data record by record.

DBMS is the central module of SIRDBMS and provides a Procedural Query Language (PQL) for general purpose programming, retrieving data from various sources, entering and modifying data in various types of data files and preparing reports.

HOST is a library of FORTRAN subroutines that can access data in SIR databases. This module is not accessed by the SSFMDB.

GRAPH provides facility for graphic display of data in SIR databases. This module is not accessed by the SSFMDB.

3.3 FORTRAN Programs

FORTRAN programs are used IN CONJUCTION WITH cpl JOBS for preparing data for the SIRDBMS procedures of the SSFMDB. This preparation involves reformatting data and validating data items which become key data fields in the SIRDBMS procedures.

For the purpose of this document, data received from any database other than the SSFMDB or key punched for entry to the SSFMDB are referred to as `Raw Data'. After processing by FORTRAN Programs the data are referred to as `Reformatted Raw Data'

The name and purpose of each FORTRAN program are given in Appendix 3.2.

CPL jobs which run under the PRIMOS operating system allow development and operation of the FORTRAN and SIRDBMS procedures of the SSFMDB. Specific functions include reading and writing files to disk and magnetic tape; writing files on printers; sorting data within files; altering and running SIR procedures; backup and recovery of the SSFMDB, and user interactivity for browsing and editing data.

The name and purpose of each Command Program Language job is given in Appendix 3.1.

3.4 SIRDBMS

A SIRDBMS database stores the data in a series of tables of information as a relational database.

Every element of the database has a name and a description of its characteristics where the smallest element is a SIR Variable.

The database stores the values of related sets of SIR Variables in a SIR Record.

SIR Records can be visualised together as rows of a table and SIR Variables as columns of a table, jointly referred to as a SIR Record Type.

Each SIR Record within a SIR Record Type must be unique. To achieve this the values of one selected variable or the combination of selected SIR Variables must be unique within the SIR Record Type. SIR Variables selected to uniquely identify each SIR Record are referred to as SIR Keyfields which form the basis of a data index by SIRDBMS.

The description of each SIR Variable is stored in a data dictionary which for a SIR Record Type is referred to as a SIR Record Schema.

SIR Procedures (programming steps written in PQL) are stored as part of a database along with a SIR Journal File (record of updates of the database), the SIR Record Schemas, and the Data Records.

3.4.1 SIR Record Schemas

SIR Record Schemas define the Data Records used by the SIR Procedures in the SSFMDB. Each record has a separate SIR Record Schema which lists the variable names of the data items and sort keys in the record. In addition, for each variable, a Record Schema defines field length, values for missing data, and acceptable values (see Section 3.12 Validation); and categorises the variable as alpha (A) or numeric (I).

The SSFMDB presently uses 56 SIR Record Types which for the purpose of this document are categorised as six general record types.

`Reformatted Raw Data Records' are the raw records of data received by the SIR component of the SSFMDB.

`Detailed Data Records' are records of detailed data held on disk on-line after processing of `Reformatted Raw Data'.

`Summary Data Records' are records of data held on disk on-line after aggregation and summary of `Detailed Data'.

`Download Data Records' are records in files prepared for further data analysis outside the SSFMDB.

`Reference Data Records' are records of static data used by the SSFMDB (see Section 2.3 Data Reference Codes).

`Temporary Data Records' are records used by SIR only while data processing and are not stored.

The structure and purpose are given for each SIR Record Schema in Appendix 3.4.

The SIRDBMS Record Schemas are stored as part of the database along with the SIRDBMS Procedures.

3.4.2 SIRDBMS Procedures

SIR Procedures read data files or SIRDBMS Data Records, manipulate and validate data, and write data files or SIR Data Records as defined by the SIRDBMS Record Schemas.

The SSFMDB uses SIRDBMS Procedures which for the purpose of this document are categorised on the basis of primary function into six general types.

`Create Procedures' which create records designated 'Detailed Data' or 'Summary Data'.

`Download Procedures' write `Downloaded Data Records' to files for further data processing outside the SSFMDB.

`Input Procedures' read `Reformatted Raw Data'.

`Manipulate Procedures' link Data Items from separate SIR Records and calculations.

`Reference Procedures' read `Data Reference Codes' (See Section 3.4).

`Report Procedures' write report files from `Detailed Data' or `Summary Data' for subsequent printing.

`Utility Procedures' facilitate specialised operations of the SSFMDB such as user access, merge, deletion (File and variables, updated data), archiving and backup.

`Validation Procedures' test for and print suspect data.

The name, type, input files, input records, output files, output records, reports and purpose are given for each SIR procedure in Appendix 3.3.

Data reference Codes are defined in the SIRDBMS Record Schemas and SIRDBMS Records.

3.4.3 Reference Codes

Reference codes are data other than input data described under Section 2. There are reference codes for locality, depth of fishing, distinguishing marks, licences, gear, month, processor, sex, species.

Two broad categories of code have been adopted: locality of fishing and locality of landing.

Locality of Fishing

Three options for partitioning `Locality of Fishing' into 11 Regions, 5 Zones or the 2 Divisions of inside and outside of bays and inlets are defined by the SIR Variable SET in the SIR Record Type REGSET prescribed by SIR Record Schema REGSET (No 33). The name and the latitude and longitude of the mid-point of each Region, Zone and Division are defined by the two SIR Variables SET and REGION, jointly, in the SIR Record Type REGION (see Appendix 2) prescribed by the SIR Record Schema REGION (No 11).

The boundaries of each Region, Zone and Division are delimited by several vertices. Each vertex is defined by the SIR Variables SET, REGION and VERTEX, jointly, and given as the SIR Variables LATITUDE and LONGITUD in the SIR Record Type REGVERT (see Appendix 2) prescribed by the SIR Record Schema REGVERT (No 12).

These boundaries are required for the aggregation of data across Area Blocks within Regions, Zones and Divisions.

The code and the latitude and longitude of the mid-point of each Area Block are defined by the two SIR Variables STATE and AREA of the SIR Record Type AREA (see Appendix 2) defined by the SIR Record Schema AREA (No 13).

Area Estuary Codes included on the Victorian ABS Return Form (Form No 1.1.2) are recorded to Area Block Code by the SIR Record Schema RAW (No 1).

Locality of Landing

For `Locality of Landing' the name and the latitude and longitude of the mid-point of each Port is defined by the SIR Variable PORT (ABS Port Code) in the SIR Record Type PORTDIR (see Appendix 2) prescribed by the SIR Record Schema PORTDIR (No 27). The first digit of the four digit ABS port code defines State of Landing (i.e., 1 is New South Wales, 2 is Victoria, 4 is South Australia, and 6 is Tasmania).

Different port codes have been adopted for the SA GARFIS Return Form (Form No 1.1.11) and these are converted to ABS Port Codes. The South Australian Port Codes and the ABS Port Codes are given by the SIR Variables SAPORT and ABSCODE, respectively, in the SIR Record Type SAPORT prescribed by the SIR Record Schema SAPORT (No 17).

Depth of Fishing

Within each Area Block defined by SIR Variables LATITUDE and LONGITUD (i.e., the latitude and longitude of the mid-point, respectively), the depth interval represented by the SIR variable ZONE and the area measured in square metres represented by the SIR variable SQUARE. These data are stored in the SIR Record Type DEPTH (see Appendix 2) defined by SIR Record Schema DEPTH (No 19).

Depth-intervals adopted for data reporting are defined in Appendix 2.

Distinguishing Mark

Distinguishing Marks adopted for the Victorian Shot Log Return Form (Form No 1.1.8,9) on 1 June 1978 and the ABS Boat Codes in the data before this time have been converted to Distinguishing Mark. The ABS Boat Codes and the Distinguishing Marks are given by the SIR Variables ABSCODE and DISTING, respectively, in the SIR Record Types VICBOAT prescribed by the SIR Record Schema VICBOAT (No 24) and TASBOAT prescribed by the SIR Record Schema TASBOAT (No 10).

Where Distinguishing Marks of vessels are found to be incorrect, the files of `Raw Data' are not edited but are corrected when the SIR Record Types DETAIL, OPERATE and CATCH are created. The incorrect and correct Distinguishing Marks are given by the SIR Variables OLDDIST and NEWDIST, respectively, in the SIR Record Type DISTCORR prescribed by the SIR Record Schema DISTCORR (No 35).

Licence Code

Various codes for categorising Commonwealth Shark Licences (defined under Section 6.3) are given in the SIR Record Schema LICENCE (No 52).

Gear Code

Codes for Fishing Method are defined by the SIR variable GEAR in the SIR Record Schema OPERATE (No 3).

Month Code

Coding for Month adopted for Commercial Catch Sampling Data are defined by the SIR variable MONTH defined by the SIR Record Schema CCSRAW (No 16).

Processor Code

In addition to coding Processors, Processor Codes are used for coding Sampling Sites for Commercial Catch Sampling. SIR Procedures UTIL.SAMPSITE and UTIL.PROC recode some Processor Codes to standard codes.

Sex Code

Sex Codes adopted for Commercial Catch Sampling Data are defined by the SIR variable SEX defined by the SIR Record Schema CCSRAW (No 16).

Species Code

ABS Species Codes and species name are given in the SIR Record Schema GEOCCS (No 47).

Species Codes adopted for the ABS and Daily Log Return Forms (Form Nos 1.1.2,3,4,5,6,7) for Victoria, Tasmania and South Australia for various periods during Jan 1970-Jun 1978 are recoded to ABS Species Codes by SIR Record Schema SEVENTY2 (No 42).

Species Codes adopted for Commercial Catch Sampling Data are defined by the SIR variable SPECIES defined in Appendix 2.

3.5 Validating the Data

Validation of data is undertaken by FORTRAN Programs and the SIR component of the SSFMDB.

The FORTRAN Programs check values among Area Block Codes and check and flag anomalies in data fields subsequently used in SIR Keyfields.

Values for various variables accepted by the SSFMDB are controlled by values prescribed in the SIR Schemas (see Appendix 3.4) for:

CAT VARS which specifies acceptable categorical alpha values,

VAR RANGES which specifies range of acceptable numeric values,

VALID VALUES which specifies acceptable discrete numeric values, and

REJECT REC IF which imposes conditional control on alpha and numeric values.

The SIR Schemas also specify whether a the characters of a variable are alpha (A), numeric (I) or string.

3.6 Reformatting the data

Raw Data from data forms are processed to `Reformatted Raw Data' by four FORTRAN Programs and a series of SIR Procedures (see Appendix 4.1.1). This process involves standardisation of data and organisation of data in preparation to create `Detailed Data'.

3.7 Standardising the Data

Standardisation of data is necessary because shark carcasses are landed `untrimmed' or `trimmed', and because different partial lengths have been measured on carcasses for Commercial Catch Sampling,

and several systems for coding Locality of Fishing and Port and different units for Weight of Shark, Length of Gill Nets, Gill Net Mesh Size and Depth of Fishing have been used on the various Return Forms.

Catch and effort data from Victoria and Tasmania for 1970-78 and from South Australia for 1973-78 were standardised by the B6800 Shark Database before being downloaded to the SSFMDB.

For catch and effort data, where fishermen submitted returns to more than one State fisheries agency, only data from the Return Form with the greater data resolution were entered into the B6800 Shark Database. For 1979-present, data on all Return Forms are entered into the SSFMDB which selects the data of greater resolution for inclusion in data reports.

Depth of Fishing

In SIR Records all depths are recorded as fathoms but in all reports all depths are given in metres.

Gear Codes

Various Gear Codes for Fishing Method are standardised accordingly and listed in Appendix 2.

Mesh size of Gill Nets

On the various return forms the mesh size of gill nets have been recorded in millimetres, centimetres and inches but have been standardised to the nearest inch as 5, 6, 7, 8, and 9 inches in the SSFMDB.

Length of gill nets

On return forms the length of gill nets is recorded in metres. In the past the lengths of gill nets have also been recorded as fathoms and yards but these were converted to metres in the B6800 Shark Database before being downloaded to the SSFMDB.

Length of sharks

The partial length of all species of shark currently recorded on Form 3.1 for Commercial Catch Sampling is L_{BCF}. During January 1970 - September 1985 the partial length L_{STN} was recorded for gummy sharks and school sharks (see Section 1.4 Definitions). All lengths are standardised as Total Length L_{Total} for reporting purposes. (See Section 2.13 Data Transformation for conversion factors).

All measurements have been made to the nearest centimetre.

Locality of Fishing

The various 1 degree by 1 degree geographical Area Block Codes and the Area Estuary Codes adopted at different times on the various Return Forms are standardised to latitudes and longitudes of the mid-points of the grids.

Ports

With the exception of the South Australian GARFIS (Form No. 1.1.11) the ABS Port Codes were used for coding ports of landing. In the SSFMDB the South Australian Port are recoded and standardised to ABS Port Codes (see Appendix 2 Data Reference Codes).

Weight of Shark

On all forms in current use weight of sharks is recorded in kilograms but before 1 October 1973 most weights had been recorded in pounds. All the weights in the data collected from January 1970 to September 1973 in the `Raw Data' had been converted to kilograms.

Landed weight of sharks is standardised to `Untrimmed Carcass Weight'.

Weight of sharks provided from the GARFIS database is expressed as `Total Weight' (i.e., live weight). `Total Weight is divided by 1.59 in the SSFMDB to convert it back to `Trimmed Carcass Weight' as presented by fishermen on Return Form No 1.1.11.

School sharks landed in Tasmania and all species of sharks landed in South Australia are landed as `Trimmed Carcass Weight' whereas all other sharks are assumed to be landed as `Untrimmed Carcass Weight'.

`Trimmed Carcass Weight' is converted to `Untrimmed Carcass Weight' by multiplying by 1.13.

3.8 Integrating the Data

Three forms of integration occur between the four types of data of catch and effort data, processor data, commercial catch sampling data and vessel licensing data.

(a) Weight of gummy shark and school shark combined (`weight') contained in the processor data is compared for each day of each vessel with the catch of gummy shark and school shark combined (`catch') contained in the catch and effort data. Where `weight' exceeds `catch', the quantity `weight' minus `catch' is added as a separate SIR Record to each of the SIR Record Types OPERATE and CATCH. The comparison can be made over a selected number of days by setting the SIR Variable DAYS in the CPL Job PROCESS.INTEGRAT.CPL. For this comparison `catch' for a particular day is set and the number of days to the next reported `catch' is counted. `Weight' is then summed over all Processors for either the number of days between the two reported catches or the number set by DAYS, whichever is smaller, and then the sum of `weight' is written to OPERATE and CATCH.

(b) Samples of the commercial catch are taken at the Melbourne Fish Market and from various processors where it is not possible to obtain details of fishing operations. Hence Date of Sampling and Vessel Distinguishing Mark, available for each sample in the SIR Record Type CCSAMP, are used for matching samples with SIR Records in the `Detailed Data' of Catch and Effort Data to obtain Fishing Method, Latitude, Longitude, and minimum and maximum Depth of Fishing which are then written to the SIR Record Type CCSAMP.

(c) Data items on vessel licences contained in the SIR Record Type LICENCE are accessed during the process of reporting `Detailed Data' or `Summary Data' of catch and effort data for each vessel distinguishing mark. Licensing data are not written to SIR Records of `Detailed Data' or `Summary Data'.

3.8 Aggregating the Data

Data on non-target catch, non-target effort, target catch, and target effort are aggregated from SIR Record Types of `Detailed Data' to SIR Record Types of `Summary Data' within categories of locality of fishing or locality of landing, vessel, vessel licence, fishing method, depth of fishing, time period and species of shark or species of scalefish.

Because `Detailed Data' are summed for aggregation into `Summary Data', they are partitioned on the basis of complete data for each fishing operation, various levels of completeness depending on missing data. Partitions in the data are based on where data for the combined catch of gummy shark and school shark are given but not for the two species separately, and where data for days, shots, depth of fishing, gill net length, hook number, and fishing time are missing

Partitioning this way allows subsequent correction for missing data by weighting on the basis of all of the complete data within the Categories required for specific reports.

Details of the SIR Variables used for aggregated data in the SIR Records are presented within Schema Nos 28, 37-40 for `Summary Data' and with Schema 22, 23, 30, 34, 47, 48, 49, 51, and 57 for `Downloaded Data'.

Depending on the categories required for any particular report, the data can be viewed as aggregated hierarchically in the order of the following Categories.

Locality;Vessel(s);Licence;Method;Depth;Period;Species

Locality

There are two broad options:

(a) Locality of Fishing which can be further categorised at four hierarchical levels

Fishery;Zone;Region;Area

of which any one or combinations thereof can be included, and

(b) Locality of Landing which can be further categorised at three hierarchical levels.

Fishery;State;Port

Vessel

Particular vessels can be selected or rejected by Distinguishing Mark.

Distinguishing Marks of selected or rejected vessels are listed at the beginning of each report, otherwise all vessels are selected.

Licence

Data can be aggregated within the following licence types: Commonwealth Gill net Endorsements (i.e., A10, A6, B5, B4, B3, and B2); Transferred Commonwealth Gill net Endorsements (i.e., to consolidated A10 licence, and to replacement vessel); Forfeited Commonwealth Gill net Endorsements; Unendorsed Commonwealth licences; and State only licences.

Fishing method

Information on type of fishing gear [Gill net (5-inch), Gill net (6-inch), Gill net (7-inch), Gill net (8-inch), Gill net (9-inch), Gill net (unknown mesh size), Long-line, Otter Trawl, Danish seine, Inshore scalefish, Off-shore scalefish, Other, Unknown] can be retrieved from either the `Summary Data' or `Detailed Data'.

Depth of fishing

Information on depth can be retrieved from the `Summary Data' within 5-metre depth-intervals and can be categorised into any combination of 5-metre depth-interval aggregations.

Minimum and maximum depths can be retrieved from the `Detailed Data' to the nearest unit of measurement, which is fathoms for Victorian and Tasmanian logbook Return Forms but metres for South Australian logbook returns.

Period

The data can be retrieved from either the `Summary Data' or `Detailed Data' at the most detailed resolution depending on how the raw data were collected. Existing report procedures aggregate the data on the basis of calendar year and fiscal year which can be readily divided hierarchically as

Calendar year;Half year;Quarter;Month(s)

or

Fiscal year;Half year;Quarter;Month(s).

Species

Various report procedures summarise data by the following species and species combinations: Gummy shark, School shark, Gummy shark and school shark combined, Saw shark (common saw shark and southern saw shark combined), Elephant fish, Whiskery shark, Bronze whaler shark, Blue whaler shark, Mako shark, Broadnose shark, Angel shark, Other shark, Total shark, Blue warehou, Spotted trevalla, Trevally, Blue-eye, Gemfish, Blue grenadier, Jackass morwong, Long-snouted boarfish, Other scalefish, and Total scalefish.

All species reported by fishermen and can be retrieved from the `Detailed Data' but only gummy shark, school shark, saw shark, elephant fish, other shark and total scalefish can be retrieved from the `Summary Data'.

3.9.1 Estimation of `Target Fishing' Effort

Fishermen are presumed to be `target fishing' for gummy shark, school shark or scalefish.

`Target effort' and `target cpue' are estimated by applying specific selection criteria to only data collected at the shot or daily level of resolution.

For each such record

(a) weight of scalefish catch, C_f, is computed by summing weights of catches of all species of scalefish, and

(b) sum of weights of the catches of gummy shark, c_g, school shark, c_s, and scalefish catches, c_f, are computed.

If $c_g/(c_g+c_s+c_f)>0.7$ then all fishing effort is assigned as gummy shark target effort, e_{tg}, for the target catch of gummy shark, c_{tg}, or

If $c_s/(c_g+c_s+c_f)>0.7$ then all fishing effort is assigned as school shark target effort, e_s, for the target catch of school shark, c_{ts}, or

If $c_f/(c_g+c_s+c_f)>0.7$ then all fishing effort is assigned as scalefish shark target effort, e_f, for the target catch of gummy shark, c_{tf}.

Where any one of these three conditions is true then the record is used during the aggregation procedures for estimating total target effort for each of gummy shark, school shark, and scalefish separately.

Where none of the three conditions is true then the effort data on the record are not selected but catch weights are used after the selection process for estimating total target effort described in the following procedure.

Total target effort for gummy shark is estimated as

(sum of e_{tg})(total gummy shark catch)/(sum of c_{tg}),

total target effort for school shark is estimated as

(sum of e_{ts})(total school shark catch)/(sum of c_{ts}), and

total target effort for scalefish is estimated as

(sum of e_{tf})(total scalefish catch)/(sum of c_{tf}).

3.9.2 Double Reporting

All data from fishers' returns are entered and normalised as SIR records DETAIL OPERATE CATCH. Some fishers submit more than one type of catch and effort return for a single month. It is presumed that the data on each return contains details of the fisher's entire catch for the month. So when the data is aggregated and reports created it is necessary to use on one monthly return for one fisher. The process is as follows;

Before the SIR aggregation procedures FISHERY.AGGR, and BOATMAN.CREATE the SIR PROCEDURE TWOREP.CREATE is executed. If a vessel is reported from more than one origin during a single month, the second and third origins are flagged as double reported.

Order is

1. Tas Shot return (origin = 7)
2. Vic CE return (origin = 2)
3. SA CE return (origin = 4)
4. Tas CE return (origin = 6)

SIR Records flagged as double reported are not deleted but are ignored when aggregations by Port of landing,location of fishing are run.

SIR Records flagged as double reported are not ignored when aggregation by vessel is run but the vessel record is also flagged as being double reported.

3.10 Transforming the Data

Several transformations of the data are made according to various combinations of partial and total lengths of sharks and of partial and total weights (see definitions in Section 1.3) of sharks according to various formulae.

Length-length

$L_{Total} = a + b\, L_{BCF}$

where for gummy shark a = 2.65 and b = 1.61, and for school shark a = 3.64 and b = 1.70 for lengths measured in centimetres.

$L_{Total} = a + b\, L_{STN}$

where for gummy shark a = 1.48 and b = 1.34, and for school shark a = 1.28 and b = 1.45 for lengths measured in centimetres.

Weight-weight

$W_{Total} = aW_{Carc}$

where a= 1.5 for gummy shark and school shark.

$W_{Carc} = aW_{Trim}$

where a=1.13 for gummy shark and school shark.

Weight-length

$W_{Total} = a(L_{Total} \times 10)^b$

where $a=4.52 \times 10^{-9}$ and b=2.96 for male gummy shark, $a=1.22 \times 10^{-9}$ and b=3.16 for female gummy shark , $a=4.07 \times 10^{-9}$ and b=3.01 for male school shark when length is measured in centimetres and weight in kilograms.

$W_{Carc} = a(L_{STN} \times 10)^b$

where $a=4.12 \times 10^{-10}$ and b=3.43 for gummy shark and $a=8.69 \times 10^{-10}$ and b=3.37 for school shark when length is measured in centimetres and weight in kilograms.

$W_{Carc} = a(10L_{BCF} \times 10)^b$

where $a=8.57 \times 10^{-10}$ and b=3.40 for gummy shark and $a=2.88 \times 10^{-9}$ and b=3.27 for school shark when length is measured in centimetres and weight in kilograms.

3.11 Reporting the Data

SSFMDB generates reports from either the `Detailed Data' or the `Summary Data' aggregated hierarchically into selected categories.

Catch

Existing report procedures summarise catch by

(a) Weight of shark

in kilograms or tonnes, and

(b) Number of sharks

within classes of sex and 100-mm classes of total length for gummy shark, school shark, saw shark and elephant fish. Estimates of number are based on routine sampling of the commercial catch.

Effort

Effort can be expressed as `non-target effort' or `target effort' and include the following options: number of vessels, vessel days, gill net shots and long-line shots, gill net kilometre-lift and gill net kilometre-hour, and hook-lift and hook-hour.

Cpue

Cpue can be expressed as `Non-target cpue' and `Target cpue'.

Locality of landing

Reports by locality of landing of catch, non-target effort and non-target cpue data generally have the hierarchical structures:

Fishery;state;port;period;method;species

Species are presented in three separate reports:

Gummy, school, saw, elephant, other shark, and total shark,

Whiskery, bronze whaler, blue whaler, mako, broadnose, angel, other shark, and total shark, and

Blue warehou, spotted trevalla, trevally, blue-eye, gemfish, blue grenadier, jackass morwong, long-snouted boarfish, other scalefish, and total scalefish.

Reports by locality of landing of catch, target effort and target cpue data generally have the hierarchical structures:

Fishery;state;port;period;method;species

Species are presented in three separate reports:
Gummy, school

Fishers' reported catch

Reports by all or selected vessels , all or selected fishers and locality of fishing of catch, non-target effort and non-target cpue data generally have the hierarchical structures:

Fishery;State;Vessel;licence;fisher;Port;Period;Method;Species

where

State includes Vic, Tas, and SA;
Calendar year includes 1970-present;
Method includes gill net, long-line, other and unknown; and

Species are presented in two separate reports:

Gummy, school, saw, elephant, other shark, and total shark, and total scale fish.

Processor's reported catch

The following reports include all vessels and all methods and have the following hierarchical categorisation.

State;processor;period;species

where

State includes Vic, Tas, and SA;
Calendar year includes 1970-present; and

Species are presented in two separate reports:

Gummy and school combined, saw, elephant, other shark, and total shark,

Fishers' reported catch corrected by processor catch

The following reports include all vessels and all methods and have the following hierarchical categorisation.

Fishery;state;vessel;licence;fisher;port;period;method;species

where

State includes Vic, Tas, and SA;
Period includes 1970-present; and

Species are presented in two separate reports

Gummy and school combined, saw, elephant, other shark, and total shark,

Locality of fishing

For each of the gill net and long-line method of fishing separately, reports of catch, non-target effort and non-target cpue for gummy shark and school shark combined, saw shark and elephant fish; and catch, target effort and target cpue for gummy shark and school shark are prepared within each of the following categories hierarchically. For each of gummy shark and school shark separately, the percentage of the total catch of the species selected for calculating target cpue is given in parentheses.

Zone;region;area;method;depth;period;species

These data summaries along with the updated age-length keys are used in cohort analyses for revising estimates of recruitment, natural mortality and fishing mortality. These estimates along with other biological parameter estimates are then used in a dynamic pool simulation model for determining the effects of fishing effort and gillnet mesh size on catch and stock abundance.

Naming of Reports

The names of all reports follow the following naming convention.

Source.Sortkey.Details

where
'Source' is the aggregation record used and source of data.
'Sortkeys' is a sequence of all fields used to aggregate the data in the report
'Details' is a list of all the data contained in the report.

Source

All reports with the same source are filed in the same coloured folders. There are nine different sources for reports. To create the entire suite of reports for a single source a CPL may be executed. Individual reports may also be created. All nine sources are listed below together with their colour code, description and CPL used to create the entire suite of reports.

Source	Description	Colour	CPL
Vesself	Vessel,fisher from fishers' returns	red	Vesself.rep.cpl
Detailf	Detail data from fishers' returns	brown	Detailf.rep.cpl
Detailfp	Detail data from fishers' and processors' returns	brown	Detailfp.rep.cpl
Process	Processor	yellow	Process.rep.cpl
Portf	Locality of landing from fishers' returns	blue	Portf.rep.cpl
Portfp	Locality of landing from fishers' and processors' returns	blue	Portfp.rep.cpl
Geof	Locality of fishing from fishers' returns	green	Geof.rep.cpl
Geofp	Locality of fishing from fishers' and processors' returns	green	Geofp.rep.cpl
CCS	Length frequency	orange	CCS.rep.cpl

Sortkeys and details
All fields used to sort and aggregate the data befor the report are listed in the sortkey sequence. The additional fields used for the detailed information in the report are listed in the details sequence. Codes are used for bothe the sortkeys and the details. These codes are:

CODE	CODE
A Area (1 deg sq location of fishing)	N Nontarget CE
B Selected vessels	O Port of landing
C Catch	P Processor
D Depth intervals	Q Frequency
E Mesh size	R Region
F Fisher	S State of Landing
G Gear	T Target Catch & Effort
H Effort in kmhours or khhours	U Fisher returns
I Effort in kmlifts or khlifts	V Vessel
J Length catagories	W Weight
K Shark species	X Other species
L Licence type	Y Year
M Month	6M 6months
Z Zone(location of fishing)	2 double reporting

All available reports are listed in Appendix 6

3.12 Validating the Data

Anomalies among the data for date and, for Forms 1.1.8, 9 and 10, record definition fields subsequently used as SIR keyfields are flagged by the FORTRAN Programs GARFIS87.REFORMAT, TASUNI.REFORMAT, B68.REFORMAT and TASAFZIS.REFORMAT.

Validation of the data is performed by most SIR Record Schemas, but in addition, several SIR Procedures are designed specifically to validate data.

When the SIR Record Types DETAIL, OPERATE and CATCH are created by the series of SIR Procedures titled *.DETAIL (see Appendix 4.1.1) Distinguishing Marks are checked and `I' values are replaced by `1' and `O' values by `0'. The SIR Procedure DISTING.VALIDATE lists distinguishing

marks and fisher numbers for each month. Incorrect Distinguishing Marks identified can by entered into the SIR Record Type DISTCORR via the user access facilities (see Section 4.1).

Latitudes and longitudes are read into the SIR Record Type UTIL.GETREG and are checked whether they fall within the range of the fishery, SIR Procedure FISHERY.AGG checks for valid ABS Port Code.The SIR Procedure CCS.DETCHECK checks that lengths amongst the data from sampling of the commercial catch fall within prescribed limits.

NEWRAW87.VERIFY and TASAFZIZ.VERIFY check ranges of fields and various ratios between fields (see Appendix 5).

NEWRAW87.CHECK, TASAFZIS.CHECK, BOATMAN.CHECK, GARFIS87.CHECK, and TASUNI88.CHECK sum values of selected SIR Variables from separate SIR Record Types and then compare totals as a means of checking systems.

TWOREP.CREATE flags vessels for which more than one monthly Return Form is submitted.

BOATMAN.REPORTMM reports aggregated catch and effort data by month for each distinguishing mark of vessel. FISHERY.PORTMM reports aggregated catch and effort data by port by month and can be used for manual checking.

4.OPERATING PROCEDURES

4.1 User Access

The DCE's PRIME 6350 minicomputer can be accessed from a personal computer or dumb terminal via DCENET. The SSFMDB can be accessed through the following PRIMOS prompts:

Please select your host?	(Enter `CFLA')
LOGIN?	(Enter `User Identification')
Project id?	(Enter `MSL.SHK')
Security code?	(Enter current security code which is altered each month ` ')

PRIMOS then displays the following menu.

****

Commands available are:

BROWSE -- Boat/fisher screens

FORMS -- SHARK data entry screens

EXPLORE -- Run EMACS in explore mode

REPORTS -- Create and print reports

LOGOUT -- Finish session

****

Entering `B' allows the user to browse the data, `F' to either browse data, enter data, or edit data of logout, `E' to use EMACS in the explore mode, 'R' to create and print reports, , and `L' to logout.

PRIMOS Operating System

Entering `E' accesses the PRIMOS Operating System through the editor EMACS.

If the user has appropriate access rights, the SSFMDB directory is displayed and EMACS can be used in `Explore Mode'.

The authorised user can execute CPL Jobs interactively by entering `e', print files on the MSL printer by entering `s', view the contents of a file by entering `d', and execute CPL Jobs in batch mode by entering `j'.

Editing the Reformatted Raw Data

Provision is available to edit `Reformatted Raw Data'.

SIR Record Type NEWRAW87 can be accessed by executing NEWRAW87.FORMS.CPL and entering date, fisher number, key and record sequence. If a record is present, details of the operation are displayed and may be edited; otherwise an error message is displayed.

SIR Record Type TASAFZIS can be accessed by executing TASAFZIS.FORMS.CPL and entering date, fisher number, key and record sequence. If a record is present, details of the operation are displayed and may be edited; otherwise an error message is displayed.

Browse the data

Entering `B' accesses the SIR Procedure SYSTEM.BROWSE and the screen displays the following menu.

****

By Vessel No

By Fisher No

Set date limits

****

By entering `V' and the distinguishing mark of a vessel, then `F' and the fisher's code, and then `S' and the starting date and ending date (MMYY) displays catch and effort history for a given boat or fisher between dates as selected using the 'Set Date Limits' option . Defaults give the complete history of all vessels contained in the SIR Record Type VESSEL. Constraints on the fisher is effected through SIR Record Type FISHERM.

Entering and editing the data

Entering `F' accesses the SIR Module FORMS and the screen displays the following menu.

****

1. Portdir
2. SAport
3. Distcorr
4. Licence data
5. Region definitions
6. 1960s data

****

Entering `1' and an ABS Port Code accesses the SIR Record Type PORTDIR. The port name and the latitude and longitude of the port are displayed and can be edited if a record for the ABS Port Code is present, otherwise a record is created for appropriate data entry.

Entering `2' and a South Australian Port Code accesses the SIR Record Type SAPORT. The ABS Port Code is displayed and can be edited if a record for the port code is present, otherwise a record is created for appropriate data entry.

Entering `3', a Fisher Code and a Distinguishing Mark accesses the SIR Record Type DISTCORR. The Fisher's Code and Distinguishing Mark are displayed and can be edited if a record for this combination of values is present, otherwise a record is created for appropriate data entry.

Entering `4' and a Distinguishing Mark accesses the SIR Record Type LICENCE. The Distinguishing Mark and licensing details are displayed and can be edited if a record is present, otherwise a record is created for appropriate data entry.

Entering `5' displays the following menu.

****

1. Region
2. Regvert
3. Regset

****

Entering `1' and the SET and REGION SIR Variable Codes for Locality of Fishing (Region, Zone or Division) (see Section 2.3) accesses the SIR Record Type REGION. The SET and REGION Codes, name and the latitude and longitude of the mid-point of the Locality of Fishing are displayed and can be edited if a record is present, otherwise a record is created for appropriate data entry.

Entering `2' and the SET, REGION and VERTEX SIR Variable Codes for Locality of Fishing (Region, Zone or Division) (see Section 2.3) accesses the SIR Record Type REGVERT. The SET, REGION and VERTEX Codes, name and the latitude and longitude of the vertex displayed and can be edited if a record is present, otherwise a record is created for appropriate data entry.

Entering `3' and the SET SIR Variable Code for Locality of Fishing (Region, Zone or Division) (see Section 2.3) accesses the SIR Record Type REGSET. The SET Code and name are displayed and can be edited if a record is present, otherwise a record is created for appropriate data entry.

Entering `6' displays the following menu.

****

1. ABS table 4

2. ABS table 6

****

Entering `1' and the data (MMYY), Species Code, Area Block Code and Gear Code (see Section 2.3) accesses and displays the SIR Record Type SIXCATCH. Live weight (pounds) is also displayed and can be edited if a record is present, otherwise a record is created for appropriate data entry.

Entering `2' and the data (MMYY), Species Code, Area Block Code Type, ABS Port Code or Area Block Code and Gear Code (see Section 2.3) accesses and displays the SIR Record Type SIXGEAR. Live weight (pounds) is also displayed and can be edited if a record is present, otherwise a record is created for appropriate data entry.

Creating and printing report

Entering 'R' accesses the SIR CPL Report.Menu.Cpl and the screen displays the following menu.

****

1. Create a report

2. Create a suite of Reports

3. Print a report

****

By entering '1' and the name of the report , the specified report will be created. By entering '2' and the name of the required suite of reports , then all reports in the requested suite will be created. By entering '3' and the name of the required report , the report will be printed on the line printer.

4.2 Backup

The CPL Jobs, FORTRAN Programs, SIR Procedures, SIR Record Schemas and `Summary Data' are held permanently on disk on-line whereas the `Detailed Data' are held on a dismountable disk pack.

Backup files of these components of the SSFMDB are written to magnetic tape and stored off-site each week by the DCE PRIME Operators.

In addition, two generations of backup of the SIR Procedures, SIR Record Schemas, `Summary Data', and the `Detailed Data' can be made using the CPL Job UNLOAD.FILE.CPL.

Every 3 months backup files are archived.

4.3 Archiving

In addition to routine archiving by the DCE PRIME Operators, archive files of the `Raw Data', `Detailed Data', Summary Data', SIR Procedures and SIR Record Schemas components are written to two separate tapes whenever any of these components are changed.

`Raw data' are archived by the PRIMOS utility MAGSAV, `Detail Data' by MAGSAV.DETAIL.CPL and `Summary Data', SIR Procedures and SIR Record Schemas by MAGSAV.SHARK.CPL.

5. SECURITY

Access to the PRIME computers is controlled by standard PRIMOS password protection.

Access to the SSFMDB for system development and maintenance is restricted to two Computer Systems Officers and access to browse, enter or edit data is restricted to authorised persons by way of passwords to ensure confidentiality of the data.

SIR/DBMS automatically journals all transactions to SSFMDB and, if the SSFMDB remains idle for more than 20 minutes, there is an automatic logout.

5.1 System and data recovery

The SSFMDB can be restored from magnetic backup tapes by running RELOAD.FILE.CPL.

5.2 System and data audit

At each stage of processing to produce `Detail Data' and `Summary Data', a list of the SIR Record Types and the SIR Variables of the data is written to four files(source,locality,effort and resolution) as new records are created. `Raw Data' from each Return Form can be traced to the `Summary Data'.

The four file names are B68.DETAIL.<YY>.LIST, TASAFZIS.<YY>.LIST, TASUNI.<YY>.LIST, and GARFIS.<YY>.LIST and The SIR Records Types of `Summary Data' are listed in two files FISHERY.AGGREGATE.<YY>.LIST and BOATMAN.REPORT.

6. ACRONYMS AND ABBREVIATIONS

6.1 Acronyms

ABS	Australian Bureau of Statistics
AFS	Australian Fisheries Service of the Commonwealth Department of Primary Industries and Energy
AFZIS	American Standard Code for Information Interchange
ASCII	American Standard Code for Information Interchange
B68	Shark Fishery Database for 1970-78 on Victorian GCS B6800 computer
BRR	Bureau of Rural Resources of the Commonwealth Department of Primary Industries and Energy
CPL	Command Program Language
CPUE	Catch per unit effort
DBMS	SIR Database Management System
DCENET	Victorian Department of Conservation and Environment's State-wide Telecommunications Computer Network
DCE	Victorian Department of Conservation and Environment
GARFIS	South Australian General Fishing catch and effort Database
GCS	Victorian Government Computing Service
L_{BCF}	Partial length of shark (see Section 1.4 for definition)
L_{DF}	Partial length of shark (see Section 1.4 for definition)
L_{STN}	Partial length of shark (see Section 1.4 for definition)
L_{TT}	Partial length of shark (see Section 1.4 for definition)
L_{Total}	Total length of shark (see Section 1.4 for definition).
MSL	Victorian Marine Science Laboratories
PC	Personal computer
PQL	Procedural Query Language
RAM	Random Access Memory
SAS	Statistical Analysis System
SIR	Scientific Information Retrieval Database Management System
SSAG	Southern Shark Assessment Group
SSFMAC	Southern Shark Fishery Management Advisory Committee
SSFMDB	Southern Shark Fishery Monitoring Database
SQL	Structured Query Language
TSFD	Tasmanian Division of Sea Fisheries
W_{Fill}	Fillet weight of shark (see Section 1.4 for definition)
W_{Trim}	Trimmed weight of shark (see Section 1.4 for definition)
W_{Carc}	Carcass weight of shark (see Section 1.4 for definition)
W_{Total}	Total weight of shark (see Section 1.4 for definition)

6.2 Abbreviations used in file and SIR Procedure names

2rep	Double reporting on Catch and Effort Return Forms
Aggregat	Aggregate
CCS	Commercial Catch Sampling Data
CE	Catch and Effort Data
Dist	Vessel Distinguishing Mark
Freq	Frequency
Geo	Geographical
GF	Victorian General Fishing Return Form
Mapper	Tasmanian General Catch and Effort Database
Proc	Processor Data
Process	Processor Data
Pt	Port
Ref	Reformatted

Reg	Region
Rep	Report
SA	South Australia
Samp	Sample
Sh	Shark
SH	Victorian Shark Catch and Effort Return Form
Sort	Sorted data
Sp	Species
St	State
Temp	Temporary
Tas	Tasmania
Uni	Tasmanian General Catch and Effort Data
Vic	Victoria
Yy	Year

6.3 Explanation Of Technical Terms

Bycatch

Shark or scalefish taken incidently by fishers directing their fishing effort at a target species.

Length of sharks (total and partial)

Various measurement of sharks, all made with the upper caudal fin lobe extended parallel to the body axis of the shark, are listed as follows and illustrated in the diagram below.

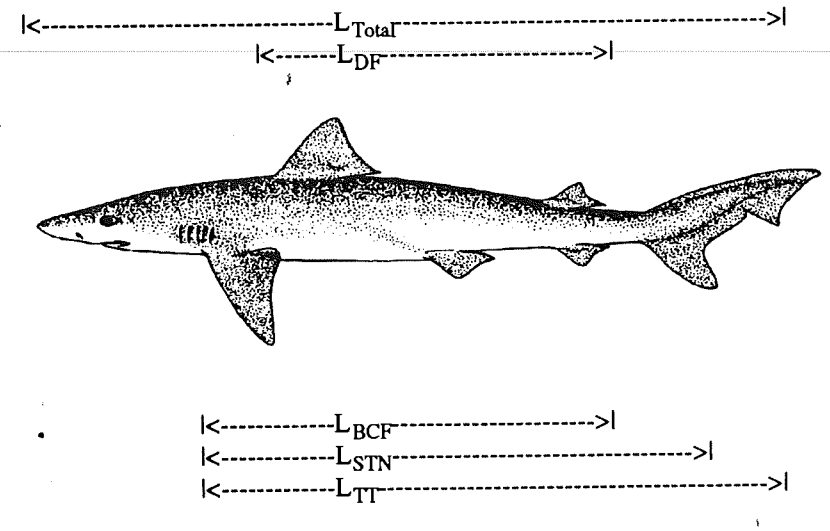
Partial length L_{BCF} is the distance from the base of pectoral fin to the base of the caudal fin.

Partial length L_{DF} is the distance from the anterior margin of the base of the anterior dorsal fin to the base of the caudal fin.

Partial length L_{STN} is the distance from the base of pectoral fin to the sub-terminal notch of the upper caudal fin lobe.

Partial length L_{TT} is the distance from the base of pectoral fin to the tip of the upper caudal fin lobe.

Total length L_{Total} is the distance from the snout to the tip of the upper caudal fin lobe.



APPENDICES

Non-target effort

Effort expended on fishing for species other than those targeted by fishers. Effort is measured as number of boat days, number of gill net shots and longline shots, gill net kilometre-lift and gill net kilometre-hour, and hook-lift and hook-hour.

Commonwealth licences for Gill Net

Commonwealth licences permitting fishers to take sharks by gill nets are catorgorised as transferable Category A Licences with endorsements for six or ten 600-metre gill nets and non transferable Category B Licences with two, three, four, or five 600-metre gill nets. These licences can vary as follows.

`Amalgamated Licence' is an A6 Licence (i.e., a Category A Licence with a 6-net endorsement) transferred from a vessel leaving the fishery to another vessel licensed with an A6 Licence which on amalgamation becomes an A10 Licence (i.e., a Category A Licence with a 10-net endorsement).

`Consolidated Licence' is an A10 Licence held on a vessel where an A6 Licence was amalgamated with a second A6 Licence through transfer to that vessel.

`Forfeited Licence' is a Category A Licence or Category B Licence which has been cancelled by AFS or allowed to lapse by the holder.

`Transferred Licence' is a Category A Licence or Category B Licence held by a particular holder on one vessel and then on a replacement vessel after transfer of the licence to the replacement vessel.

Target effort

Target effort is defined as fishing effort that fishers direct intentionally at a particular species. In the southern shark fishery fishermen usually target gummy shark, school shark or scalefish (warehou or spotted trevalla). Effort is measured as boat number, boat day, gill net shot and long-line shot, gill net kilometre-lift and gill net kilometre-hour, and hook-lift and hook-hour.

Weight of sharks (total and partial)

Various types of weight of sharks available for the fishery are defined as follows.

Partial `fillet weight' W_{Fill} is the weight of the filleted flesh removed from a trimmed carcass.

Partial `trimmed carcass weight' W_{Trim} is the weight of a beheaded and gutted shark with all fins removed.

Partial `untrimmed carcass weight' W_{Carc} is the weight of a beheaded and gutted shark with all fins attached.

Total weight W_{Total} of a shark is equivalent to the live weight.

7. REFERENCES

Walker, T. I. (1989). Fishery Situation Report - Southern Shark. 34 pp. In: `Southern Shark Assessment Project Final FIRTA Report: March 1989'. *Mar. Sci, Lab. Internal. Rep.* No. 175b.

Appendix 1 Data Forms
(All: Vic, Tas and SA)

Form no	State	Collection period	Data resolution	Port	Block	Sub-block	Depth	Catch weight	Catch number	Hook number	Hook time	Net length	Net time	Mesh size	Weight units	Length units	Depth units	Comments
Catch and Effort Return Forms																		
1.1.1	Vic	Jan 50 - Jun 63	Month	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Lb	-	-	1951 missing
1.1.2	Vic	Jul 62 - May 78	Month	Yes	No	No	No	Yes	No	Yes	Yes	Yes	No	No	Lb/kg	Yard	-	Lb to kg in 1973
1.1.3	Tas	Jul 62 - Feb 90	Month	Yes	Yes	No	No	Yes	No	Yes	No	No	No	No	Kg	-	-	Lb to kk in 1973
1.1.4	SA	Jul 62 - Jun 83	Month	Yes	Yes	No	No	Yes	No	Yes	No	Yes	Yes	No	Kg	Metre	-	
1.1.5	Vic	Jan 73 - May 78	Day	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Kg	Fathom	Fathom	
1.1.6	Tas	Jan 73 - Dec 76	Day	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Kg	Fathom	Fathom	
1.1.7	SA	Jan 73 - Dec 76	Day	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Kg	Metre	Metre	
1.1.8	Vic	Jun 78 - Present	Shot	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Kg	Metre	Fathom	
1.1.9	Vic	Jun 78 - Present	Day	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Kg	Metre	Fathom	
1.1.10	Tas	Apr 88 - Present	Shot	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Kg	Metre	Fathom	
1.1.11	SA	Jul 83 - Present	Day/Month	Yes	Yes	No	No	Yes	No	Yes	NO	Yes	No	No	Kg	Metre	-	
1.1.12	Tas	Mar 90 - Present	Month	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	No	Kg	Metre	-	
Processor Forms																		
1.2.1	All	Jan 70 - Dec 79	Day	Yes	No	No	No	Yes	No	No	No	No	No	No	Kg	-	-	
1.2.2	All	Jan 80 - Dec 80	Day	Yes	No	No	No	Yes	No	No	No	No	No	No	Kg	-	-	
1.2.3	All	Jan 80 - Dec 80	Day	Yes	No	No	No	Yes	No	No	No	No	No	No	Kg	-	-	
Commercial Catch Sampling Form																		
1.3.1	All	Jan 70 - Present	Day	Yes	No	No	No	Yes	No	No	No	No	No	No	Kg	-	-	

Appendix 1.1 Catch and Effort Return Forms

Form 1.1.1 Victorian Shark and Rock Lobster Return Form
(Period: Jan 50 - Jun 62)

FISHERIES STATISTICS

Locality..... ..... *Return for month of*.....

Registered No. of Boat .....

Names of Crew.....

Name of Fish	Weight	TO BE USED FOR SHARK AND CRAYFISH ONLY		
		No. of Fish	GEAR USED (See Instructions)	
			SHARK No. of Hooks	CRAYFISH No. of Lifts

I certify that the above information is correct.

Signature of Fisherman in charge .....

Address .....

Form 1.1.2 Victorian ABS General Fishing Return Form
(Period: Jul 62 - May 78)

Fold up and post. No stamp required. VICTORIA *Fisheries Act* 1968

Commercial Fisheries Production During Month of ..... **19** ..... No. 11

Name of Boat .....

Usual number employed including skipper ..... Vessel tonnage ..... Registered No. of Boat .....

Principal Port at which Catch is Landed .....

P.	No.	M.	T.

FISHING METHOD	BLOCK OR ESTUARY NUMBER	FISHING OPERATIONS			SPECIES		QUANTITY LANDED (kg)	SPECIES		QUANTITY LANDED (kg)
HAUL AND SEINE NETS (01) (Other than Danish Seine and Garfish Seine Net)		Total Number of Days Actively Spent on Fishing or Searching During Month	Total Number of Shots		Australian Salmon	490		Snapper	495	
					Black Bream	478		King George Whiting	525	
					Dusky Morwong (Butterfish)	506		Stranger	570	
					Yellowtail Kingfish	425		Tailor	420	
					Leatherjacket	701		Trevally	401	
					Luderick	565		Other (please specify)		
					Yellow-eye Mullet	370				
					Sea (Sand) Mullet	351				
GARFISH SEINE NETS (33)		Total Number of Days Actively Spent on Fishing or Searching During Month	Total Number of Shots		Sea Garfish	714		Other (please specify)		
					Australian Salmon	490				
					Yellow-eye Mullet	370				
					Ruff	491				
					Trevally	401				
MESH (GILL) NETS (08)		Total Length of Nets used per Day (metres)	Number of Days Fishing During Month	Average Hours Down	Black Bream	478		Rock Flathead	625	
					Flounder	151		Flathead	621	
					Yellowtail Kingfish	425		Other (please specify)		
					Yellow-eye Mullet	370				
					Sea (Sand) Mullet	351				
					Gummy Shark	651				
					School Shark	655				
					Saw Shark	675				
					Elephant Shark	676				
					King George Whiting	525				
TROLL LINES (05)		Number of Jigs Used	Total Fishing Time During Month (hours)		Long-finned Pike (Pike)	580		Short-finned Pike (Snook)	375	
					Snoek (Barracouta)	335		—		
LONG LINES (06)		Total Number of Hooks Used per Day	Number of Days Fishing During Month	Average Hours Down	Gummy Shark	651		Snapper	495	
					School Shark	655				
					Shark Other	679				
ROCK LOBSTER POTS (02)		Number of Pots Used	Number of Times Lifted per Day	Number of Days Pots Lifted	Southern Rock Lobster	780	Qn'ty (kg) / No.	Other (please specify)		
OTHER METHODS (97)		Please Specify Species Taken								

Names of Crew Members Working During Month (including self, if engaged in fishing). (Please use BLOCK letters) .....

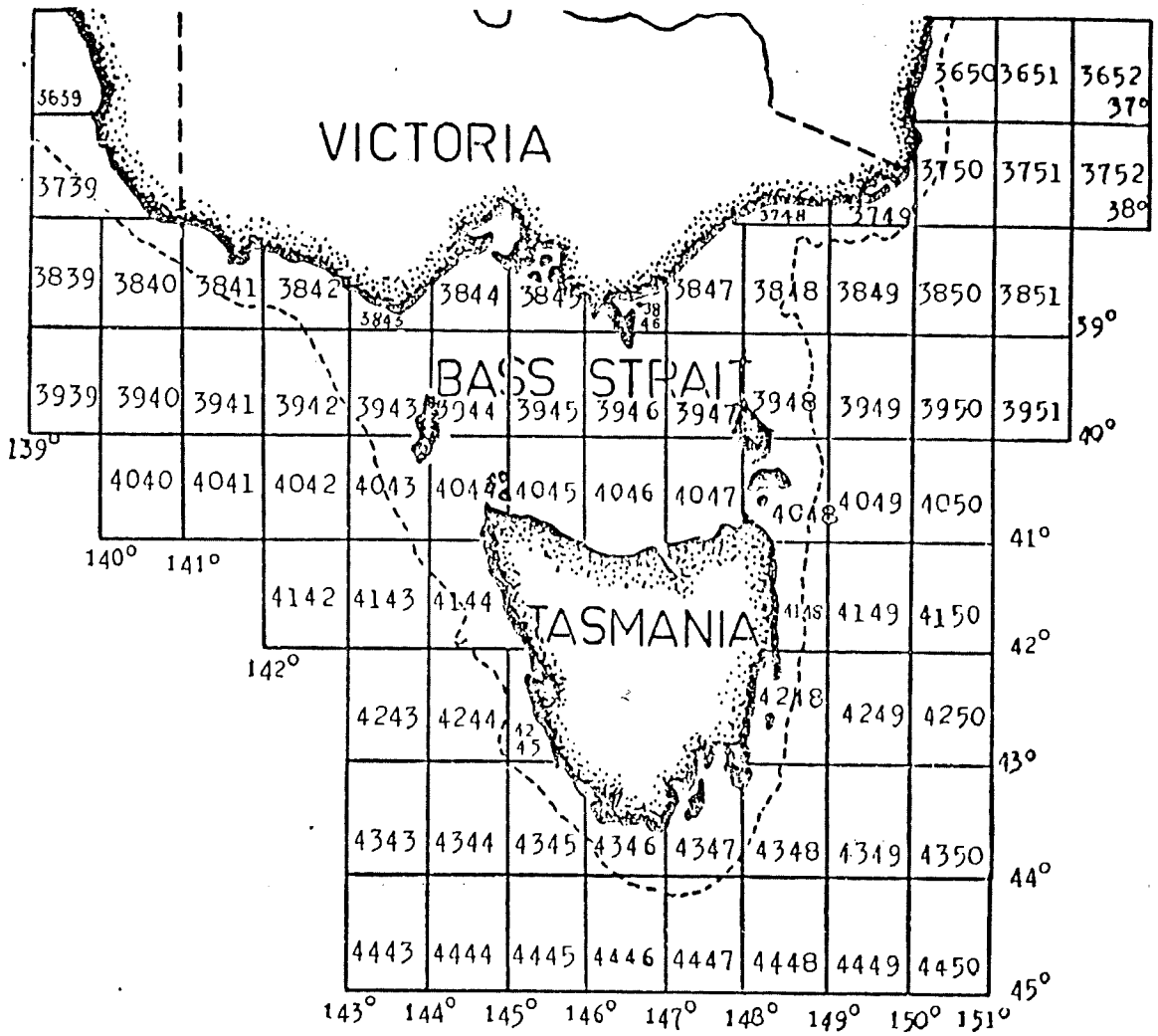
I certify that the above information is complete and correct.

Name of Purchaser .....

..... (Address) ..... (Signature of Fisherman-in-Charge) ...../...../19.....

REMARKS: .....

Form 1.1.2 (Cont) **Victorian ABS General Fishing Return Form**
(Period: Jul 62 - May 78; Geographic Grid)



ESTUARY CODE NUMBERS

Estuary	Code Number	Estuary	Code Number	Estuary	Code Number
Queenscliff	9201	Mornington	9212	San Remo	9224
Geelong	9202	Werribee	9213	Newhaven	9225
Sorrento	9203	Chelsea–Carrum	9214	Inverloch	9226
Portarlington	9204	Hampton	9215	Lakes Entrance	9227
Port Melbourne	9205	Black Rock–Sandringham	9216	Lake Tyers	9228
St. Leonards	9206	Stony Point	9217	Mallacoota	9229
St. Kilda	9207	Hastings	9218	Paynesville	9230
Dromana–Rosebud	9208	Cowes–Rhyll	9219	Tamboon	9231
Williamstown	9209	Flinders	9220	Port Franklin	9232
Mordialloc	9210	Tooradin	9221	Port Albert	9233
Frankston	9211	Corinella	9222	Port Welshpool	9234
		Crib Point	9223	Shallow Inlet	9235

Estuary numbers are to be used when fish are caught in Port Phillip or Western Port Bay, or in any other of the inlets or lakes listed under the Estuary Code Numbers.

Form 1.1.3 Tasmanian ABS General Fishing Return Form
(Period: Jul 62 - Feb 90)

OLD COPY

FORM 16 (Regulation 40)

TASMANIA

Fold up and post.
No stamp required.

Fisheries Act 1959

COMMERCIAL FISHERIES PRODUCTION DURING MONTH OF.....19....

Name of Boat..... Distinguishing Mark.....

Principal Port at which Catch is Landed.....

Mth	Y.	P.	No.	M.

Fishing Method	Estuary or Block Number	Fishing Operations	Species		Quantity Landed
		Total Number of Days Fishing or Searching during Month	Australian Salmon	490	(kg)
BEACH SEINING (01)		Total Number of Days Fishing or Searching during Month	Yellow-eye Mullet	370	
			Sea Garfish	712	
			Flounder	151	
			Other (Please specify)		
TROLLING (05)		Number of Jigs Used / Total Fishing Time during Month ..... hours	Snoek (Barracouta)	335	
LONG LINING (06)		Number of Hooks Used / Total Fishing Time during Month ..... hours	School Shark	655	
			Gummy Shark	651	

Other (97)	Species (Please specify)	Quantity Landed (kg)	Species (Please specify)	Quantity Landed (kg)

Names of Crew Members Working during month (including self, if engaged in fishing):
(Please use BLOCK letters)

I certify that the above information is complete and correct:

(Signature)

..../..../19....

(Name and Address of Owner)

REMARKS:.....

Form 1.1.4 South Australian ABS General Fishing Return Form
(Period: Jul 62 - Jun 83)

FORM D

SOUTH AUSTRALIA—Fisheries Act, 1971

№ 17002

GENERAL FISH CATCH RETURNS for the Month of..... 19

Name of Fisherman..... Address .....

Name of Boat ..... Regn. No..... Principal Port at which Catch is Landed.....

PRODUCTION

P.	No.	M.	T.

Fishing Method	Block Number	Fishing Operations				Species		Quantity Landed *Lb./Kg	Quantity Landed Dozens
Hauling, or Seine (all types and methods) Lampara Nets (01)	.....	No. of days Fished or Searched: .....days	Ave. No. of times net shot per day:	Ave. No. of hrs. per day net fishing: ..... hrs.	Ave. No. of hrs. per day searching: .....hrs.	Salmon Whiting-Spotted Garfish Ruffs Mullet Other (please specify)	490 525 712 491 370		
Mesh or Gill Nets (all types and methods) (08)	.....	Combined Length of all Nets Used: .....m	Number of Days Fished: .....days	Average No. of Hours per Day Net Fishing: ..... hrs.		Please specify:— Whiting-Spotted School Shark Gummy Shark	525 655 651		
Hook and Line (97)	.....	Ave. Number of Hours Fishing per Day: ..... hrs. Bait used.....	Number of Days Fished: .....days	Ave. Number of Patches Fished Per Day		Whiting-Spotted Snapper Other (please specify)	525 495		—
Long Lining (06)	.....	Ave. Number of Hooks Used:	Total Number of Hours Fishing during Month: ..... hrs.	Number of Times Shot during Month		School Shark Gummy Shark Snapper Other (please specify)	655 651 495		
Trolling (05)	.....	Ave. Number of Lures Used:	Number of Days Trolling: .....days	Ave. Number of Hours per Day Trolling: ..... hrs.		Snook Salmon Tuna Other (please specify)	375 490 301		
Other Methods	....	Fishing Methods (please specify) Dab Net	Number of Days Fished ....days			Please specify:— Cockles (Pipi) Garfish	840 712		

*PLEASE INDICATE WHETHER WEIGHT IS IN Kg (Kilograms) OR LB. (Pounds)

Form 1.1.4 (Cont) South Australian ABS General Fishing Return Form
(Period: Jul 62 - Jun 83)

DISPOSAL OF CATCH

Buyer's Name	Species	Quantity Sold *(Lb./Kg)	Buyer's Name	Species	Quantity Sold *(Lb./Kg)

FIRST FOLD HERE

DESCRIPTION OF NETS USED THIS MONTH

Hauling or Seine Nets Lampara	Ave. Length.....m		Ave. Depth.....m		
	Ave. size of Mesh of Bunt .....cm		Ave. size of Mesh of Wings .....cm		
	Please specify according to size of mesh				
Mesh or Gill Nets	Size of Mesh .....cm	No. of Nets	Ave. Length .....m	Ave. Depth.....	m
	Size of Mesh .....cm	No. of Nets	Ave. Length .....m	Ave. Depth.....	m
	Size of Mesh .....cm	No. of Nets	Ave. Length .....m	Ave. Depth.....	m

CREW MEMBERS

Names of Crew Members Working During Month (including self, if engaged in fishing) and Number of Days Worked
(Please use Block Letters)

Name	No. of Days	Name	No. of Days

Remarks .....

.....

I certify that the above information is complete and correct

.....

(Signature of Fisherman-In-Charge) / /19

.....

(Name and address of Boat Owner)

Home Port .....

Form 1.1.4 (Cont) South Australian ABS General Fishing Return Form
(Period: Jul 62 - Jun 83; Instructions)

INSTRUCTIONS FOR COMPLETING THE GENERAL FISHERIES PRODUCTION FORM

1. Holders of Class A or B Fishing Licences are required by regulations under the Fisheries Act 1971 to submit a monthly return of fish catches in writing on the form prescribed. Failure to submit returns could affect renewal of licences.

2. Monthly returns should show fish landed from the first day of the month to the last day of the month, not from the middle of one month to the middle of the next month.

3. Returns must be lodged with the Director of Fisheries, Adelaide, not later than the 15th day of the following month.

4. Questions are to be answered on both sides of the form.

5. All fish landed from the boat must be shown on the return. If no fish are caught during any month a "Nil" return is required.

6. All information supplied on this return is treated as strictly confidential.

7. PRINCIPAL PORT—If your catch is not landed at a recognized port describe the port of landing.

8. BLOCK NUMBER—This is obtained from the map on the cover of the book. When fishing is carried out in more than one sub-block, indicate the sub-block in which the greater proportion of the catch was taken.

9. QUANTITY LANDED—This is the actual weight in lb. (pounds) or kg (kilograms) of fish landed, whether "in the round", "gutted and gilled", "gutted and headed", etc.

10. TIME NET FISHING—For net fishing include time spent in setting, hauling and boarding nets.

11. TIME SEARCHING—This includes the time travelling and finding suitable fishing patches.

12. LURES USED—For trolling, details are required of the average number of lures used at one time.

13. LONG LINING—
    (*a*) Number of times shot—give number of times gear worked.
    (*b*) Hooks used—give average number of hooks used each time gear worked.
    (*c*) Fishing time—time from setting to completion of hauls.

14. MESH AND GILL NETTING—Refers to the technique of setting a net and leaving it for a period of time.

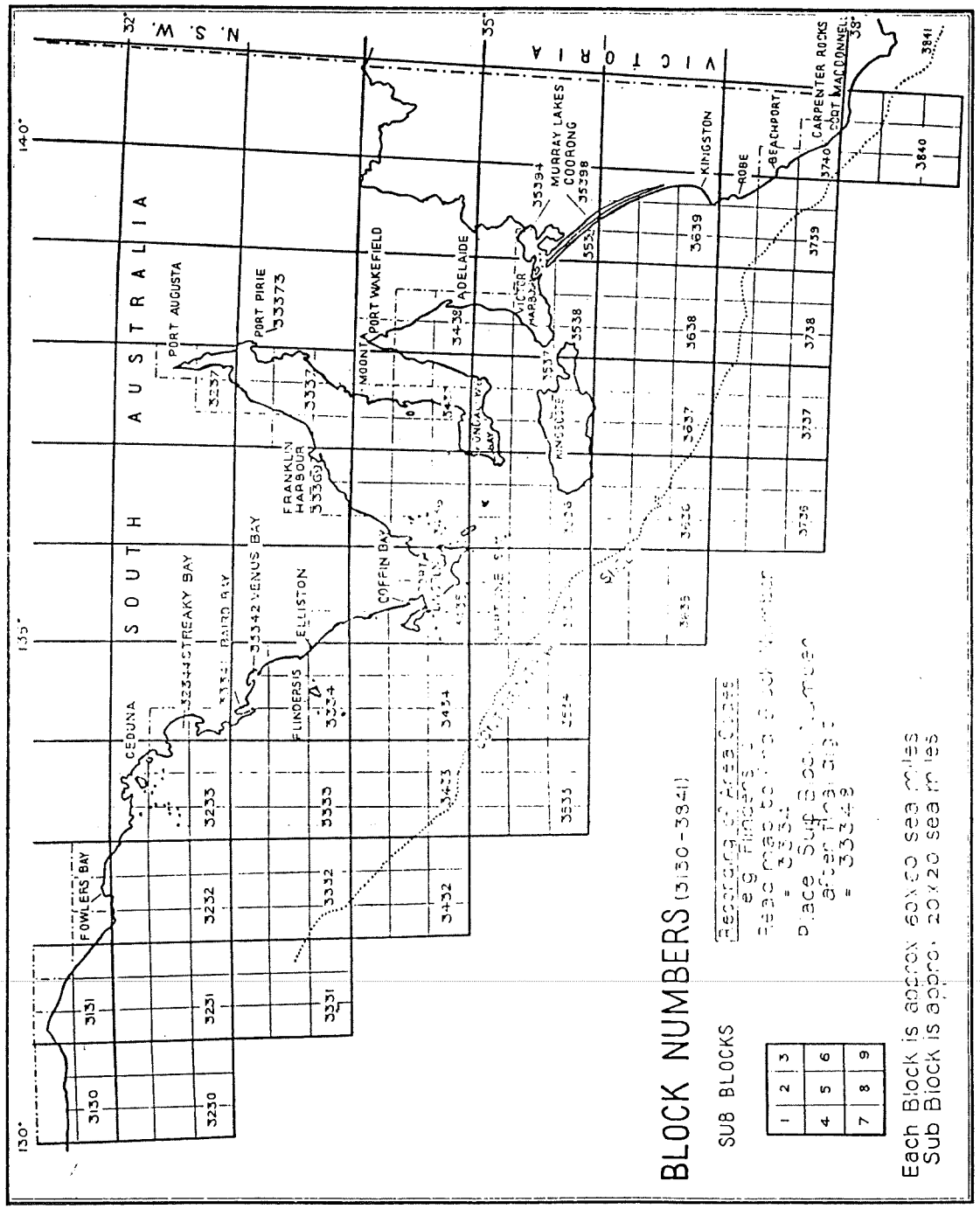
15. CATCHES OVERLAPPING TWO MONTHS—If a catch is made partly during each of two months—for instance, in the last week of the next—particulars should be reported in the month of landing.

16. SPACE FOR OFFICE USE—The "boxes" in the top right hand corner and against the name of each species of fish, on the front page of the form, are for office use only.

17. THE USE OF ONE OR MORE BOATS—Fishermen who use more than one registered boat during any month are required to submit separate returns for each boat showing catches of fish per boat.

2Mblks38—2.72 C4174

Form 1.1.4 (Cont) **South Australian ABS General Fishing Return Form**
(Period: Jul 62 - Jun 83; Geographic Grid)



Form 1.1.5 **Victorian Daily Shark Return Form**
(Period: Jan 73 - May 78)

Fold up and post. No stamp required. VICTORIA 15

Monthly Basis

NET FISHING ONLY	
Net Lgth. (fm.)	Mesh Size (Inch)

Shark Production During Month of ..... **19** .....

Boat : Registered No. ..... Name .....

Crew Size including Skipper .....

Principal Port of Landing .....

						←Daily Basis		Trip Basis→			
						Catch (lb.)		Trip Production (lb.)			
Day	Block	Depth (fm.)	No. of Hooks	Net Lgth. (fm.)	Hours Down	Sch.	Gum.	Sch. & Gum.	Saw	Other Shark	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
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18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											

OTHER SPECIES	
Species	Weight (lb.)

Name of Purchaser .....

Remarks : .....

.....

.....

..... (Address)

...../...../19.....
(Signature of Fisherman-in-Charge)

Form 1.1.5 (Cont) Victorian Daily Shark Return Form
(Period: Jan 73 - May 78; Instructions)

Victoria.

INSTRUCTIONS FOR COMPLETION OF FORMS.

A. This return is being collected under the authority of the *Victorian Fisheries Act* 1968.

Regulation. "The holder of a Master Fisherman's Licence who takes shark or lands any shark in Victoria during any month is required to furnish to the Director of Fisheries within fourteen days of the preceding month a complete, true and accurate return in the prescribed form of all shark so taken or landed in Victoria.

B. There are 3 sections to the form which are filled in on either a daily trip or monthly basis.

1. Daily Basis.

On each fishing day, beside the appropriate day (date), fill in the columns under the following headings :—

(*a*) BLOCK. Record block number (see map). If fishing is carried out in waters not listed, note the position (latitude and longitude).

(*b*) DEPTH. Record depth at which gear is set.

(*c*) No. of HOOKS or NET LENGTH. Record the total (sum of all shots) number of hooks or number of fathoms of net (or both) set during day.

(*d*) HOURS DOWN. Record the time period between shooting the last hook or fathom of net to hauling the first hook or fathom of net. If the gear is shot more than once record the average hours down of all shots.

(*e*) CATCH. Estimate the weight of school shark and gummy shark separately. If the gear is shot and hauled on different days, place the catch beside the day of shooting the gear.

2. Trip Basis.

At the end of each fishing trip, beside the day (date) of landing the catch, fill in accurately the specified weights in the following columns under TRIP PRODUCTION :—

(*a*) SCH. & GUM. Total weight of school shark and gummy shark combined.

(*b*) SAW. Weight of saw shark only.

(*c*) OTHER SHARK. Weights of other shark species separately with abbreviated name (see page opposite tear-off form) beside weight to specify the species. If there are more than two species in this category write on lines following below.

3. Monthly Basis.

At the end of each month fill in the spaces under the following headings :—

(*a*) NET FISHING ONLY. To be filled in only by fishermen on boats equipped with mesh nets. Record net length and mesh size for each mesh size of the mesh net gear on the vessel.

(*b*) OTHER SPECIES. Fill in names and weights of fish species other than shark taken during the month for commercial purposes.

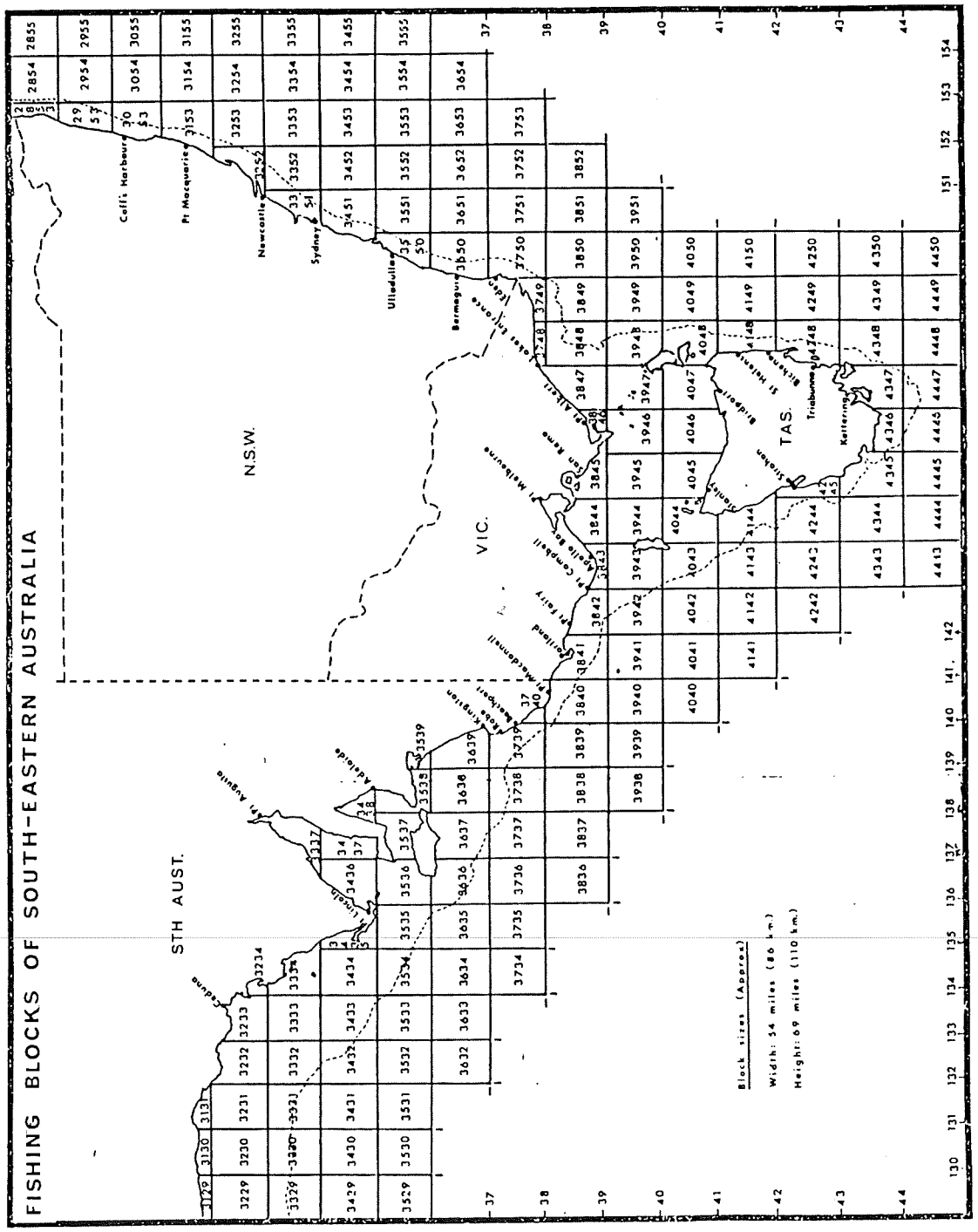
(*c*) Name of Purchaser. Name of Buyer (or auctioneer) of month's production.

C. Nil Return.

If the boat and gear are not used during a month, return the form marked "NIL".

D. Carbon paper and extra space are provided to enable the fisherman to have his own copy of the form and to record additional information for his own future reference.

Form 1.1.5 (Cont) **Victorian Daily Shark Return Form**
(Period: Jan 73 - May 78; Geographic Grid)



Form 1.1.6 Tasmanian Daily Shark Return Form

(Period: Apr 73 - Dec 76; See Form 1.1.5 for Instructions and Geographic Grid)

Fold up and post. No stamp required. TASMANIA 15 Monthly Basis

Shark Production During Month of ..... 19 .....

NET FISHING ONLY	
Net Lgth. (fm.)	Mesh Size (inch)

Boat : Registered No. ..... Name .....

Crew Size Including Skipper .....

Principal Port of Landing .....

Day	Block	Depth (fm.)	No. of Hooks	Net Lgth. (fm.)	Hours Down	←Daily Basis: Catch (lb.)		Trip Basis→: Trip Production (lb.)			
						Sch.	Gum.	Sch. & Gum.	Saw	Other Shark	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
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21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											

OTHER SPECIES	
Species	Weight (lb.)

Name of Purchaser .....

Remarks : .....

..../...../19.....

(Address) (Signature of Fisherman-in-Charge)

Form 1.1.7 **South Australian Daily Shark Return Form**
(Period: Apr 73 - Dec 76; See Form 1.1.5 for Instructions and Geographic Grid)

Fold up and post. No stamp required. SOUTH AUSTRALIA 15

Monthly Basis

NET FISHING ONLY	
Net Lgth. (Metre)	Mesh Size (Cm)

Shark Production During Month of ..... 19.....

Boat : Registered No..... Name.....

Crew Size including Skipper.....

Principal Port of Landing.....

Day	Block	Depth (Metre)	No. of Hooks	Net Lgth. (metre)	Hours Down	←Daily Basis Catch (Kg)		Trip Basis→ Trip Production (Kg)			
						Sch.	Gum.	Sch. & Gum.	Saw	Other Shark	
1											
2											
3											
4											
5											
6											
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26											
27											
28											
29											
30											
31											

• OTHER SPECIES

Species	Weight (Kg)

Name of Purchaser.....

Remarks :.....

.....

.....

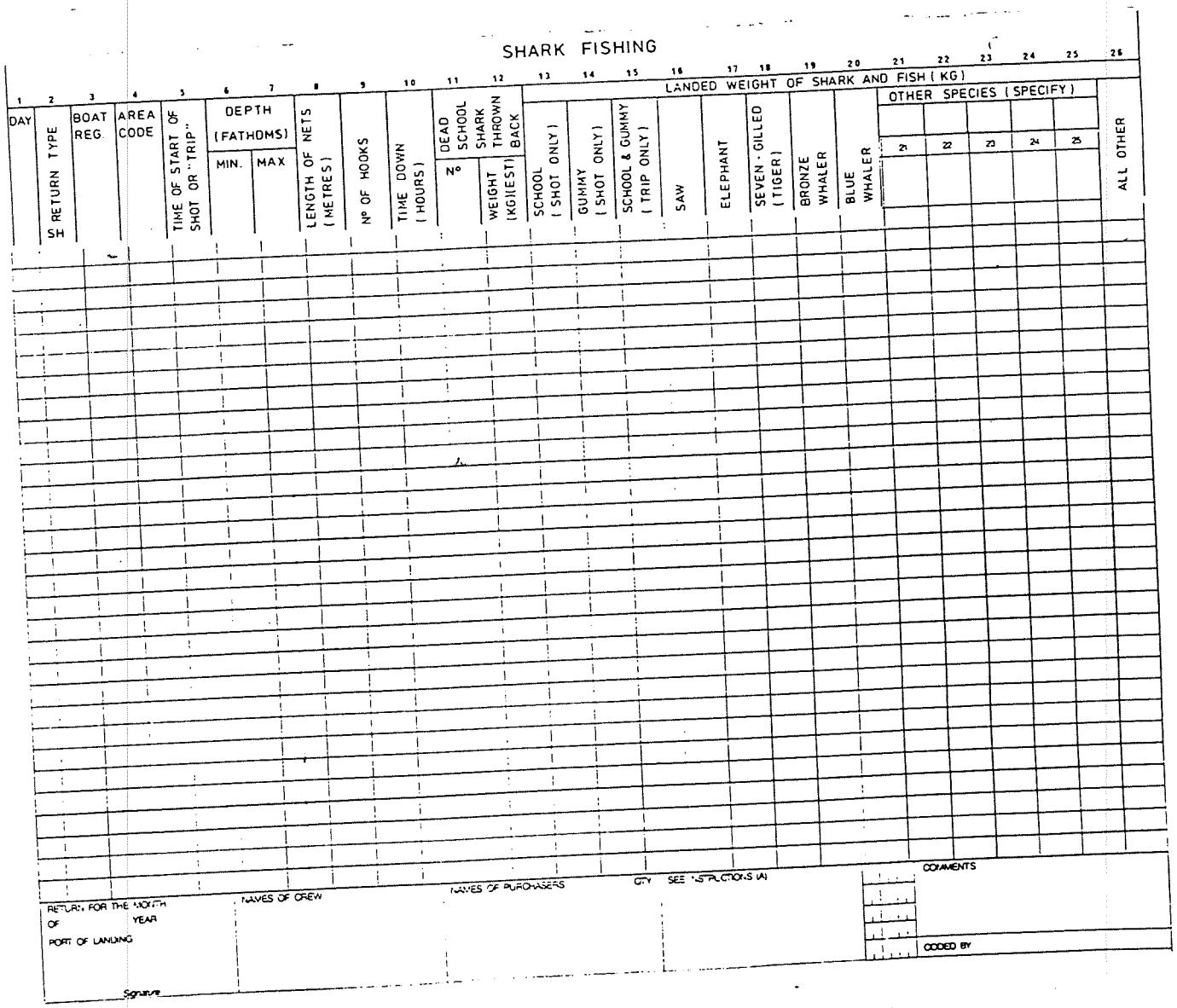
(Address)

...../...../19.....

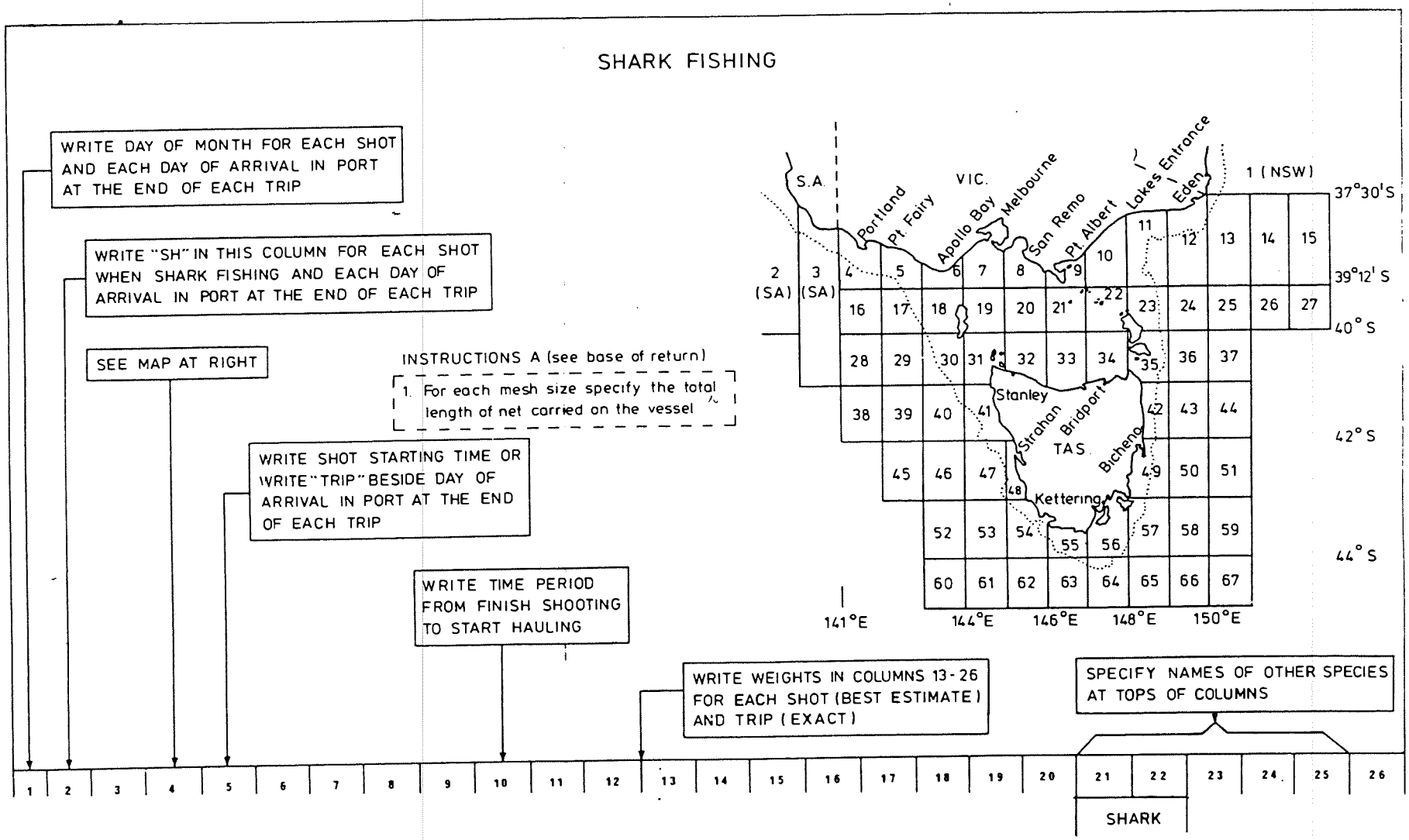
(Signature of Fisherman-in-Charge)

Form 1.1.8

Victorian Shot Shark Return Form
(Period: Jun 78 - Present)



Form 1.1.8 (Cont) **Victorian Shot Shark Return Form**
(Period: Jun 78 - Present; Instructions and Geographic Grid)



Form 1.1.9

Victorian General Fishing Shot Return Form

(Period: Jun 78 - Present)

GENERAL FISHING

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
DAY	RETURN TYPE GF	BOAT REG.	AREA CODE	GEAR CODE	NET LENGTH (METRES) OR NUMBER	NUMBER OF SHOTS (HAUL)	AVERAGE TIME PER SHOT	SEARCH TIME (HOURS)	TOTAL FISHING TIME (HOURS)	LANDED WEIGHT OF FISH (KG)															
										SNOEK	GUMMY SHARK	SCHOOL SHARK	OTHER SPECIES (SPECIFY SPECIES AT TOP OF COLUMN)											ALL OTHER

RETURN FOR THE MONTH OF YEAR

PORT OF LANDING

Signature

NAMES OF CREW

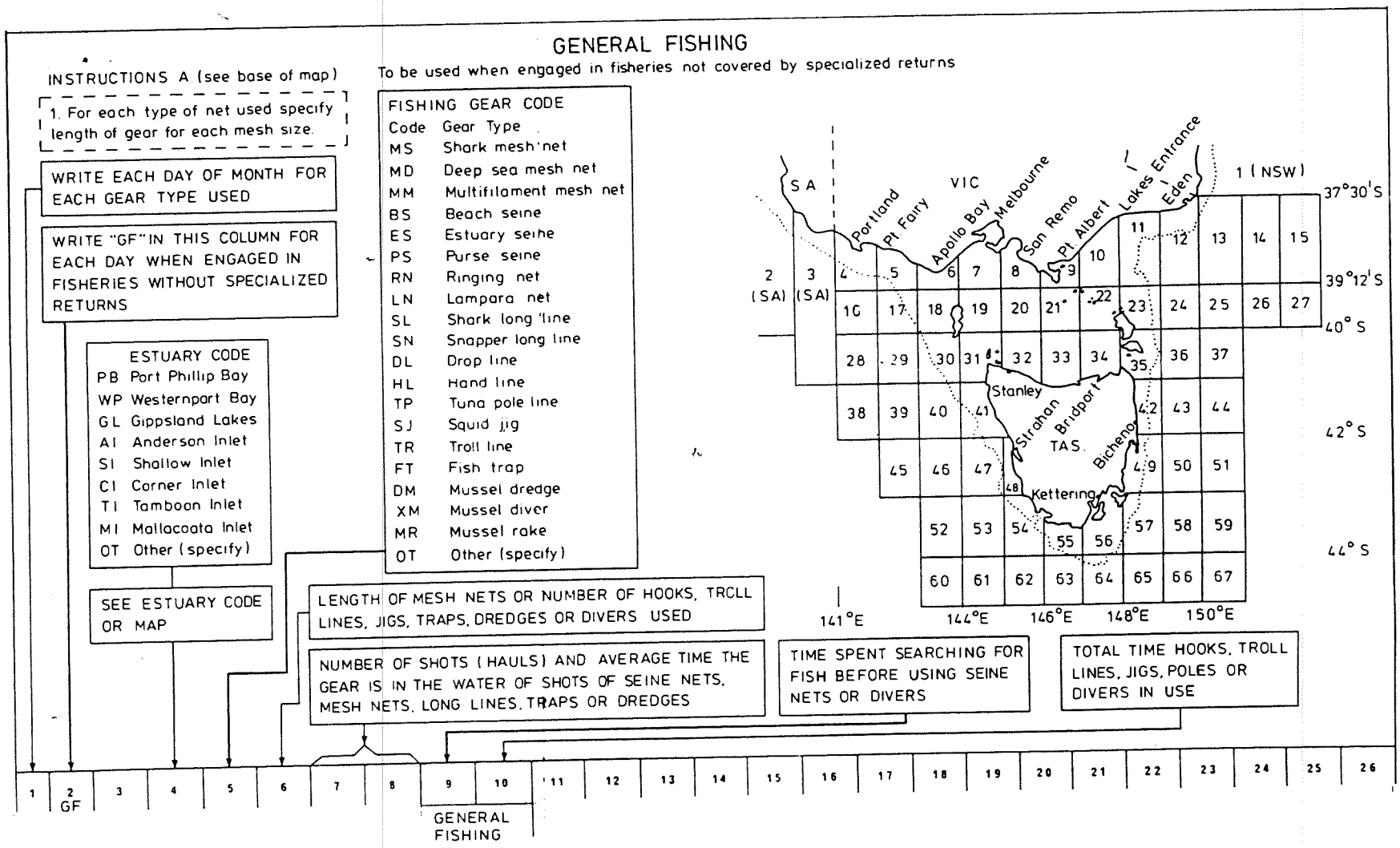
NAMES OF PURCHASERS

CITY, SEE INSTRUCTIONS (A)

COMMENTS

CODED BY

Form 1.1.9 (Cont) Victorian General Fishing Shot Return Form
(Period: Jun 78 - Present; Instructions and Geographic Grid)



Form 1.1.10

Tasmanian General Fishing Shot Return Form

(Period: Apr 88 - Present)

GENERAL FISHING (TASMANIA)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
DAY	RETURN TYPE GT	BOAT REG.	AREA CODE	AREA QUARTER	GEAR CODE	TIME OF START OF SHOT	DEPTH (FATHOMS) MIN.	DEPTH (FATHOMS) MAX.	NET LENGTH (METRES) OR NUMBER	FISHING TIME (HOURS)	NUMBER OF HAULS	SEARCH TIME (HOURS)	LANDED WEIGHT OF FISH (KG) SCHOOL SHARK	GUMMY SHARK	SAW SHARK	ELEPHANT SHARK	SNOEK	DEEP SEA TREVALLA	WAREHOU	TREVALLY	OTHER SPECIES SPECIFY AT TOP OF COLUMN				ALL OTHER

RETURN FOR THE MONTH OF ..... YEAR .....
PORT OF LANDING .....
.....
Signature

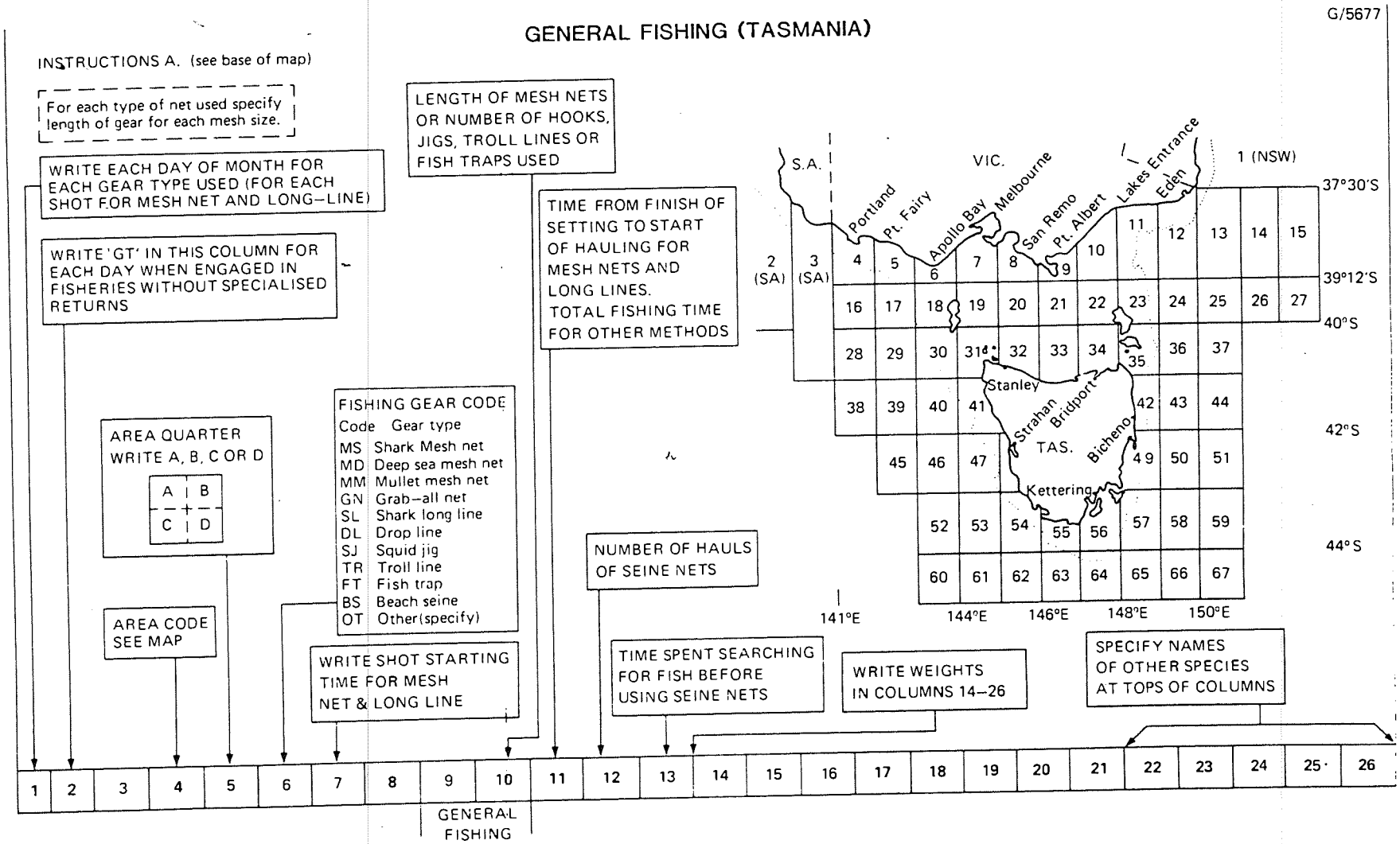
NAMES OF CREW

NAMES OF PURCHASERS | QTY

SEE INSTRUCTIONS (A)

COMMENTS

Form 1.1.10 (Cont) Tasmanian General Fishing Shot Return Form
(Period: Apr 88 - Present; Instructions and Geographic Grid)



Form 1.1.11

South Australian GARFIS General Fishing Return Form

(Period: Jul 62 - May 78)

SOUTH AUSTRALIAN COMMERCIAL FISHING DAILY LOG D

Licensee Name

Licence Number

Main place of landing (or) Code

Month Year

Months during which you will not be fishing

ADVANCE NIL RETURNS

Fish dealer/Processor sold to

1.

2.

Number of days on which fishing took place

	Average number times set during 24 hours	Average length of net set (m)	Predominant mesh (cm)
Shark nets			
Gill nets			
Set lines		Average number of hooks set	

HAULING NETS (tick methods)

- Ring shot
- Power haul
- Other

3 Tick any other methods of disposal

- Personal use
- Public sale
- Bait

I certify that the information on this form is complete and correct:
Signature

LANDED CATCH (kg) and CONDITION (Whole, Headed, Gutted)

DAY OF MONTH	MAN DAYS	MAIN AREA (code)	TARGET SPECIES	GEAR (code)	Species	Species	Species	Species	Species	Species	Species	Species	Species	Species
				Code										
				Condition	W H G	W H G	W H G	W H G	W H G	W H G	W H G	W H G	W H G	W H G
				TOTAL CATCH										

Form 1.1.12 **Tasmanian ABS General Fishing Return Form**
(Period: Jan 88 - Present)

Fold up and post
No stamp required

TASMANIA
Fisheries Act 1959

COMMERCIAL FISHERIES PRODUCTION DURING MONTH OF..... 19.....

Name of Boat.....Distinguishing Mark.....

Principal Port at which Catch is Landed .....

Fishing Method	Estuary or Block No.	Fishing operations		Species	Quantity landed kg.
BEACH SEINING (01)	.....	Total Number of Days Fishing or Searching During Month		Australian Salmon 490 Other (Please Specify)	....
TROLLING (05)	.....	Number of Jigs Used	Total Fishing Time During Month ..... Hrs	Snoek (Barracouta) 335 Other (Please Specify)	....
LONG-LINING (06)	.....	Number of Hooks Used	Total Fishing Time During Month ..... Hrs	School Shark 655 Gummy Shark 651 Other (Please Specify)	....

	Block No.	Trawl / Danish Seine	Species (Please Specify)	Quantity Landed (kg)	Species (Please Specify)	Quantity Landed (kg)
DANISH SEINE (94) OR OTTER TRAWL (95)	.....	Hours Trawled / Number of Sets	.....	.....	.....	.....
GILL NETTING (96)	Block No.	Total fishing time for month / Average metres set at one time hrs	.....	.....	.....	.....
OTHER (97) Please Specify	Block No.	Days Fished	.....	.....	.....	.....

Form 1.2.1 **Early Processor Form**
(Period: Jan 70 - Dec 79)

FISHERIES & WILDLIFE DIVISION, VICTORIAN SHARK RESEARCH PROGRAMME

PROCESSOR COMPILATION BY BOAT (19--)

Fisherman ..... Boat ..... ( )

State ..... Port .....

	Processor (1)		Processor (2)			Processor (1)		Processor (2)			Processor (1)		Processor (2)	
MTH	DAY	WEIGHT	DAY	WEIGHT	MTH	DAY	WEIGHT	DAY	WEIGHT	MTH	DAY	WEIGHT	DAY	WEIGHT
JANUARY					FEBRUARY					MARCH				
	Total:			(Kg)		Total:			(Kg)		Total			(Kg)
APRIL					MAY					JUNE				
	Total:			(Kg)		Total:			(Kg)		Total:			(Kg)
JULY					AUGUST					SEPTEMBER				
	Total:			(Kg)		Total:			(Kg)		Total:			(Kg)
OCTOBER					NOVEMBER					DECEMBER				
	Total:			(Kg)		Total:			(Kg)		Total:			(Kg)

Annual Total: .....(Kg)

Form 1.2.2 **Middle Processor Form**
(Period: Jan 80 - Dec 82)

FISHERIES AND WILDLIFE DIVISION, VICTORIA.

RETURN BY PROCESSOR OF QUANTITIES OF SHARK HANDLED FOR MONTH OF ....19...

NAME ....

ADDRESS .... FISHERIES ACT 1968

SUPPLIER	DATE RECEIVED	SCHOOL & GUMMY SHARK WT.		OTHER SHARK WT. (SPECIFY)	
		CARCASS (kg)	FILLETED (kg)	CARCASS (kg)	SPECIES

Return to the Arthur Rylah Institute for Environmental Research
123 Brown Street, Heidelberg. Victoria, 3084. PTO

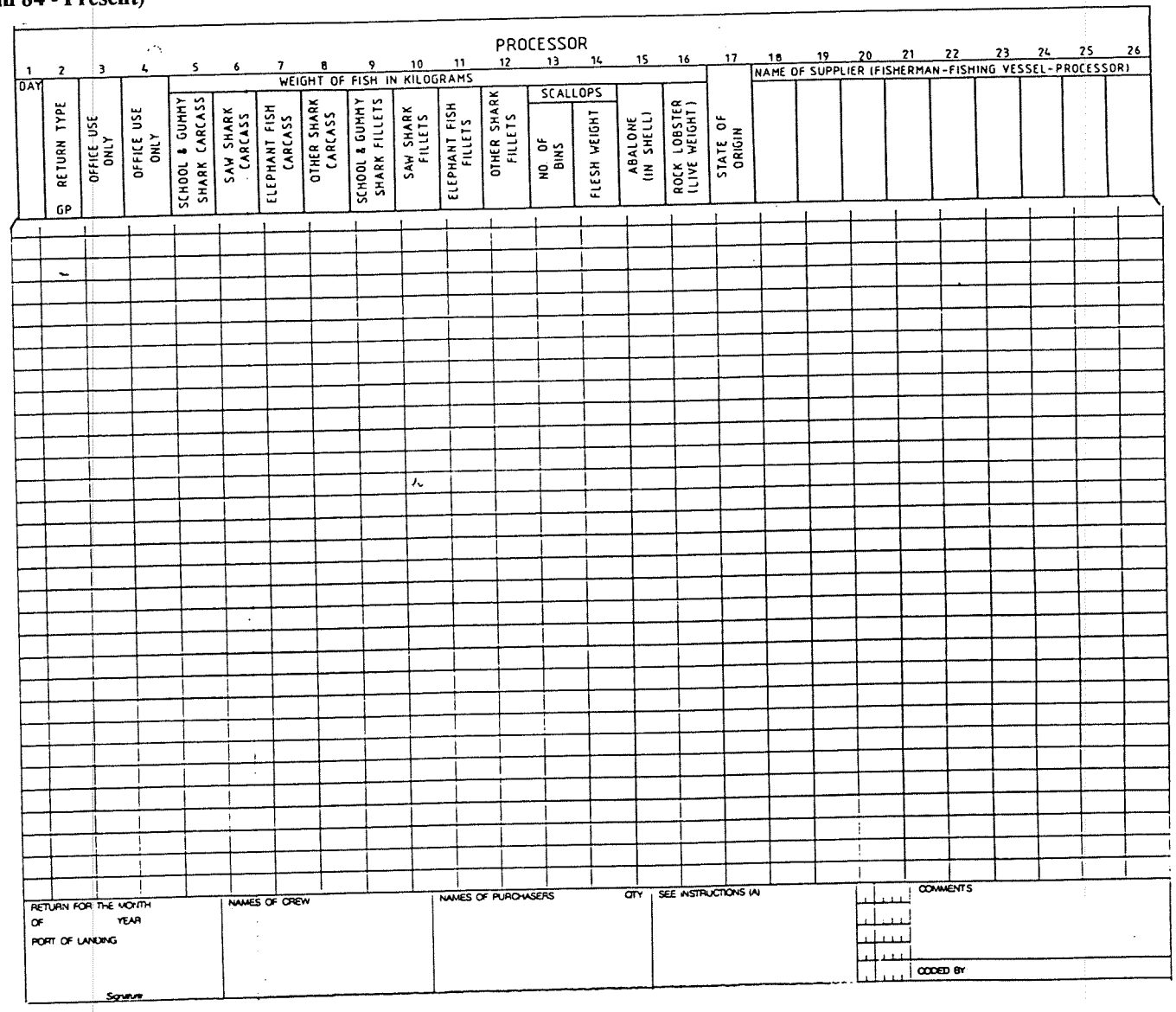
If no sharks are received the form is to be returned marked NIL.

Remarks ....

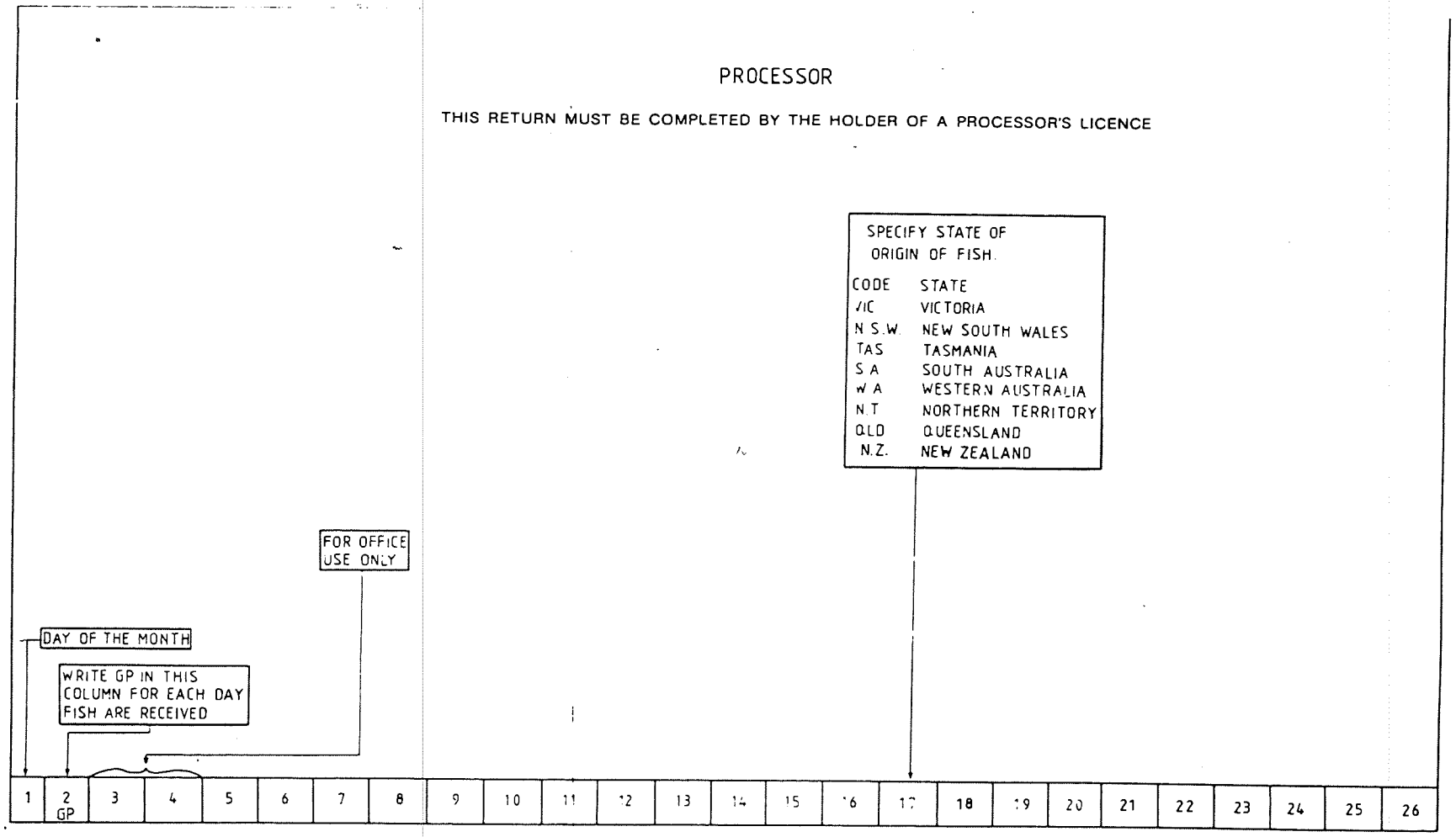
Signature ..../.../19.. Page 1.

Form 1.2.3

Current Processor Form
(Period: Jan 84 - Present)



Form 1.2.3 (Cont) **Current Processor Form**
(Period: Jan 84 - Present; Instruction)



Form 1.3 **Commercial Catch Sampling Forms**
(Period: Jan 70 - Present)

FISHERIES COMMERCIAL CATCH SAMPLING FORM, VICTORIA

FISHERY OR METHOD CAUGHT

LANDED D M Y	PORT	BOAT REG.	FISHERMAN	SAMPLE SITE	TOTAL QTY. LANDED	UNITS
/ /						C/M

SPECIES	SEX	CODE	LTH.	FR.	LTH	FR	LTH.	FR.	LTH	FR.	LTH.	FR.	LTH.	FR.	LTH.	FR.	LTH.	FR.	LTH.	FR.	LTH.	FR.	LTH.	FR.	LTH.	FR.	LANDED QTY.	SAMPLE WT.

SAMPLER ______________ (BLOCK LETTERS) ______________ (SIGNATURE)

SAMPLE DATE / /

Appendix 2 SSMDB Data Reference Code

SIR Record Type REGSET
(Defined by SIR Record Schema 33)

SET	NAME
1	Region
2	Zone
3	Division

SIR Record Type REGION
(Defined by SIR Record Schema 11)

SET	REGION	LATITUDE	LONGITUD	NAME
1	1	330	1325	West South Australia
1	2	370	1385	East South Australia
1	3	395	1420	West Victoria
1	4	395	1450	King Island
1	5	404	1450	Hunter Group
1	6	430	1445	West Tasmania
1	7	430	1490	East Tasmania
1	8	400	1490	Furneaux Group
1	9	385	1480	East Victoria
1	10	370	1510	New South Wales
1	11	340	1260	Western Australia
2	1	370	1370	South Australia
2	2	400	1470	Bass Strait
2	3	410	1410	Tasmania
3	1	350	1370	South Australian Gulfs
3	2	360	1380	South Australia - Outside

SIR Record Type REGVERT
(Defined by SIR Record Schema 12)

SET	REGION	VERTEX	LATUTUDE	LONGITUD
1	1	1	310	1290
1	1	2	400	1290
1	1	3	400	1360
1	1	4	310	1360
1	2	1	320	1360
1	2	2	410	1360
1	2	3	410	1410
1	2	4	320	1410
1	3	1	370	1410
1	3	2	410	1410
1	3	3	410	1430
1	3	4	392	1430
1	3	5	392	1460
1	3	6	370	1460
1	4	1	392	1430
1	4	2	410	1430
1	4	3	410	1440
1	4	4	400	1440
1	4	5	400	1460
1	4	6	392	1460
1	5	1	400	1440
1	5	2	410	1440
1	5	3	410	1460
1	5	4	400	1460
1	6	1	410	1410
1	6	2	420	1410
1	6	3	420	1420
1	6	4	430	1420
1	6	5	430	1430
1	6	6	450	1430
1	6	7	450	1460
1	6	8	410	1460
1	7	1	430	1460
1	7	2	450	1460
1	7	3	450	1510
1	7	4	410	1510
1	7	5	410	1480

SET	REGION	VERTEX	LATUTUDE	LONGITUD
1	7	6	420	1480
1	7	7	420	1470
1	7	8	430	1470
1	8	1	392	1460
1	8	2	411	1460
1	8	3	410	1480
1	8	4	410	1510
1	8	5	400	1510
1	8	6	400	1530
1	8	7	392	1530
1	9	1	375	1460
1	9	2	392	1460
1	9	3	392	1530
1	9	4	375	1530
1	10	1	375	1500
1	10	2	375	1530
1	10	3	300	1530
1	10	4	300	1500
1	11	1	300	1120
1	11	2	380	1120
1	11	3	380	1290
1	11	4	300	1290
2	1	1	300	1410
2	1	2	500	1410
2	1	3	500	1290
2	1	4	300	1290
2	2	1	350	1410
2	2	2	375	1500
2	2	3	395	1550
2	2	4	410	1550
2	2	5	410	1410
2	3	1	410	1410
2	3	2	410	1510
2	3	3	450	1510
2	3	4	450	1410
3	1	1	320	1360
3	1	2	320	1390
3	1	3	353	1390
3	1	4	353	1380
3	1	5	357	1380
3	1	6	357	1370
3	1	7	360	1370
3	1	8	360	1360
3	2	1	310	1300
3	2	2	390	1300
3	2	3	390	1410
3	2	4	310	1410

SIR Record Type AREA
(Defined by SIR Record Schema 12)

STATE	AREA	LATITUDE	LONGITUD
VIC	1	3700	15050
VIC	2	3900	13900
VIC	3	3925	14050
VIC	4	3875	14150
VIC	5	3875	14250
VIC	6	3875	14350
VIC	7	3875	14450
VIC	8	3875	14550
VIC	9	3875	14650
VIC	10	3875	14750
VIC	11	3875	14850
VIC	12	3875	14950
VIC	13	3875	15050
VIC	14	3875	15150
VIC	15	3875	15250
VIC	16	3960	14150
VIC	17	3960	14250
VIC	18	3960	14350
VIC	19	3960	14450
VIC	20	3960	14550
VIC	21	3960	14650
VIC	22	3960	14750
VIC	23	3960	14850
VIC	24	3960	14950
VIC	25	3960	15050
VIC	26	3960	15150
VIC	27	3960	15250
VIC	28	4050	14150
VIC	29	4050	14250
VIC	30	4050	14350
VIC	31	4050	14450
VIC	32	4050	14550
VIC	33	4050	14650
VIC	34	4050	14750
VIC	35	4050	14850
VIC	36	4050	14950
VIC	37	4050	15050
VIC	38	4150	14150
VIC	39	4150	14250
VIC	40	4150	14350
VIC	41	4150	14450
VIC	42	4150	14850
VIC	43	4150	14950
VIC	44	4150	15050
VIC	45	4250	14250
VIC	46	4250	14350
VIC	47	4250	14450
VIC	48	4250	14550
VIC	49	4250	14850
VIC	50	4250	14950
VIC	51	4250	15050
VIC	52	4350	14350
VIC	53	4350	14450
VIC	54	4350	14550
VIC	55	4350	14650
VIC	56	4350	14750
VIC	57	4350	14850
VIC	58	4350	14950
VIC	59	4350	15050
VIC	60	4450	14350
VIC	61	4450	14450
VIC	62	4450	14550
VIC	63	4450	14650
VIC	64	4450	14750
VIC	65	4450	14850
VIC	66	4450	14950
VIC	67	4350	15050
SA	1	3150	12950
SA	2	3150	13050
SA	3	3150	13150
SA	4	3250	12950

STATE	AREA	LATITUDE	LONGITUD
SA	5	3250	13050
SA	6	3250	13150
SA	7	3250	13250
SA	8	3250	13350
SA	9	3225	13362
SA	10	3250	13450
SA	11	3250	13750
SA	12	3350	13150
SA	13	3350	13250
SA	14	3450	13350
SA	15	3358	13445
SA	16	3310	13428
SA	17	3318	13463
SA	18	3388	13510
SA	19	3412	13685
SA	20	3372	13695
SA	21	3317	13770
SA	22	3368	13733
SA	23	3367	13763
SA	24	3450	13250
SA	25	3450	13350
SA	26	3450	13450
SA	27	3430	13523
SA	28	3478	13532
SA	29	3427	13665
SA	30	3475	13652
SA	31	3465	13595
SA	32	3427	13727
SA	33	3473	13717
SA	34	3477	13795
SA	35	3433	13810
SA	36	3483	13825
SA	37	3550	13450
SA	38	3550	13550
SA	39	3553	13650
SA	40	3525	13742
SA	41	3558	13768
SA	42	3563	13783
SA	43	3513	13823
SA	44	3580	13825
SA	45	3583	13880
SA	46	3593	13922
SA	47	3650	13550
SA	48	3650	13650
SA	49	3650	13750
SA	50	3650	13850
SA	51	3650	13950
SA	52	3750	13650
SA	53	3750	13750
SA	54	3750	13850
SA	55	3750	13950
SA	56	3783	14017
SA	58	3850	14050

SIR Record Type DEPTH

(Defined by SIR Record Schema 19 where ZONE is Depthzone and SQUARE is area in square metres)

LATITUDE	LONGITUDE	ZONE	SQUARE
388	1415	1	436940
388	1415	2	682310
388	1415	3	977170
388	1415	4	1232840
388	1415	5	1778670
388	1415	6	1105960
388	1415	7	975000
388	1415	8	629990
388	1415	9	594960
388	1415	10	731650
388	1415	11	4953380
388	1415	12	1685450
388	1415	13	1697730
388	1415	14	9080740
388	1425	1	445130
388	1425	2	5269899
388	1425	3	2551270
388	1425	4	1569470
388	1425	5	712040
388	1425	6	1387740
388	1425	7	2324149
388	1425	8	1367150
388	1425	9	857410
388	1425	10	573480
388	1425	11	295810
388	1425	12	857790
388	1425	13	437080
388	1425	14	1135890
388	1435	1	291330
388	1435	2	378500
388	1435	3	396150
388	1435	4	493470
388	1435	5	687390
388	1435	6	915840
388	1435	7	2861339
388	1435	8	2837150
388	1435	9	651320
388	1445	1	288360
388	1445	2	442930
388	1445	3	634330
388	1445	4	629790
388	1445	5	457940
388	1445	6	629560
388	1445	7	2315120
388	1445	8	17058440
388	1455	1	512460
388	1455	2	472680
388	1455	3	615660
388	1455	4	680090
388	1455	5	1655170
388	1455	6	857830
388	1455	7	3302339
388	1455	8	5857328
388	1465	1	974970
388	1465	2	1446230
388	1465	3	2019600
388	1465	4	675370
388	1465	5	1029010
388	1465	6	595180
388	1465	7	232500
388	1475	1	157140
388	1475	2	996430
388	1475	3	2425170
388	1475	4	2988620
388	1475	5	5404130
388	1475	6	8652317
388	1475	7	7191990
388	1475	8	1860660
388	1495	1	566390
388	1495	2	73720
388	1495	3	365360
388	1495	4	396100

LATITUDE	LONGITUDE	ZONE	SQUARE
388	1495	5	400160
388	1495	6	374280
388	1495	7	456450
388	1495	8	485280
388	1495	9	593470
388	1495	10	868910
388	1495	11	10534956
388	1495	12	1711909
388	1495	13	4637830
388	1495	14	30991880
393	1405	1	359390
393	1405	2	464350
393	1405	3	597720
393	1405	4	663210
393	1405	5	458970
393	1405	6	440220
393	1405	7	398030
393	1405	8	445900
393	1405	9	466810
393	1405	10	520630
393	1405	11	2369580
393	1405	12	1235330
393	1405	13	1830640
393	1405	14	29258516
396	1425	7	52490
396	1425	8	175400
396	1425	9	666870
396	1425	10	870560
396	1425	11	2635190
396	1425	12	681580
396	1425	13	1397750
396	1425	14	32264341
396	1435	1	267610
396	1435	2	331680
396	1435	3	247630
396	1435	4	332860
396	1435	5	193470
396	1435	6	300920
396	1435	7	687150
396	1435	8	1857920
396	1435	9	5342460
396	1435	10	7978187
396	1435	11	10825918
396	1435	12	519490
396	1435	13	568920
396	1435	14	1841620
396	1445	1	247290
396	1445	2	727280
396	1445	3	708050
396	1445	4	1661350
396	1445	5	6328998
396	1445	6	7533639
396	1445	7	10036028
396	1445	8	3209700
396	1445	9	3241479
396	1445	10	244530
396	1455	6	1855120
396	1455	7	6413549
396	1455	8	23706782
396	1455	9	4054290
396	1465	1	33170
396	1465	2	53720
396	1465	3	121500
396	1465	4	140140
396	1465	5	668670
396	1465	6	3219958
396	1465	7	5839158
396	1465	8	22571895
396	1465	9	3054269
396	1475	1	252970
396	1475	2	342750
396	1475	3	429360
396	1475	4	257660
396	1475	5	5281897
396	1475	6	20364607

LATITUDE	LONGITUDE	ZONE	SQUARE
396	1475	7	7176709
396	1475	8	1183390
396	1485	1	389000
396	1485	2	904790
396	1485	3	1700530
396	1485	4	3501639
396	1485	5	5511559
396	1485	6	5011970
396	1485	7	1884100
396	1485	8	656840
396	1485	9	562640
396	1485	10	561920
396	1485	11	3786009
396	1485	12	450570
396	1485	13	1773120
396	1485	14	7949988
396	1495	14	35826611
405	1435	1	58990
405	1435	2	91900
405	1435	3	126420
405	1435	4	123370
405	1435	5	73590
405	1435	6	201980
405	1435	7	1125590
405	1435	8	2426190
405	1435	9	2806960
405	1435	10	1861510
405	1435	14	26367358
405	1445	1	1293470
405	1445	2	1353510
405	1445	3	882700
405	1445	4	1082900
405	1445	5	2185229
405	1445	6	9439230
405	1445	7	6361427
405	1445	8	1766520
405	1445	9	6986958
405	1445	11	867490
405	1455	1	1109720
405	1455	2	1565800
405	1455	3	1301240
405	1455	4	2798549
405	1455	5	5931388
405	1455	6	5865248
405	1455	7	5156898
405	1455	8	7640398
405	1455	9	430380
405	1465	2	74020
405	1465	3	188040
405	1465	4	97840
405	1465	5	128280
405	1465	6	709080
405	1465	7	8691680
405	1465	8	22509438
405	1465	9	3751390
405	1475	1	2981349
405	1475	3	3099319
405	1475	4	5413510
405	1475	5	7994999
405	1475	6	3045460
405	1475	7	6908040
405	1475	8	3063849
405	1485	1	3820970
405	1485	2	1920
405	1485	3	1876280
405	1485	4	3581819
405	1485	5	2865809
405	1485	6	2240120
405	1485	7	1608810
405	1485	8	803320
405	1485	9	792390
405	1485	10	1020480
405	1485	11	3267220
405	1485	12	431080
405	1485	13	1353240
405	1485	14	4057110

SIR Record Type PORT

(Defined by SIR Record Schema 27)

PORT	NAME	LATITUDE	LONGITUDE
0000	Unknown	0	0
1000	Unknown (nsw)	360	1490
1400	Eden	370	1499
2000	Unknown (victoria)	370	1430
2010	Anglesea	384	1442
2020	Apollo Bay	387	1437
2030	Barwon Heads	393	1445
2040	Black Rock	380	1450
2050	Chelsea	380	1451
2060	Corinella	384	1454
2070	Cowes	384	1453
2080	Crib Point	383	1452
2090	Dromana	384	1449
2100	Flinders	385	1450
2110	Frankston	383	1451
2120	Geelong	381	1443
2130	Hampton	379	1450
2140	Hastings	383	1453
2150	Inverloch	386	1457
2160	Lakes Entrance	379	1480
2170	Lake Tyers	373	1480
2180	Lorne	385	1440
2190	Mallacoota	375	1498
2200	Mordialloc	380	1451
2210	Mornington	383	1450
2220	Nelson	381	1410
2230	Newhaven	385	1453
2240	Paynesville	379	1478
2250	Port Albert	386	1467
2260	Portarlington	381	1447
2270	Port Cambell	386	1431
2280	Port Fairy	383	1423
2290	Port Franklin	387	1463
2300	Portland	383	1416
2310	Port Melbourne	378	1449
2311	Port Phillip Bay	382	1448
2320	Port Welshpool	387	1464
2330	Queenscliff	383	1446
2340	St Kilda	377	1449
2350	St Leonards	385	1454
2360	San Remo	385	1454
2370	Shallow Inlet	388	1463
2380	Sorrento	383	1448
2390	Stony Point	385	1453
2400	Tamboon	377	1492
2410	Tooradin	382	1454
2420	Torquay	383	1443
2430	Waratah Bay	388	1461
2440	Warrnambool	383	1425
2450	Werribee	379	1447
2460	Williamstown	379	1449
2470	Mixed	370	1450
2480	Inland (victoria)	370	1440
2500	Port Macdonnell	380	1407
4000	Unknown (S.A.)	350	1400
4010	Acramans Creek	324	1342
4020	American River	358	1378
4030	Adrossan	344	1379
4040	Arno Bay	339	1366
4050	Baird Bay	322	1344
4060	Balgowan	342	1378
4070	Beach Port	375	1400
4080	Blanche Harbour	325	1378
4090	Cape Jaffa	369	1397
4100	Cape Jervis	356	1381
4110	Carpenter Rocks	376	1403
4120	Ceduna	321	1337
4135	Chinamans Creek	327	1378
4137	Cowleds Landing	332	1375
4140	Coffin Bay	344	1353
4150	Coobowie	350	1378
4160	Corny Point	349	1371
4170	Cowell	347	1369

PORT	NAME	LATITUDE	LONGITUDE
4180	Denial Bay	321	1334
4190	Edithburgh	351	1378
4200	Elliston	336	1349
4210	Farm Beach	345	1354
4220	Fowlers Bay	319	1325
4230	Goolwa	355	1388
4240	Southend	375	1400
4260	Hardwicke Bay	347	1374
4270	Haslam	325	1342
4280	Kingscote	356	1376
4290	Kingston Se	368	1399
4300	Laura Bay	322	1339
4310	Louth Bay	345	1360
4320	Lucky Bay	318	1370
4330	Marion Bay	352	1372
4340	Meningie	354	1392
4360	Moonta Bay	341	1376
4370	Newland	356	1386
4380	Nora Creina		
4390	Normanville	356	1383
4395	O'sullivans Beach	351	1385
4400	Outer Harbour	348	1386
4410	Penneshaw	357	1380
4420	Pine Point	324	1415
4430	Point Soutter	324	1415
4440	Port Turton	349	1373
4450	Pondolowie Bay	352	1369
4460	Port Adelaide	348	1386
4470	Port Augusta	325	1378
4480	Port Broughton	336	1380
4490	Port Clinton	342	1381
4495	Point Douglas	329	1358
4500	Port Elliot	354	1384
4505	Port Gawler	347	1385
4507	Port Giles	350	1378
4510	Port Hughes	341	1376
4520	Port Julia	347	1379
4530	Port Kenny	332	1347
4540	Port Lincoln	347	1359
4550	Port Macdonnell	380	1407
4560	Port Minlacowie	348	1375
4570	Port Moorowie	357	1371
4580	Port Neill	341	1364
4590	Port Noarlunga	351	1385
4595	Port Parham	344	1382
4600	Port Pirie	332	1380
4610	Port Price	343	1380
4620	Port Rickaby	347	1374
4630	Port Victoria	345	1375
4640	Port Vincent	348	1379
4650	Port Wakefield	341	1382
4660	Port Willunga	353	1384
4680	Robe	351	1398
4730	Smoky Bay	323	1338
4740	Stansbury	349	1378
4750	Streaky Bay	326	1342
4760	Tickera	337	1358
4770	Thevenard	321	1337
4780	Tumby Bay	344	1361
4790	Venus Bay	332	1348
4800	Victor Harbour	355	1386
4810	Vivonne Bay	360	1373
4820	Wallaroo	339	1376
4850	Whyalla	330	1376
6000	Tasmania (unknown)	420	1465
6005	Beauty point	410	1464
6008	Bellerive	425	1472
6010	Bicheno	419	1483
6015	Binalong Bay	411	1481
6020	Bridport	410	1474
6025	Burnie	410	1455
6030	Coles Bay	421	1483
6032	Couta Rock	404	1444
6035	Cremorne	430	1473
6040	Currie	399	1439

PORT	NAME	LATITUDE	LONGITUDE
6042	Cygnet	431	1470
6045	Devenport	411	1462
6050	Dover	433	1470
6060	Dunalley	429	1478
6065	Eaglehawk neck	430	1475
6066	Eddystone Point	406	1482
6067	Georgetown	410	1465
6068	Gladstone	409	1480
6070	Gordon	433	1472
6075	Grenville Harbour	414	1450
6077	Grassy	400	1440
6080	Hobart	429	1473
6090	Kettering	431	1473
6095	Killiecrankie	395	1475
6100	Lady Barron	402	1482
6105	Lauderdale	425	1473
6110	Margate	430	1473
6112	Marrawah	405	1444
6115	Nubeena	432	1479
6116	Orford	423	1475
6120	Port Arthur	432	1479
6125	Port Huon	430	1470
6130	Port Sorell	411	1466
6132	Rheban	424	1479
6135	Scamander	413	1482
6140	St Helens	413	1483
6150	Smithton	408	1451
6153	South Arm	426	1472
6155	Southport	433	1466
6160	Stanley	408	1453
6170	Strahan	421	1453
6180	Swansea	421	1481
6190	Tamar	413	1470
6195	Temma	410	1444
6200	Triabunna	425	1479
6205	Ulverstone	411	1461
6210	Woodbridge	431	1471
6220	Wynyard	410	1458

SIR Record Type SAPORT

(Defined by SIR Record Schema 17)

SAPORT	ABSCODE
ACR	4010
ADL	4460
ALB	2250
AMR	4020
ANC	2010
ANG	2010
APO	2020
ARD	4030
ARN	4040
ART	6120
AUG	4470
AVB	4140
BAL	4060
BAR	2030
BDB	4050
BFC	4110
BIC	6010
BLA	2040
BLH	4080
BPT	4070
BRI	6020
BRO	4480
CAM	2270
CAR	4110
CED	4120
CHC	4135
CHE	2050
CHW	4380
CLA	4130
CLI	4490
CLL	4137
COF	4140
COL	6030
COO	4150
COR	4160
COW	4170
CRI	2080
CRL	2060
CUR	6040
CWS	2070
DAV	4600
DEB	4180
DOU	4495
DOV	6050
DRO	2090
DUN	6060
DUT	4580
EDI	4190
ELL	4200
ENB	4800
ENT	2160
FAI	2280
FLI	2100
FMB	4210
FOU	4330
FOW	4460
FRA	2290
FRK	2110
GAW	4505
GEE	2120
GIL	4507
GLG	4460
GOO	4230
GOR	6070
HAB	4250
HAM	2130
HAS	4140
HAT	2140
HOB	6080
HWB	4260
INV	2150
JAF	4090
JER	4100
JUL	4520
KET	6090
KLD	4400
KNC	4280
KSE	4290
LAU	4300
LBA	6100
LGE	4070
LOR	2180
LTH	4310
LUC	4320
MAL	2190
MAR	6110
MEL	2310
MEN	4340
MIL	4350
MIN	4560
MON	2210
MOO	4360
MOR	2200
MRN	4850
MTD	4140
NEL	2220
NEW	2230
NLD	4370
NOA	4590
NOR	4390
OSB	4395
PAR	4595
PAY	2240
PEL	4500
PEN	4410
PHU	4510
PIR	4600
PKN	4530
PLN	4540
PMC	4550
PMW	4570
PNL	4580
PON	4450
POR	2260
PPT	4420
PRI	4610
PTL	2300
QUE	2330
RAP	4390
RIC	4620
ROB	4090
SAN	2360
SEB	4710
SHA	2370
SHR	4720
SMI	6150
SMO	4730
SOR	6130
SOT	4440
SOU	4430
SRO	6130
SRT	2380
STA	6160
STD	4240
STH	6140
STK	2340
STL	2350
STN	4330
STO	2390
STR	6170
SWA	6180
TAB	2400
TAM	6190
THV	4770
TIC	4760
TOO	2410
TOR	2420
TRI	6200
TUM	4780
TUR	4440
TYR	2170
VCH	4800
VIC	4630
VIN	4640
VIV	4810
VNB	4790
WAI	4830
WAK	4650
WAL	4820
WAN	2440
WAR	2430
WEL	2320
WER	2450
WHY	4850
WIL	4660
WLT	4840
WOO	6210
WST	2460
WYN	6220

SIR Value Labels SPECIES

Standard Species codes

699	School & Gummy combined
651	Gummy shark
655	School shark
675	Common saw shark
675	Southern saw shark
676	Elephant fish
653	Broadnose shark
670	Spikey dogfish
661	Blue pointer
659	Blue whaler
665	Whiskery shark
678	angel shark
666	Thresher shark
652	Hammerhead shark
667	Rusty catshark
660	Bronze whaler
672	Whitespotted dogfish
657	Port Jackson shark
662	White pointer
660	Black-tip whaler
653	one-finned shark
668	Wobbegong
671	Green-eye dogfish
669	Southern dogfish

SIR Value Labels SEX

Standard Sex codes

M	Male
F	Female
	Unknown

SIR Value Labels DEPTHINT

Standard Depth Intervals

0	Unknown
1	1-10m
2	11-20m
3	21-30m
4	31-40m
5	41-50m
6	51-60m
7	61-70m
8	71-80m
9	81-90m
10	91-100m
11	101-150m
12	151-200m
13	201-500m
14	>501 m

SIR Value Labels GEAR

Standard Gear Code

0	Unknown
1	Other gear
2	Long line
3	Mesh, unknown
5	mesh 5"
6	mesh 6"
7	mesh 7"
8	mesh 8"
9	mesh 9"

Appendix 3.1 PRIME CPL Jobs

PRIME CPL Job	Purpose
MAGSAV.DETAIL.CPL	Backup `Detail Data' by year on tape
MAGSAV.SHARK.CPL	Backup `SIR Component of SSFMDB' on tape
MTIN.GARFIS.CPL	Read SA CE `Raw Data' from tape to disk ASCII file MN<YY>.IBM
MTIN.TASUNI.CPL	Read Tas CE `Raw Data' from tape to disk ASCII file TASUNI<YY>.IBM
MTIN.TASAFZIS.CPL	Read Tas CE `Raw Data' from tape to disk ASCII file
TASAFZIS<YY>.DAT	
MTIN.NEWSH.CPL	Read Vic CE `Raw Data' from tape to disk ASCII file NEWSH<YY>.DAT
PROCESS.REP.CPL	Execute suite of CE reports of Processor data
VESSELF.REP.CPL	Execute suite of CE reports of Fisher data by vessel
GEOF.REP.CPL	Execute suite of CE reports of Fisher data by location of capture
PORTF.REP.CPL	Execute suite of CE reports of Fisher data by location of landing
PORTFP.REP.CPL	Execute suite of CE reports of Fisher and Processor data by location of
landing	
CCS.REP.CPL	Execute suite of Length frequency reports
DETAIL.REP.CPL	Execute suite of CE reports of Fisher data from 'Detail Data'
REPORT..CPL	Execute a specified named report
DETAIL.DELETE.CPL	Delete `Detail Data' for a specified State or all States for one or all years
TASUNI.REFORMAT.CPL	Sort ASCII file TASUNI<YY>.IBM and then execute
TASUNI.REFORMAT.F77	
UNLOAD.FILE.CPL	Unload `SIR Component of SSFMDB' to file Shark.backup
PURGE.FILE.CPL	Delete `SIR Component of SSFMDB'
RELOAD.FILE.CPL	Recover `SIR Component of SSFMDB' from file Shark.backup
WRITE.SCHEMA.CPL	Write all SIR Record Schemas
SETVARS.CPL	Set global specifications depending on the type of terminal
SIR.JOB.CPL	Read and execute a SIR Procedure when 'j' is entered
SIR.SQL.CPL	Execute SQL to access `SIR Component of SSFMDB'
SIR.CPL	Execute SIR DBMS interactively
SIR.WRITE	Write a SIR Procedure to an ASCII file
SIR.READ	Read an ASCII file and write to SIR Records
DETAIL.FORM.CPL	Execute SIR FORMS for displaying `Detail Data'
DIRECTORY.CPL	Write directory details of file size and date to file DIRECTORY.COMO
BOATMAN.BROWSE.CPL	Execute BOATMAN.BROWSE forms CE information by fisherman or
boat	
FORMS.CPL	Execute FORMS for user access to SIR Data Records

Appendix 3.2 FORTRAN Programs

FORTRAN Programs	Purpose
GARFIS87.REFORMAT	Reformat GARFIS87 records to a consistent format
TASUNI.REFORMAT	Add catches with species, gear, boat and month
B68.REFORMAT	Check date and alter O to 0 and I to 1 in 01 05 06 keys in Vic `Raw Data'
	Add sequence numbers
TASAFZIS.REFORMAT	Check date and alter O to 0 and I to 1 in 01 05 06 keys in Tas `Raw Data'
	Add sequence numbers
CCS.REFORMAT	Add sample numbers to length frequency data
PROCESS.REFORMAT	Check date and alter O to 0 and I to 1 in Processor `Raw Data'
	Add sequence numbers

Appendix 3.3 Sir Procedures

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
ABS.BLOCK	Reference	Nil	Nil	Nil	Nil	Nil	Recode ABS block codes to Vic return area codes
ALARM.EXIT	Utility	Nil	Nil	Nil	Nil	Nil	Test exit time of executing procedure
ALARM.SET	Utility	System	Nil	Nil	Nil	Nil	Set alarm time to exit executing procedure
B68.DETAIL	Create	Raw	Nil	Detail, Operate,Catch	Nil	B68.detail.yy	Create normalised detail records from Vic CE shot returns 1985-1987
B68.GF	Input	Nil	Gfyy.ref	Raw	Nil	Nil	Input reformatted GF returns of Vic CE 1985-1987
B68.SCHEMA	Utility	Nil	Nil	Raw	Nil	Nil	Define record for raw CE Vic returns 1987
B68.SH	Input	Nil	Shyy.ref	Raw	Nil	Nil	Input reformated GF returns of Vic CE 1985-1987
B68.TRIP	Manipulate, Validate	Raw	Nil	Nil	Nil	Nil	Redistribute trip totals and validate catches effort and fishing details
B68.VERIFY	Validate	Raw	Nil	Nil	Nil	Nil	Validate catches effort and fishing details
BOATMAN.BROWSE	Utility	Fisherm,Vessel	Nil	Nil	Nil	Nil	Access CE history by fisher or disting
BOATMAN.CLEAR	Utility	Fisherm,Vessel	Nil	Nil	Nil	Nil	Delete boatman records for a given year
BOATMAN.CREATE	Create	Detail, Operate,Catch	Nil	Fisherm, Vessel	Nil	Nil	Create boatman recs from detail recs, agg of CE by boat/yymm/port
BOATMAN.SCHEMA	Utility	Nil	Nil	Vessel, Fisherm	Nil	Nil	Define record for summary boatman
BOATMAN.SCHEMA1	Utility	Nil	Nil	Boat,Owner, Measurer,Procor,Fisher	Nil	Nil	Define record for summary boatman
BOATMAN.VALIDATE	Validation	Fisherm Fishdist	Nil	Nil	Nil	Boatman.valid	Validate vessel distinguishing marks
BRR.NONTARLT	Create	Geogear Geocatch	Nil	Afs	Brr.nontarglt.yy.data	Nil	Download catch effort and target catch effort (lifts) agg by geo location and depth requested by BRR for spacial and analysis
BRR.SCHEMA	Utility	Nil	Nil	Brr	Nil	Nil	Create the BRR record
BRR.TARGETHR	Download	Geocatch Geogear, Brr	Nil	Nil	Brr.targethr.yy.data	Nil	Extract target CE data for downloading, effort in kmhours
BRR.TARGETLT	Download	Geocatch, Geogear, Afs	Nil	Nil	Brr.targetlt.yy.data	Nil	Extract target CE data for downloading, effort in kmlifts
CCS.AGGR	Create	Ccssamp, Ccsfreq	Nil	Geoccs, Portccs	Nil	Ccs.aggregat.yy.	Aggregate ccs data by port & geo location, create summary ccs recs
CCS.DELETE	Utility	Portccs, Geoccs	Nil	Nil	Nil	Nil	Delete agregated ccs recs
CCS.DETAIL	Create	Ccsraw88 Ccsfreq	Nil	Ccssamp,	Nil	Ccs.detail.yy	Create detail ccs recs before 1988 (reformatted)

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
CCS.DETAIL88	Create	Ccsraw88	Nil	Ccssamp, Ccsfreq	Nil	Ccs.detail.yy	Create detail ccs records after 1988 (not reformatted)
CCS.DETCHECK	Validate	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccs.detcheck.yy	Check detail ccs data for missing data
CCS.DOWNLOAD	Download	Portccs, Portcat	Nil	Aggrccs, Mnregspc	Ccs.downld.dat	Nil	Extract catch and len freq data agg by port/region for downlding
CCS.INPUT	Input	Nil	Ccs<2>.ref	Ccsraw	Nil	Nil	Input raw ccs records, reformatted
CCS.INPUT88	Input	Nil	Ccs88.<2>.ref	Ccsraw88	Nil	Nil	Input raw ccs records, not reformattred
CCS.KOMQ	Report	Ccssamp Ccsfreq	Nil	Nil	Nil	Ccs.kom.q	Report of frequencies by species/port of landing/month
CCS.KSMQ	Report	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccs.ksm.q	Report of frequencies by species/state of landing/month
CCS.LINK	Manipulate	Ccssamp, Operate, Catch	Nil	Nil	Nil	Nil	Searches operate records (1 month) to add fishing operation details to the ccssamp record
CCS.SAMPLEWT	Manipulate/ Validate	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccs.samplewt	Add calc sample wts (from lengths) to ccssamp recs & validate sample wts
CCS.SCHEMA	Utility	Nil	Nil	CCSRAW	Nil	Nil	Define raw ccs record for reformated ccs data
CCS.SCHEMA88	Utility	Nil	Nil	Ccsraw88	Nil	Nil	Define raw ccs record for unreformated ccs ddata
CCS.SUBSET	Utility	Portccs, Geoccs	Nil	Nil	Ccs.backup.yy		Backup ccs aggreated records
CCS.TABKZYJQ	Download	Geoccs	Nil	Nil	ccs.jzyjqc.tab.<species>.list		Example of a dload using table files dload length freq data by geo location
CCS. YOKQW	Report	Ccssamp,	Nil	Nil	Nil	Ccs.yo.kqw	Report of freqs, sample wts by yr/port of landing/species
CCSF.KRMQ	Report	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccsf.krm.q	Report of freqs by species/region of capture/month
CCSF.KSEYJQW	Report	Portccs	Nil	Nil	Nil	Ccsf.kseyj.qw	Report of length freqs by species/state of capture/mesh size/year
CCSF.KSEYJQW1	Download	Portccs	Nil	Nil	Nil	Ccsf.kseyj.qw1.data	Report of length freqs by species/state of capture/mesh size/yr
CCSF.KSYJEQ	Report	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccsf.ksyje.q	Report of length freqs by species/state of landing/yr/mesh size
CCSF.KSYJEQ1	Download	Ccssamp, Ccsfreq	Nil	Nil	Ccsf.ksyje.q1.data	Nil	Dnload of length freqs by species/state of landing/yr/mesh size
CCSF.KZEYJQW	Report	Geoccs	Nil	Nil	Nil	Ccsf.kzeyj.qw	Report of length freqs by species/state of capture/mesh size/yr
CCSF.KZEYJQW1	Download	Geoccs	Nil	Nil	Nil	Ccsf.kzeyj.qw1.data	Report of length freqs by species/state of capture/mesh size/yr

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
CCSF.KZMQ	Report	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccsf.kzmq	Report of freqs by species/state of capture/month
CCSF.KZYJEQ	Report	Ccssamp Ccsfreq	Nil	Nil	Nil	Ccsf.kzyje.q	Report of length freqs by species/state of capture/yr/mesh size
CCSF.KZYJEQ1	Download	Ccssamp, Ccsfreq	Nil	Nil	Ccsf.kzyje.q1.data	Nil	Dnload of length freqs by species/state of capture/yr/mesh size
CCSF.RGMQ	Report	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccsf.rgm.q	Report of freqs by region/gear/month capture/month
CCSF.SYOMFADQ landing/yr/port/mth	Report	Ccssamp, Ccsfreq	Nil	Nil	Nil	Ccsf.syom.fvadqm	Report of length freq data by state of details of vessel,fisher, area and depth of fishing, freqs,batch and sample wts
CONSTANT.SPECIES	Reference	Nil	Nil	Nil	Nil	Nil	Name and number of each shark species
CONSTANT.WEIGHT	Reference	Nil	Nil	Nil	Nil	Nil	Calculate wt from lgth (partial lgth STN) lgths are in cm; these formulas arae for mm hence * 10
CONSTANT.WEIGHT85 are	Reference	Nil	Nil	Nil	Nil	Nil	Calculate wt from length (partial length BCF) lengths in cm; these formulae are for mm hence * 10
DELETE.RECORD	Utility	Any record	Nil	Nil	Nil	Nil	Delete any record by year or completely (specified by parameters)
DEPTH.CREATE	Create	Temdepth, area	Nil	Depth	Nil	Nil	Create area (sq m) for depth zone within each area lat/long
DEPTH.EXTRACT	Download	Geogear, Geocatch	Nil	Fishery Depthsum, Yeardeep	Depth.ys.ihc.data	Nil	Create CE by depth & geo location for downloading not used
DEPTH.SCHEMA	Utility	Nil	Nil	Temdepth	Nil	Nil	Define record area of each depth zone in each area
DETAIL.DELETE	Utility	Detail, Operate, Catch	Nil	Nil	Nil	Nil	Delete detail record for given year and origin
DETAIL.OPERAT	Validate	Detail, Operate	Nil	Nil	Nil	Nil	Correct somemiscoded distinguishing marks
DETAIL.SCHEMA	Utility	Nil	Nil	Detail, Operate, Catch	Nil	Nil	Define record of detail CE records
DETAIL.SUBSET	Utility	Detail, Operate, Catch	Nil	Nil	Detail.yybackup	Nil	Backup detail records for archiving
DETAILF.COUNT	Utility	Detail, Operate, Catch	Nil	Nil	Nil	Nil	Count of detail records by year
DETAILF.FGEM	Report	Records: Operate	Nil	Nil	Nil	Detail.fg.em	Create a report fisher/gear/mesh size/date (MMYY)
DETAILF.KGRDTNCI	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.kgyrd.tnci	Target and nontarget catch effort details by gear/region/yr depth
DETAILF.MOFAICK	Download	Detail, operate, Catch	Nil	Nil	Nil	Warehou.downoth.data	Catch and effort details of fishing operations when no warehou is caught
DETAILF.MOFAICKX	Download	Detail, Operate, Catch	Nil	Nil	Nil	Warehou.download.data	Catch and effort details of fishing operations when warehou is caught

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
DETAILF.ORIG26M	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.orig26m.ckx	Catch of shark species by origin of return/double report code/6 months
DETAILF.ORIG2S6M	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.orig2s6m.ckx	Catch of shark species by origin of return/double report code/state of landing/6 month
DETAILF.SLVY	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.slvy.blgnckhi	Report nontarget effort by state/licence/vessel
DETAILF.SLY	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.sly.blgnckhi.0	Report nontarget effort by state/licence for selected vessels with no net endorsements
DETAILF.SVY1	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.slvy.blgnckhi	Report state/licence/vessel
DETAILF.SVY2	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.slvy.blgnckhi	Report nontarget effort by state/licence/vessel
DETAILF.SY1	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.svy.blgnckhi.a.<2>.list	Report nontarget effort by state vessel for selected vessels with an A licence (input the number of nets)
DETAILF.SY2	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.sy.blgnckhi.b	Report nontarget effort by state for selected vessels with a B licence
DETAILF.U2PMCI	Report	Detail Operate, Catch	Nil	Nil	Nil	Detailf.v2pm.ci	Catches of each speices of shark and effort (lifts) if some of the species is caught. By port of landing/double report code/mth
DETAILF.U2PYCI	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.v2py.ci	Catches of each species of shark and effort (lifts) if some of the species is caught. By port of landing/double report code/year
DETAILF.U2S6M	Report	Detail Operate, Catch	Nil	Nil	Nil	Detailf.v2s6m.ckx	Catch of shark species by double report code/state of landing/6 mths
DETAILF.U2Z6M	Report	Detail Operate, Catch	Nil	Nil	Nil	Detailf.v2z6m.ckx	Catch of shark species by double report code/state of capture/6 mths
DETAILF.U2ZS6M	Report	Detail Operate, Catch	Nil	Nil	Nil	Detailf.u2zs6m.ckx	Catch of shark species by double report code/state of capture/state of landing/6 months
DETAILF.V6MGRC	Report	Detail Operate, Catch	Nil	Nil	Nil	Detailf.v6mgr.c	Report days by vessel and specified periods inside and outside the SA Gulf
DETAILF.VGAYNTIC	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.vgay.ntic	Target and nontarget catch effort details by vessel
DETAILF.VYAGNTHC	Download	Detail Operate, Catch	Nil	Nil	Nil	Detailf.vyag.nthc.data	Target and nontarget catch effort details by vessel
DETAILF.VYAGNTIC	Download	Detail, Operate, Catch	Nil	Nil	Nil	Detailf.vyag.ntic.data	Target and nontarget catch effort (lifts) details by vessel
DETAILFP.SVY	Report	Detail, Operate, Catch	Nil	Nil	Nil	Detailfp.svy.lnck	Catch details by state/vessel and catches not linked and added to catch
DISTCORR.CHECK	Validate	Distcorr,	Nil	Nil	Nil	Nil	Check and correct, miskeyed or absent

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
DISTCORR.CLEAR	Utility	Distcorr	Nil	Nil	Nil	Nil	Delete distinuighing mark correction distinguishing marks
DISTCORR.SCHEMA	Utility	Nil	Nil	Operate Distcorr	Nil	Nil	Define record for distinguishing no correction records
DISTING.VALIDATE	Validate	Operate	Nil	Nil	Nil	Disting.validate	Report operate records with suspect distinguishing marks
FISHDIST.SCHEMA	Utility	Nil	Nil	Fishdist	Nil	Nil	Define record for temporary record
FISHERY.AGGR	Create	Detail, Operate, Create	Nil	Portcat Geocatch Portgear geogear	Nil	Fishery.aggr.<yy>.list	Aggregate CE & target CE by lat/long/depth & by port with and without effort are tored separately
FISHERY.DELETE	Utility	Portcat, Portgear Geocatch, Geogear	Nil	Nil	Nil	Nil	Delete summary CE records for given year
FISHERY.SCHEMA	Utility	Nil	Nil	Portgear, Portcat Geogear, Geocatch	Nil	Nil	Define record of summary CE records
FISHERY.SUBSET	Utility	Portgear, Portcat Geogear, Geocatch, Vessel, Fisherm	Nil	Nil	Fishery.yybackup	Nil	Backup fishery records for transfer
GARFIS.DETAIL	Create	Garfis	Nil	Detail,	Nil	Nil	Create detail records from GARFIS (SA to 1987) this procedure assumes that there are zero records at the start of each mth for each boat
GARFIS.INPUT	Input	Nil	Msyy.ibm	Garfis	Nil	Nil	Input garfis records from SA CE returnsold format (to 1988)
GARFIS.SCHEMA	Utility	Nil	Nil	Garfis	Nil	Nil	Define record of SA raw CE data
GARFIS87.DETAIL	Create	Garfis87	Nil	Detail, Operate, Catch	Nil	Nil	Create detail records from garfis (SA from 1987) for new format
GARFIS87.INPUT	Input	Nil	Msyy.ibm	Garfis87	Nil	Nil	Input garfis records from SA CE returns new format (from 1988)
GARFIS87.SCHEMA	Utility	Nil	Nil	Garfis87	Nil	Nil	Define record of SA raw CE data
GEARTYPE.SCHEMA	Utility	Nil	Nil	Geartype	Nil	Nil	Define record of gear codes
GEOF.AGDYH efforts	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.agdy.tnhck	Report of shark target and non target catches anad by area/gear/depth/yr (effort in hrs)
GEOF.AGDYI efforts	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.agdy.tnick	Report of shark target and non target catches and by area/gear/depth/yr (effort in lifts)
GEOF.AGYH	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.agy.tnhck	Report of shark target and non target catches and efforts by area/gear/yr (effort in hrs)

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
GEOF.AGYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.agy.tnick	Report of shark target and non target catches and efforts by area/gear/yr(effort in lifts)
GEOF.EYH	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.ey.tnhck	Report of shark target and non target catches and efforts by mesh size/yr (effort in hrs)
GEOF.EYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.ey.tnick	Report of shark target and non target catches and efforts by mesh size/yr (effort in lifts)
GEOF.EZYH efforts	Report	Geocatach Geogear	Nil	Nil	Nil	Geof.ezy.tnhck	Report of shark target and non target catches and by mesh size/state of capture/yr (effort in hrs)
GEOF.EZYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.ezy.tnick	Report of shark target and non target catches and efforts by mesh size/state of capture/yr (effort in lifts)
GEOF.KGADCIH	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.kgad.cih	Catch and effort data for shark by species/gear/area/depth
GEOF.MAEXNIC	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.maex.nic	Report total trevally catch by mth/area
GEOF.RDYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.rdy.tnick	Report of shark target and non target catches and efforts by region/depth/yr (effort in lifts)
GEOF.RGDYH hrs)	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.rgdy.tnhck	Report of shark target and non target catches and efforts by region/gear/depth/yr (effort in
GEOF.RGDYI lifts)	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.rgdy.tnick	Report of shark target and non target catches and efforts by region/gear/depth/yr (effort in
GEOF.RGDYX	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.rgdy.ncx	Report of scale catches by region/gear/depth
GEOF.RGYH	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.rgy.tnhck	Report of shark target and non target catches and efforts by region/geara/yr (effort in hrs)
GEOF.RGYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.rgy.tnick	Report of shark target adn non target catches adn efforts by region/gear/yr (effort in lifts)
GEOF.XGDCIH	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.xgd.cih	Catch and effort data for warehou by species/gear/depth
GEOF.XRG	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.xrg.c	Report of scale fish catches by region of capture/gear/yr
GEOF.YRGECK	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.yrge.ck	Annual report corrected catch data by region and mesh size
GEOF.ZEYH efforts	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.zey.tnhck	Report of shark target and non target catches and by state of capture/mesh size/yr (effort in hrs)

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
GEOF.ZEYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.zey.tnick	Report of shark target and non target catches and efforts by state
GEOF.ZGDYH	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.zgdy.tnhck	Report of shark target and non target catches and efforts by state of capture/gear/depth/yr
GEOF.ZGDYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.zgdy.tnick	Report of shark target and non target catches and (effort in hrs)capture/mesh size/yr (effort in lifts)
GEOF.ZGYH	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.zgy.tnhck	Report of shark target and non target catches and efforts by state of capture/gear/depth/yr (effort in lifts)
GEOF.ZGYI	Report	Geocatch, Geogear	Nil	Nil	Nil	Geof.zgy.tnick	Report of shark target and non target catches and efforts by state of capture/gear/yr (effort in hrs)
GEOF.ZYGNTCHK	Report	Geocatch, Geogear	Nil	Nil	Geof.zyg.ntchk.data	Geof.zyg.ntchk	Report of shark target and non target catches and efforts by state of capture/gear/yr (effort in lifts)
GEOF.ZYGNTCIK	Report	Geocatch, Geogear	Nil	Nil	Geof.zyg.ntcik.data	Geof.zyg.ntcik	Target and non target catch and effort by mgmt zone/yr/gear effort in hrs
LABELS.DEPTHINT	Reference	Nil	Nil	Nil	Nil	Nil	Target and non target catch and effort by management zone/yr/gear (effort in lifts)
LABELS.PORT	Reference	Nil	Nil	Nil	Nil	Nil	Labels for depth intervals in fathoms
LABELS.SEX	Reference	Nil	Nil	Nil	Nil	Nil	List for port codes
LABELS.SPECIES	Reference	Nil	Nil	Nil	Nil	Nil	List for sex codes
LICENCE.SCHEMA	Utility	Nil	Nil	Licence	Nil	Nil	Labels for species codes
MENU.DISPLAY	Utility	Menuline, Menuopt	Nil	Nil	Nil	Nil	Define record of licence record
MENU.INPUT	Utility	Nil	Menu.dat	Menuline, Menuopt	Nil	Nil	Display for boatman.browse and forms displays menu and prompts for OPTION accepts parameter <I> = serial no. of menu
MENU.SCHEMA	Utility	Nil	Nil	Menuline, Menuopt	Nil	Nil	Input lines and valid options for menus
NEWRAW87.DETAIL	Create	Newraw87	Nil	Detail, Operate, Catch	Nil	Nil	Define record of menu records
NEWRAW87.FYC	Report	Newraw87	Nil	Nil	Nil	Newraw87.fy.c	Create detail recs from Vic raw CE recs after 1987
NEWRAW87.GFINPUT	Input	Nil	Newgfyy.ref	Newraw87	Nil	Nil	Total reported catch from fisher returns by fisher/yr
NEWRAW87.PYC	Report	Newraw87	Nil	Nil	Nil	Newraw87.py.c	Input gemeral fishing return data from Vic Ce returns (after 1987)
NEWRAW87.SCHEMA	Utility	Nil	Nil	Newraw87	Nil	Nil	Total reported catch from fisher returns by processor/yr
NEWRAW87.TRIP	Manipulate Validate	Newraw87	Nil	Nil	Nil	Nil	Define record for raw Vis CE data
NEWRAW87.VERIFY	Validate	Newraw87	Nil	Nil	Nil	Nil	Redistribute trip totals and validate catches effort and fishing details
NEWRAW87.VERIFYGF	Validate	Newraw87	Nil	Nil	Nil	Nil	Validate catches effort adn fishing details
NEWRAW87.YFPC	Report	Newraw87	Nil	Nil	Nil	Newraw87.yfp.c	Validate catches effort and fishing detail (GF format)
							Total reported catch from fisher returns by

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
NEWRAW87.YOFPC	Report	Newraw87	Nil	Nil	Nil	Newraw87.yofp.c	Total reported catch from fisher returns by yr/port of landing/fisher/purchaser
NEWRAW87.YOPFC	Report	Newraw87	Nil	Nil	Nil	Newraw87.yopf.c	Total reported catch from fisher returns by yr/port of landing/purchaser/fisher
NEWRAW87.YPFC	Report	Newraw87	Nil	Nil	Nil	Newraw87.ypf.c	Total reported catch from fisher returns by yr/processor/fisher
PORTDIR.SCHEMA	Utility	Nil	Nil	Portdir	Nil	Nil	Define record for port directory
PORTF.G6MSNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.g6ms.nck	Report total nontargetted shark catches by gear/state of landing/6 mth
PORTF.G6MSNIK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.g6ms.nik	Report total nontargetted shark effort (lifts) by gear/state of landing/half yr
PORTF.GMSNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.gms.nck	Report total nontargetted shark catches by gear/state of landing/month
PORTF.GMSNIK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.gms.nik	Report total nontargetted shark effort (lifts) by gear/state of landing/mth
PORTF.GYSNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.gys.nck	Report total nontargetted shark catches by gear/state of landing/yr
PORTF.GYSNIK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.gys.nik	Report total nontargetted shark effort by gear/state of landing/yr
PORTF.M6SNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portfp.m6s.nck	Report total nontargetted shark catches by state of landing/half yr
PORTF.M6SNICK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.m6s.nick	Report total nontargetted shark catch & effort by half year/state of landing
PORTF.MSNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.ms.nck	Report total nontargetted shark catches by state of landing/mth
PORTF.MSNICK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.ms.nick	Report total nontargetted shark catch & effort by mth/state oflanding
PORTF.OYCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.oyk.c	Report total nontargetted shark catch by port of landing/yr
PORTF.SGYKC	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.sgyk.c	Report total nontargetted shark catch by state of landing/gear/yr
PORTF.SGYXC	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.sgyx.c	Report of total scale fish catch by state of landing/gear/yr
PORTF.SYKC	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.syk.c	Report total nontargetted shark catch by state of landing/yr
PORTF.SYXKC	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.syx.c	Report total scale fish catch by state of landing/yr

Name of Procedure	Type	Input Rec	Input File	Output Rec	Output File	Report	Purpose of Procedure
PORTF.XOG	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.xog.c	Reported scale fish catches by port/gear
PORTF.XSG	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.xsg.c	Reported scale fish catches by state of landing/gear
PORTF.YSNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.ys.nck	Reported total nontarget shark catches by state of landing/year
PORTF.YSNICK	Report	Portcat, Portgear	Nil	Nil	Nil	Portf.ys.nick	Reported total nontarget shark catches and effort by state of landing/year
PORTFP.M6SNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portfp.m6s.nck	Report total nontargetted shark catches by state of landing/half yr (processor & fisher source)
PORTFP.MSNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portfp.ms.nck	Reported total nontarget shark catches by state of landing/month(processor & fisher source)
PORTFP.YSNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portfp.ys.nck	Reported total nontarget shark catches by state of landing/year(processor & fisher source)
PORTFP.OYNCK	Report	Portcat, Portgear	Nil	Nil	Nil	Portfp.oy.nck	Reported total nontarget shark catches by port of landing/year(processor & fisher source)
PROCESS.CHECK	Validation	Nil	Nil	Proclate	NIL	Process.check	Report all processor records without source
PROCESS.DELETE	Utility	Detail, Operate Catch	Nil	Nil	Nil	Process.delete	Delete detail recs created for processor dat
PROCESS.EACREATE	Create	Prolday, Prolyear	Nil	Detail, Operate, Catch	Nil	Process.early	Link process data to detail CE recs , add process data
PROCESS.EAHIST	Create	Prolday, Prolyear	Nil	Process	Nil	Nil	Aggregate processor data by processor
PROCESS.EASCHEMA	Utility	Nil	Nil	Prolday, Prolyear	Nil	Nil	Define record for early processor raw recs
PROCESS.FMP	Report	Proclate	Nil	Nil	Nil	Process.fmp	Report fisher/month/processor
PROCESS.FMV	Report	Proclate	Nil	Nil	Nil	Process.fmv	Report fisher/month/vessel
PROCESS.HISTSCH	Utility	Nil	Nil	Process	Nil	Nil	Define record for summary processor record
PROCESS.INPUTNSW	Input	Nil	Nswprocyy .Clean	Prolday, Prolyear,pro2day,pro2year	NIL	Nil	Input ref validated processor data 1980
PROCESS.INPUTSA	Input	Nil	Saprocyy. Clean	Prolday, Prolyear,pro2day,pro2year	Nil	Nil	Input ref validated processor data 1980
PROCESS.INPUTTAS	Input	Nil	Tasprocyy.	Prolday	NIL	Nil	Input ref validated processor data 1980
PROCESS.INPUTVIC	Input	Nil	Vicprocyy Clean	Prolday, Prolyear,pro2day,pro2year	NIL	Nil	Input ref validated processor data 1980
PROCESS.LACREATE	Create	Proclate	Nil	Detail, Operate, Catch, Process	Nil	Process.late	Link process data to detail CE recs , add process data aggregate data by processor
PROCESS.LAINPUT	Input	Nil	Stprocyy.ref	Proclate	NIL	Nil	Input reformated validated raw processor data
PROCESS.LASCHEMA	Utility	Nil	Nil	Proclate	Nil	Nil	Define record for late (1980+) processor raw records

Name of Procedure	Type	Input Rec	Input File	Output Rec	OUTPUT FILE	Report	Purpose of Procedure
PROCESS.LOOK	Report	Detail, Operate Catch	Nil	Nil	Nil	Process.look.	Write detail recs created from process data
PROCESS.MIDCREATE data	Create	Pro2day, Pro2year	Nil	Detail, Operate, Catch	Nil	Process.early	Link process data to detail CE recs and add process
PROCESS.MIDHIST	Create	Pro2day, Pro2year	Nil	Process	Nil	Nil	Aggregate processor data by processor
PROCESS.MIDSCHEMA	Utility	Nil	Nil	Pro2day, Pro2year	Nil	Nil	Define record for mid processor raw records
PROCESS.MSCK	Report	Process	Nil	Nil	Nil	Process.ms.ck	Report tot wt by species/processor/month
PROCESS.OYLC	Report	Proclate	Nil	Nil	Nil	Process.oyl.c	Report tot wt by combined shark/port/year/licence type
PROCESS.OYLCK	Report	Proclate	Nil	Nil	Nil	Process.oyl.ck	Report tot wt by total shark/port/year/licence type
PROCESS.OYPC1	Report	Proclate	Nil	Nil	Nil	Process.oyp.c1	Report tot wt by combined shark/port/year/SA Processor
PROCESS.OYPCK1	Report	Proclate	Nil	Nil	Nil	Process.oyp.ck1	Report tot wt by total shark/port/year/SA Processor
PROCESS.OYPC2	Report	Proclate	Nil	Nil	Nil	Process.oyp.c2	Report tot wt by combined shark/port/year/Tas Processor
PROCESS.OYPCK2	Report	Proclate	Nil	Nil	Nil	Process.oyp.ck2	Report tot wt by total shark/port/year/Tas Processor
PROCESS.OYPC3	Report	Proclate	Nil	Nil	Nil	Process.oyp.c3	Report tot wt by combined shark/port/year/Central Vic Processor
PROCESS.OYPCK3	Report	Proclate	Nil	Nil	Nil	Process.oyp.ck3	Report tot wt by total shark/port/year/Central Vic Processor
PROCESS.OYPC4	Report	Proclate	Nil	Nil	Nil	Process.oyp.c4	Report tot wt by combined shark/port/year/E & W Vic Processor
PROCESS.OYPCK4	Report	Proclate	Nil	Nil	Nil	Process.oyp.ck4	Report tot wt by total shark/port/year/E & W Vic Processor
PROCESS.PMCK	Report	Proclate	Nil	Nil	Nil	Process.pm.ck	Report processor/month/shark species
PROCESS.VMF	Report	Proclate	Nil	Nil	Nil	Process.vmf	Report vessel/month/fisher
PROCESS.VMP	Report	Proclate	Nil	Nil	Nil	Process.vmp	Report vessel/month/processor
RANGES.DEPTHINT	Reference	Nil	Nil	Nil	NIL	Nil	Set range of valid depth intervals
RANGES.LATITUDE	Reference	Nil	Nil	Nil	NIL	Nil	Set range of valid latitudes
RANGES.LONGITUD	Reference	Nil	Nil	Nil	NIL	Nil	Set range of valid longitud
RANGES.PORT	Reference	Nil	Nil	Nil	NIL	Nil	Set range of valid port codes
RANGES.SPECIES	Reference	Nil	Nil	Nil	NIL	Nil	Set range of valid species codes
RECODE.DEPTHINT	Utility	Nil	Nil	Nil	Nil	Nil	Recode depth to depth intervals
REGION.SCHEMA	Utility	Nil	Nil	Region, Regset, Regname	Nil	Nil	Define record of region names & lat longs of vertices
SAABS.DETAIL	Create	Saabs	Nil	Detail, Operate, Catch	Nil	Saabs.detail.yy	Create detail CE records from SAABS records
SAABS.INPUT	Input	Nil	Msyy.ibm	Saabs	Nil	Nil	Input SAABS raw CE data
SAABS.SCHEMA	Utility	Nil	Nil	Saabs	Nil	Nil	Define record for SAABS raw records

Name of Procedure	Type	Input Rec	Input File	Output Rec	OUTPUT FILE	Report	Purpose of Procedure
SAPORT.SCHEMA	Utility	Nil	Nil	Saport	Nil	Nil	Define record for SA port codes
SCREEN.BELL	Utility	Nil	Nil	Nil	Nil	Nil	Ring the terminal bell
SCREEN.CENTRE	Utility	Nil	Nil	Nil	Nil	Nil	Go to a gow and centre a string
SCREEN.CERROR	Utility	Nil	Nil	Nil	Nil	Nil	Centres error message wait and clear it
SCREEN.CLEAR	Utility	Nil	Nil	Nil	Nil	Nil	Clear entries on the screen
SCREEN.GET	Utility	Nil	Nil	Nil	Nil	Nil	Accept input from screen
SCREEN.GOTO	Utility	Nil	Nil	Nil	Nil	Nil	Go to column, row of screen
SCREEN.LOWER	Utility	Nil	Nil	Nil	Nil	Nil	Ring the terminal bell
SCREEN.PUT	Utility	Nil	Nil	Nil	Nil	Nil	Display message on the screen
SEVENTY.DETAIL	Create	Seventy, Seventy2	Nil	Detail, Operate, Catch	Nil	Seventy.detail	Create detail CE records from Seventy data
SEVENTY.INPUT	Input	Nil	Shark70.dat	Seventy, Seventy2	NIL	Nil	Input seventy raw data
SEVENTY.SCHEMA	Utility	Nil	Nil	Seventy, Seventy2	Nil	Nil	Define record for raw 1970 data
SHARK.DELETE	Utility	As Required	Nil	Nil	As Required	Nil	Delete records as specified
SHARK.DUMP	Download	As Required	Nil	NIL	As Required	Nil	Download records as specified
SHARK.MERGE	Utility	Nil	As Required	As Required	NIL	Nil	Merge records as specified
SHARK.SUBSET							
SIXTY.SCHEMA	Utility	Nil	Nil	Sixcatch, Sixgear	Nil	Nil	Record definition of CE 1960s raw records
SYSTEM.BROWSE	Utility	Nil	Nil	Nil	Nil	Nil	Run Boatman.browse to lookup CE by vessel or fisherm
SYSTEM.SCHEMA	Utility	Nil	Nil	System	Nil	Nil	Define record for utility system record
TASABS.DETAIL	Create	Tasabs	Nil	Detail, Operate, Catch	Nil	Tasabs.detail.yy	Create detail CE records from TASABS recs
TASABS.INPUT	Input	Nil	Tasyy.abs	Tasabs	Nil	Nil	Input TASABS raw CE data
TASABS.SCHEMA	Utility	Nil	Nil	Tasabs	Nil	Nil	Define record for TASABS raw CE records
TASAFZIS.CHECK	Report	Tadafzis	Nil	Nil	Nil	Tasafzis.check	Report total catches of shark for Tas raw recs
TASAFZIS.DETAIL	Create	Tasafzis	Nil	Detail, Operate, Catch	Nil	Tasafzis.detail	Create detail records from Tas raw CE shot records
TASAFZIS.INPUT	Input	Nil	Tasafzisyy.ref	Tasafzis	NIL	Nil	Input reformated Tas shot CE data
TASAFZIS.SCHEMA	Utility	Nil	Nil	Tasafzis	Nil	Nil	Define record for raw Tas shot CE data
TASAFZIS.VERIFY	Validation	Tasafzis	Nil	Nil	NIL	Tasafzis.verify	Validate Tas CE data with- limits on ranges of gear
catch							area depth date catches time - ratio of gear to catch
TASBOAT.SCHEMA	Utility	Nil	Nil	Tasboat	Nil	Nil	Define record for Tas boat codes
TASUNI.DETAIL	Create	Tasuni	Nil	Detail, Operate, Catch	Nil	Tasuni.detail	Create detail records from Tas raw CE monthly recs
TASUNI.INPUT	Input	Nil	Tasuniyy.ibm	Tasuni	NIL	Nil	Input Tas monthly CE data
TASUNI.SCHEMA	Utility	Nil	Nil	Tasuni	Nil	Nil	Define record for raw Tas monthly CE data

Name of Procedure	Type	Input Rec	Input File	Output Rec	OUTPUT FILE	Report	Purpose of Procedure
TASUNI88.DETAIL	Create	Tasuni88	Nil	Detail, Operate, Catch	Nil	Tasuni88.detail	Create detail recs from Tas raw CE monthly records 1988+
TASUNI88.INPUT	Input	Nil	Tasuni88yy. Ibm	Tasuni88	NIL	Nil	Input Tas monthly CE data 1988+
TASUNI88.SCHEMA	Utilty	Nil	Nil	Tasuni88	Nil	Nil	Define record for raw Tas monthly CE data 1988
TWOREP.CREATE	Manipulate	Detail, Operate, Catch	Nil	Nil	NIL	Tworep.create	Flag all Double reported returns
TWOREP.SCHEMA	Utility	Nil	Nil	Tempnet	Nil	Nil	Record definition for temporary record used in
UTIL.CERROR	Utility	Nil	Nil	Nil	Nil	Nil	Centres error message wait and clear it
UTIL.DISTFISH	Utility	Nil	Nil	Nil	Nil	Nil	Trim distinguishing no to 5 characters
UTIL.GETREG	Utility	Nil	Nil	Nil	Nil	Nil	Set the region no & name
UTIL.LEFTJUST	Utility	Nil	Nil	Nil	Nil	Nil	Left justify a string
UTIL.PROC	Utility	Nil	Nil	Nil	Nil	Nil	Recode old processor nos to new processor nos
UTIL.SAMPSITE	Utility	Nil	Nil	Nil	Nil	Nil	Link sampling site no to processor no
VALUE.SPECIES	Utility	Nil	Nil	Nil	Nil	Nil	Labels for all shark species codes
VARIABLE.DEPTHINT	Utility	Nil	Nil	Nil	Nil	Nil	define variable depthint call labels and range for depth intervals
VARIABLE.DISTING	Utility	Nil	Nil	Nil	Nil	Nil	Label distinguishing numbers
VARIABLE.LATITUDE	Utility	Nil	Nil	Nil	Nil	Nil	Define the variable latitude
VARIABLE.LONGITUD	Utility	Nil	Nil	Nil	Nil	Nil	Define the variable longitude
VARIABLE.MONTH	Utility	Nil	Nil	Nil	Nil	Nil	Define the variable month
VARIABLE.PORT	Utility	Nil	Nil	Nil	Nil	Nil	Define the variable port
VARIABLE.REGION	Utility	Nil	Nil	Nil	Nil	Nil	Define the variable region
VARIABLE.SEX	Utility	Nil	Nil	Nil	Nil	Nil	Define the variable sex
VARIABLE.SPECIES	Utility	Nil	Nil	Nil	Nil	Nil	Define the variable species
VICBOAT.SCHEMA	Utility	Nil	Nil	Vicboat	Nil	Nil	Define record of vic boat records
VESSELF.BVSL0	Report	Vessel	Nil	Nil	Nil	Vesself.bvnl0	Vessels with net endorsements and no returns
VESSELF.FMVU	Report	Fisher	Nil	Nil	Nil	Vesself.fm.vu	Return history by fisher
VESSELF.M6GLSC10	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.m6gls.c10	Catches by half year/gear/licence/state within 10tonne intervals
VESSELF.M6GLSC5	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.m6gls.c5	Catches by half year/gear/licence/state within 5 tonne intervals
VESSELF.M6LSC10	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.m6ls.c10	Catches by half year/licence/state within 10tonne intervals
VESSELF.M6LSC5	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.m6ls.c5	Catches by half year/licence/state within 5 tonne intervals
VESSELF.OVY	Report	Vessel	Nil	Nil	Nil	Vesself.ovy.lnckxgl	Catches and effort by port/vessel/year(lifts)

Name of Procedure	Type	Input Rec	Input File	Output Rec	OUTPUT FILE	Report	Purpose of Procedure
VESSELF.SBFMU	Report	Fisher	Nil	Nil	Nil	Vesself.sbfmu	Return history by fisher(Vic fishers with Tas returns only.
VESSELF.SBVM	Report	Vessel	Nil	Nil	Nil	Vesself.sbvm.lnckxgl	Catches and effort by vessel/month(lifts). Vessels selected with suspect CPUE
VESSELF.SLBVMCK	Report	Vessel	Nil	Nil	Nil	Vesself.slbvm.ck	Catches by state/licence/vessel/month(lifts).
VESSELF.SLBVYCK	Report	Vessel	Nil	Nil	Nil	Vesself.slbvy.ck	Catches by state/licence/vessel/year(lifts).
VESSELF.SLVMFU	Report	Vessel	Nil	Nil	Nil	Vesself.slvm.fu	Return history by state/licence/vessel.
VESSELF.SLYCIK	Report	Vessel	Nil	Nil	Nil	Vesself.sly.cik	Catches and effort by state/licence type/year(lifts)
VESSELF.SMBV	Report	Vessel	Nil	Nil	Nil	Vesself.smbv.lnckxgl	Catches and effort by state/month(lifts). Vessels selected with suspect CPUE Fisher
VESSELF.SVM	Report	Vessel	Nil	Nil	Nil	Vesself.svm.lnckxgl	Catches and effort by state/vessel/month(lifts)
VESSELF.SVY	Report	Vessel	Nil	Nil	Nil	Vesself.svy.lnckxgl	Catches and effort by state/vessel/year(lifts)
VESSELF.U2BVMCIK	Report	Vessel	Nil	Nil	Nil	Vesself.u2bvm.cik	Catches and effort by vessel/month(lifts).Vessels selected that double report
VESSELF.YGLSC10	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.ygls.c10	Catches by year/gear/licence/state within 10tonne intervals
VESSELF.YGLSC5	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.ygls.c5	Catches by year/gear/licence/state within 5 tonne intervals
VESSELF.YLSC10	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.yls.c10	Catches by year/licence/state within 10tonne intervals
VESSELF.YLSC5	Report	Vessel Fisher	Nil	Nil	Nil	Vesself.yls.c5	Catches by year/licence/state within 5 tonne intervals
VICAREA.SCHEMA	Utility	Nil	Nil	Vicarea	Nil	Nil	Define record of vic boat records

Appendix 3.4 SIR Record Schemas

The SIR Record Schemas constitute the data dictionary for the SIR component of the SSFMDB.
Each record type is identified by its name or number.
The record types are classified into 6 levels as describes in Case definition

The Document section of each schema describes the record under six headings as follows

Date Period	Period of the data stored in the record
Source	SIR record Types, file , forms and SIR Procedures used to create the records
Description:	Description of the record and processing to create the record
Use	Sir Procedures that require the record for input and other descriptions of the uses of the record
Variables	Description of the variables making up of the record(standard commonly used variables are listed below
Notes	Special formulae used or extra information necessary

All Return Forms referred to are listed in Appendix 1.

Standard SIR options used for data definition

Sort id	Variables used to access data stored in the records
Data list	All variable names type and size
Value labels	Labels of specified variable values
Var label	Labels for the variable
Missing values	Values interpreted as missing
Time/Date Var	Format of time and date variables
Var Ranges	Limit to range of values of the variable
Accept if	Records accepted only if this condition is not satisfied
Reject if	Records accepted only if this condition is satisfied
Cat Vars	Catagorising variable values to use space economically
Recode	Change the specified values on input
Scaled Vars	Store real numbers as integers

STANDARD VARIABLES:

PORT	ABS Port Code , See Appendix 2.1 4 digits where first digit is the State Code
STATE	State Code (See SIR Schema PRO1YEAR (No 20))
DOWNTIME	Time(hours) from end of setting of gear to start of haul
DISTING	Standard Distinguishing Mark of vessel If date < 0678 then Boat Registration No is substituted with Distinguishing Mark using SIR Record Type TASBOAT or VICBOAT Validated using SIR Record Type DISTCORR
FISHERM	Fisher No Fisher No for Vic, Distinguishing Mark for SA & Tas Return Forms except Tas shot Return Forms where the Distinguishing Mark is prefixed with '7'
DATE	Date format is MMYY
GEAR	Gear Code, see SIR Record Schema OPERATE (No 3)
SPECIES	Species Code, see SIR Record Schema GEOCCS (No 47)
SEX	Sex Code, see SIR Record Schema GEOCCS (No 47)
PROCESS	Processor No for all States (See Appendix 2.1) There are more than one Processor Code No for soem Processors but duplicate codes recoded by SIR Procedure UTIL.PROCNO
LATITUDE	Latitude of mid-point of one degree by one degree Area Block
LONGITUD	Longitude of mid-point of one degree by one degree Area Block
DEPTHINT	Depth Interval (m), See SIR Record Schema GEOCCS (No 47)
BLOCK	ABS Block Code for locality of fishing First two digits are the latitude, second two digits, when added to 100 are the longitude of the mid-point of the block Blocks not in this format to be converted are recoded in SIR Record Schema RAW(No 1)
AREA	Code for one degree by one degree Area Block Used on Vic and Tas Shot Return Forms and SA GARFIS Return Forms. The Area Block Codes are converted to the latitude and longitude of the mid-point of Area Block using SIR Record Type AREA
CASE	Case which is always 0 for the SSFMDB

```
RUN NAME          FILE SHARK    CODEBOOK DEFINITION
TASK NAME         INITIALIZATION COMMANDS
NEW FILE          SHARK
JOURNAL           OFF
TASK NAME         CASE DEFINITION
CASE ID           CASE     (A)
N OF CASES        1
RECS PER CASE     700000
MAX INPUT COLS    144
RECTYPE COLS      1  2
MAX REC TYPES     60
MAX REC COUNT     100000
MAX KEY SIZE      20
DOCUMENT
        Levels    1. RAW unprocessed data from CE Return Forms of SA Tas Vic
                                               Processor Return of Vic SA Tas
                                               CCS Return Forms of Vic SA Tas
                  2. DETAIL normalized raw data from raw CE data
                                                    Processor data
                                                    CCS data
                  3. SUMMARY aggregated data by boat,locality of fishing,locality of landing, Processor
                  4. Download aggregated data for downloading
                  5. Reference records for static data
                  6. Temporary records for processing
COMMON VARS         CASE     (I,1)          /
```

SIR RECORD NAMES AND NUMBERS

1	RAW	15	FISHDIST	29	PROC3	45	CCSSAMP	62	FISHER
2	DETAIL	16	CCSRAW	31	PRO2YEAR	46	CCSFREQ	63	PROCOR
3	OPERATE	17	SAPORT	32	PRO2DAY	47	GEOCCS	64	MEASURER
4	CATCH	18	TEMDEPTH	33	REGSET	48	PORTCCS		
5	PROCLATE	19	DEPTH	35	DISTCORR	49	AGGRCCS		
6	SAABS	20	PRO1YEAR	36	REGEAR	50	SYSTEM		
7	GARFIS	21	PRO1DAY	37	GEOCATCH	51	MNREGSPC		
8	TASABS	22	VESSEL	38	GEOGEAR	52	LICENCE		
9	TASUNI	23	FISHERM	39	PORTCAT	54	TASAFZIS		
10	TASBOAT	24	VICBOAT	40	PORTGEAR	55	GARFIS87		
11	REGION	25	MENULINE	41	SEVENTY	56	NEWRAW87		
12	REGVERT	26	MENUOPT	42	SEVENTY2	57	BRR		
13	AREA	27	PORTDIR	43	SIXCATCH	60	BOAT		
14	TEMPNET	28	PROCESS	44	SIXGEAR	61	OWNER		

```
TASK NAME        RECORD 1 (RAW     )  SCHEMA DEFINITION
RECORD SCHEMA    1  RAW
DOCUMENT
   Record type: Raw CE
   Date Period: Jun 1978 to Dec 1987 (Vic)
                Jan 1973 to May 1978 (Vic, SA, Tas ABS Return Forms)
   Source:      ABS Return Forms,(Forms Nos 1.1.2,3,4,5,6,7) transcribed to this format
                Vic Shot Log Return Forms (Form No 1.1.8)
                Input files are SHYY.REF and GFYY.REF
   Description: One line of the Vic Sot Log Return Form.
   Use:         Input of SIR Procedure B68.DETAIL standardising raw CE details to create
                SIR Record Types DETAIL, OPERATE, CATCH
   Variables:   The meaning of some SIR Variables depends on the value of the SIR Variable KEY

                KEY is '01' for header record
                FISHERM  Standard, if date >= 0678
                         Standardised by prefixing with State No, if date < 0678
                DATE     Standard
                BOATREG  Standard Port Code, if date >= 0678 or if BOATREG < 1000 Vic,
                         standardise by prefixing with '2')
                         If date < 0678 standardise multiplying by *10)
                AREA     Number of crew
                SHOTSTRT First Purchaser No
                MINDEPTH Wt(kg) sold to first purchaser
                MAXDEPTH Second Purchaser No
                NETLEN   Wt(kg) sold to second purchaser

                KEY is '06' for gear record
                SHOTSTRT 'MS'
                MINDEPTH Mesh Size (cm) of gill net of first Mesh Size
                MAXDEPTH Mesh Length (m) of gill net of first Mesh Size
                NUMDEAD  Mesh Size (cm) of gill net of second Mesh Size(if used)
                WTDEAD   Net Length (m) of gill net of second Mesh Size(if used)

                KEY is 'SC' for species record
                CATCH9   Standard Species Code
                CATCH10  Standard Species Code
                CATCH11  Standard Species Code
                CATCH12  Standard Species Code
                CATCH13  Standard Species Code

                KEY is 'SH' for shot record
                DAY      Day of fishing operation
                AREA     If AREA <100 Standard,
                         If AREA > =100 ABS Area Block code
                         Converted to latitude and longitude using SIR Record Type AREA
                BOATREG  Standard Distinguishing Mark, if date >= 0678
                         ABS Boat Code to be standardised using SIR Record Types TASBOAT
                         or VICBOAT, if date < 0678
                         Validated against SIR Record Type DISTCORR
                SHOTSTRT Time of start of shot
                MINDEPTH Minimum depth (m) of fishing operation
                MAXDEPTH Maximum depth (m) of fishing operation
                NETLEN   Length of gill net(m)
                NUMHOOKS Number of hooks
                DOWNTIME Standard downtime (hours or HHMM)
                CATCH1   Wt(kg) of school shark catch for fishing operation
                CATCH2   Wt(kg) of gummy shark catch for fishing operation
                CATCH3   Wt(kg) of gummy and school shark catch for fishing operation
                CATCH4   Wt(kg) of saw shark catch for fishing operation
                CATCH5   Wt(kg) of elephant fish catch for fishing operation
                CATCH6   Wt(kg) of broadnosed shark catch for fishing operation
                CATCH7   Wt(kg) of bronze whaler catch for fishing operation
                CATCH8   Wt(kg) of blue whaler catch for fishing operation
                CATCH9   Wt(kg) of scalefish (spec code is CATCH9 when KEY is 'SC') catch
                CATCH10  Wt(kg) of scalefish (spec code is CATCH10 when KEY is 'SC') catch
                CATCH11  Wt(kg) of scalefish (spec code is CATCH11 when KEY is 'SC') catch
                CATCH12  Wt(kg) of scalefish (spec code is CATCH12 when KEY is 'SC') catch
                CATCH13  Wt(kg) of scalefish (spec code is CATCH13 when KEY is'SC') catch
                CATCH14  Wt(kg) of unknown scalefish for fishing operation
                SEQUENCE Unique operation number for this Fisher and date
   Notes:       All of these data were validated using the B68 data management system
SORT IDS        DATE (A)      FISHERM (A)   KEY (A)       SEQUENCE (A)
MAX REC COUNT   150000
```

```
DATA LIST       (1)       FISHERM         1 -    4    (I)
                /1        DATE            5 -    8    (A)
                /1        DAY             9 -   10    (I)
                /1        KEY            11 -   12    (A)
                /1        BOATREG        13 -   19    (A)
                /1        AREA           20 -   26    (A)
                /1        SHOTSTRT       27 -   31    (A)
                /1        MINDEPTH       32 -   36    (A)
                /1        MAXDEPTH       37 -   41    (A)
                /1        NETLEN         42 -   46    (A)
                /1        NUMHOOKS       47 -   51    (A)
                /1        DOWNTIME       52 -   56    (A)
                /1        NUMDEAD        57 -   61    (A)
                /1        WTDEAD         62 -   66    (A)
                /1        CATCH1         67 -   71    (A)
                /1        CATCH2         72 -   76    (A)
                /1        CATCH3         77 -   81    (A)
                /1        CATCH4         82 -   86    (A)
                /1        CATCH5         87 -   91    (A)
                /1        CATCH6         92 -   96    (A)
                /1        CATCH7         97 -  101    (A)
                /1        CATCH8        102 -  106    (A)
                /1        CATCH9        107 -  111    (A)
                /1        CATCH10       112 -  116    (A)
                /1        CATCH11       117 -  121    (A)
                /1        CATCH12       122 -  126    (A)
                /1        CATCH13       127 -  131    (A)
                /1        CATCH14       132 -  136    (A)
                /1        SEQUENCE      137 -  138    (A)
                /1        CASE          139           (I)
DATE VARS       DATE       ('MMYY')/
STRING LENGTH   7
 RECODE          AREA       =          AREA
                 '   9201' = '   3744'  '   9219' = '   3745'
                 '   9202' = '   3744'  '   9220' = '   3745'
                 '   9203' = '   3744'  '   9221' = '   3745'
                 '   9204' = '   3744'  '   9222' = '   3745'
                 '   9205' = '   3744'  '   9223' = '   3745'
                 '   9206' = '   3744'  '   9224' = '   3745'
                 '   9207' = '   3744'  '   9225' = '   3745'
                 '   9208' = '   3744'  '   9226' = '   3845'
                 '   9209' = '   3744'  '   9227' = '   3748'
                 '   9210' = '   3744'  '   9228' = '   3748'
                 '   9211' = '   3744'  '   9230' = '   3748'
                 '   9212' = '   3744'  '   9231' = '   3748'
                 '   9213' = '   3744'  '   9229' = '   3749'
                 '   9214' = '   3744'  '   9232' = '   3846'
                 '   9215' = '   3744'  '   9233' = '   3846'
                 '   9216' = '   3744'  '   9234' = '   3846'
                 '   9217' = '   3745'  '   9235' = '   3846'
                 '   9218' = '   3745'
 MISSING VALUES  BOATREG    ( '9999999'  )/
                 NETLEN     ( '99999'  )/
                 NUMHOOKS   ( '99999'  )/
                 DOWNTIME   ( '99999'  )/
 REJECT REC IF   (key eq'SC' and boatreg ne'SH      ' and boatreg ne 'GF      ')
 REJECT REC IF   (key eq'06' and boatreg ne'SH      ' and boatreg ne 'GF      ')
 END SCHEMA
```

```
TASK NAME       RECORD 2 (DETAIL  )  SCHEMA DEFINITION
RECORD SCHEMA   2  DETAIL
DOCUMENT
   Record type  Detail CE and Processor
   Date period  Complete time series
   Source:      All SIR Record Types for raw CE and Processor data
                SIR Records are created by SIR Procedures *.DETAIL
   Description: Each record is the standardised header for all Return Forms
                One record per month and year per Fisher
   Use:         For aggregation of CE data by SIR Procedures FISHERY.AGGR
                (by 6locality of fishing and locality of landing) and BOATMAN.CREATE (by vessel)
                For reports if required detail is not available in aggregated data
                SIR Record Types DETAIL.OPERATE & CATCH are only kept in SSFMDB on the removable disc
                Archived on tape as DETAIL.YY.BACKUP
   VARIABLES:   SEQUENCE Unique operation No for this Fisher and date
                FISHERM  Standard
                DATE     Standard
                PORT     Standard
                NL1      Net Length(m) of gill net of first Mesh Size
                NM1      Mesh Size(cm) of gill net of first Mesh Size
                NL2      Net Length(m) of gill net of second Mesh Size(if used)
                NM2      Mesh Size(cm) of gill net of second Mesh Size(if used)
                ORIGIN   Source of the data(see list below)
                TWOREP   Double reporting flag, is set by SIR procedure TWOREP.CREATE.
                         Only second reported Return Forms for a month are flagged
                         See list below
   Notes:       For each record there is a number of SIR Record Types OPERATE
SORT IDS        DATE (A)      FISHERM (A)
MAX REC COUNT   100000
DATA LIST       (1)
                /1        FISHERM        3 -   7   (A)
                /1        DATE           8 -  11   (A)
                /1        PORT          12 -  15   (I)
                /1        CASE          16         (I)
                /1        NL1           17 -  20   (I)
                /1        NM1           21 -  22   (I)
                /1        NL2           23 -  26   (I)
                /1        NM2           27 -  28   (I)
                /1        ORIGIN        29         (I)
                /1        TWOREP        30         (I)
DATE VARS       DATE      ('MMYY')/
MISSING VALUES  PORT      ( 0  )/
VALUE LABELS    ORIGIN    (0)'Processor'
                          (2)'Victoria'
                          (3)'South Australia ABS'
                          (4)'South Australia Garfis'
                          (5)'Tasmania ABS'
                          (6)'Tasmania Mappa'
                          (7)'Tas shot Return Forms' /
                TWOREP    (0)'Single reported'
                          (2)'Secondary report Victoria'
                          (3)'Secondary report South Aust ABS'
                          (4)'Secondary report SA Garfis'
                          (5)'Secondary report Tas ABS'
                          (6)'Secondary report Tas Mappa'
                          (7)'Secondary report Tas Shot' /
END SCHEMA
```

```
TASK NAME       RECORD 3 (OPERATE )  SCHEMA DEFINITION
RECORD SCHEMA   3  OPERATE
DOCUMENT
   Record type  Detail CE Processor
   Date period  Complete time series
   Source:      All SIR Record Types for raw CE and Processor data
                Records are created by SIR Procedures *.DETAIL
   Description: Each record is the standardised operation details for all Return Forms
                One record per operation per month and year per Fisher
   Use:         For aggregation of CE data by SIR Procedures FISHERY.AGGR
                (by locality of fishing and locality of landing) and BOATMAN.CREATE (by vessel)
                For reports if required detail is not available in aggregated data
                SIR Record Types DETAIL.OPERATE & CATCH are only kept in SSFMDB on the Removable disc
                Archived on tape as DETAIL.YY.BACKUP
   Variables:   DATE      Standard
                FISHERM   Standard
                DISTING   Standard
                GEAR      Standard
                HORMLIFT  Effort ((Net Length or Hooks Number) * shots)
                HORMHOUR  Effort ((Net Length or Hooks Number) * hours * shots)
                OPNO      Unique operation number to identify different operations by one
                          month for each Fisher No
                LATITUDE  Standardised latitude of mid point of Area Block Code for fishing operation
                LONGITUD  Standardised longitude of mid point of Area Block Code for fishing operation
                DEPTHMIN  Minimum depth (m) of fishing operation
                DEPTHMAX  Maximum depth (m) of fishing operation
                TIME      Time of start of shot
                SHOTS     Number of Shots (1 for Shot Return Form( Form No 1.1.8,9,10))
                          or Number of Shots for the day( if Daily Return Form(Form No 1.1.11))
                DAYS      Number of Days fishing during the month - from Month Return Forms
                DAY       Day of fishing operation -from Daily or Shot Return Forms(Forms No 1.1.8,9,10,11)
                          Undefined from Monthly Return Forms (Forms No 1.1.1,2,3,4,5,6,7)
                PROCESS   Source of catch data ( Fisher or Processor Return Forms )
SORT IDS        DATE (A)      FISHERM (A)   OPNO (A)
MAX REC COUNT   300000
DATA LIST       (1)
                /1        FISHERM       3 -   7   (A)
                /1        DATE          8 -  11   (A)
                /1        DISTING      12 -  18   (A)
                /1        GEAR         19         (I)
                /1        HORMLIFT     20 -  24   (I)
                /1        HORMHOUR     25 -  30   (I)
                /1        OPNO         31 -  32   (I)
                /1        LATITUDE     33 -  35   (I)
                /1        LONGITUD     36 -  39   (I)
                /1        DEPTHMIN     40 -  43   (I)
                /1        DEPTHMAX     44 -  47   (I)
                /1        TIME         48 -  51   (A)
                /1        SHOTS        52 -  53   (I)
                /1        DAYS         54 -  55   (I)
                /1        DAY          56 -  57   (I)
                /1        CASE         58         (I)
                /1        PROCESS      59         (I)
TIME VARS       TIME      ('HHMM')/
DATE VARS       DATE      ('MMYY')/
SCALED VARS     LATITUDE  (-1)/
                LONGITUD  (-1)/
MISSING VALUES  DAYS      ( 0  )/
                PROCESS   (0)'Fisherm sourced'
                          (1)'Processor sourced' /
```

```
TASK NAME       RECORD 4 (CATCH    )  SCHEMA DEFINITION
RECORD SCHEMA   4  CATCH
DOCUMENT
   Record type  Detail CE and Processor
   Date period  Complete time series
   Source:      All SIR Record Types of raw CE and Processor data
                Records are created by SIR Procedures *.DETAIL
   Description: Each record is the CE details for all Return Forms
                One record per species per fishing operation per month per Fisher
                Details of catch for each species caught for each operation
   Use:         For aggregation of CE data by SIR Procedures FISHERY.AGGR
                (by locality of fishing and locality of landing) and BOATMAN.CREATE (by vessel)
                For reports if required detail is not available in aggregated data
                SIR Record Types DETAIL.OPERATE & CATCH are only kept in SSFMDB on the Removable disc
                Archived on tape as DETAIL.YY.BACKUP
   VARIABLES:   DATE     Standard
                FISHERM  Standard
                DATE     Standard
                OPNO     See SIR Record Schema OPERATE (No 3)
                SPEC     Standard Species Code of catch
                KILO     Weight of catch (kg)
                         Shark weights are standardised to untrimmed carcass wt for all Return Form types
SORT IDS        DATE (A)      FISHERM (A)   OPNO (A)      SPEC (A)
MAX REC COUNT   900000
DATA LIST       (1)
                /1        FISHERM        3 -    7   (A)
                /1        DATE           8 -   11   (A)
                /1        OPNO          12 -   13   (I)
                /1        SPEC          14 -   16   (I)
                /1        KILO          17 -   21   (I)
                /1        CASE          22         (I)
DATE VARS       DATE      ('MMYY')/
```

```
TASK NAME       RECORD 5 (PROCLATE)  SCHEMA DEFINITION
RECORD SCHEMA   5  PROCLATE
DOCUMENT
   Record type: Raw Processor
   Date Period: 1980 - present
   Source:      Current Processor Return Forms (Form No 1.2.3)
                Input file is StatePROCYY.REF
   Description: Each record is one line of the Processor Return Form.
    Use:            Input of SIR Procedure PROCESS.LACREATE to aggregate processing details by date anc
        Processor.
                Also Processor data are linked with fishing operation details from Fisher Return Forms.
                  SIR Record types DETAIL OPERATE CATCH are searched for the selected no of days prior tc
        date of
                SIR Variable DATE for details of fishing operation for the catch processed.
                If found, SIR Record Type OPERATE is created and the locality of fishing and depth details
        are
                added. SIR Record Type CATCH is created with any extra weight(kg) not in CE catch.
                    Otherwise SIR Record Types DETAIL and OPERATE are created without fishing operatior
        details.
   Variables:   SEQUENCE Unique No for each entry for this Processor and date
                PROCESS  Standard Processor No
                DATE     Standard
                PORT     Standard
                FISHERM  Standard Fisher No of the Fisher supplying the shark processed
                COMBINED Total carcass wt(kg) of gummy and school shark processed
                SAW      Total carcass wt(kg) of saw shark processed
                ELEPHANT Total carcass wt(kg) of elephant fish processed
                SHARK    Total carcass wt(kg) of other shark processed
                DISTING  Standard Distinguishing Mark of the vessel supplying the shark processed
                SOURCE   Standard Processor No if shark is supplied by another Processor
SORT IDS        DATE (A)      PROCESS (A)   SEQUENCE (A)
MAX REC COUNT   500000
DATA LIST       (1)
                /1        SEQUENCE       3 -    5   (I)
                /1        PROCESS        6 -    9   (I)
                /1        DATE          10 -   15   (A)
                /1        PORT          16 -   19   (I)
                /1        FISHERM       20 -   23   (A)
                /1        COMBINED      24 -   28   (I)
                /1        SAW           29 -   33   (I)
                /1        ELEPHANT      34 -   38   (I)
                /1        SHARK         39 -   43   (I)
                /1        DISTING       44 -   50   (A)
                /1        SOURCE        51 -   54   (I)
                /1        CASE          57         (I)
DATE VARS       DATE      ('MMYYDD')/
MISSING VALUES  PORT      ( 0  )/
                FISHERM   ( '    '
                            '   0'  )/
                DISTING   ( '       '  )/
                SOURCE    ( 0  )/
```

```
TASK NAME       RECORD 6 (SAABS    )  SCHEMA DEFINITION
RECORD SCHEMA   6  SAABS
DOCUMENT
   Record type: Raw CE
   Date Period: 1978 to Jun 1983
   Source:      SA ABS Return Forms (Form No 1.1.4)
                Input files is MSYY.IBM
   Description: One line of the SA CE Fisher Return Form.
   Use:          Input of SIR procedure SAABS.DETAIL to create standard SIR Record Types DETAIL, OPERATE,
        CATCH
   Variables:   LICENCE  Licensee No. Standard Fisher No is created by prefixing with '4'
                DATE     Date format YYMM
                BOATREG  Standard Distinguishing Mark
                CREW     Number of crew
                PORT     Standard Port Code or
                         Standardised by multiplying by 10 and prefix with '4'
                BLOCK    ABS Block Code
                DAYS     Total days fishing for month
                EFFORT   Net Length or Hook Number
                HOURS    Hours fishing each day
                METHOD   Fishing gear (4 is long line, 2 is gill nets, Otherwise unknown)
                SPECIES  Standard
                LIVE     Wt(kg) of species caught
                         Shark are standardised to untrimmed carcass wt)
SORT IDS        DATE (A)      LICENCE (A)   SPECIES (A)   BLOCK (A)
MAX REC COUNT   20000
DATA LIST       (1)
                /1        LICENCE       13 -   17   (I)
                /1        DATE          20 -   23   (A)
                /1        BOATREG       24 -   29   (A)
                /1        CREW          30 -   31   (I)
                /1        PORT          33 -   34   (I)
                /1        GEAR          47 -   50   (I)
                /1        BLOCK         65 -   69   (I)
                /1        DAYS          73 -   76   (I)
                /1        EFFORT        77 -   80   (I)
                /1        HOURS         83 -   84   (I)
                /1        METHOD        85         (I)
                /1        SPECIES       86 -   88   (I)
                /1        CATCH         89 -   96   (I)
                /1        LIVE          97 -  104   (I)
                /1        CASE         105         (I)
DATE VARS       DATE      ('YYMM')/
```

```
TASK NAME       RECORD 7 (GARFIS  )  SCHEMA DEFINITION
RECORD SCHEMA   7  GARFIS
DOCUMENT
   Record type: Raw CE
   Date Period: 1983 to Jun 1987
   Source:      Raw GARFIS daily or monthly CE Return Forms (Form No 1.1.11)
                Input file is MSYY.IBM
   Description: One line of the SA CE Fisher Return Form.
                A new Return Form is denoted by TARGET = '0'
   Use:         Input of SIR Procedure GARFIS.DETAIL to create standard SIR Record Types DETAIL,
                 OPERATE, CATCH
   Variables:   The meaning of some of the SIR Variables depend on the value of the SIR Variable SPECIES

                SPECIES is '000' for effort record
                LICENCE  Standard Fisher No
                DATE     Date format YYMM
                AREA     Standard SA Area Block Code
                DAYS     Total days fishing for month
                MANDAYS  Total days * Number of crew for month

                SPECIES is not '000' for catch record
                LICENCE  Standard Fisher No
                DATE     Date format YYMM
                AREA     Standard SA Area Block Code
                GEAR     Fishing gear (SH is gill net, LL is Long line)
                TARGET   '001'
                SPECIES  Standard Species Code
                COND     Condition of catch, W is whole or H is headed
                CARCASE. Carcass wt(kg) of catch
                LIVE     Live wt(kg) of catch. Shark wt is standardised to untrimmed carcass wt,
                         all other species are live weight
                VALUE    Value of catch
                GEAR1    Shots per day
                GEAR2    Hook Number or Net Length (m)
                GEAR3    Mesh Size (ins)
                PORT     SA Port Code converted to standard Port Code using SIR Record Type SAPORT
SORT IDS        DATE (A)      LICENCE (A)   AREA (A)      GEAR (A)
                TARGET (A)    SPECIES (A)
MAX REC COUNT   60000
DATA LIST       (1)
                /1        LICENCE        1 -   4   (A)
                /1        DATE           5 -   8   (A)
                /1        AREA           9 -  10   (I)
                /1        GEAR          11 -  12   (A)
                /1        TARGET        13 -  15   (I)
                /1        SPECIES       16 -  18   (I)
                /1        COND          19 -  20   (A)
                /1        CARCASE       21 -  27   (I)
                /1        LIVE          28 -  34   (I)
                /1        VALUE         35 -  41   (I)
                /1        DAYS          42 -  47   (I)
                /1        MANDAYS       48 -  53   (I)
                /1        GEAR1         54 -  58   (I)
                /1        GEAR2         59 -  63   (I)
                /1        GEAR3         64 -  68   (I)
                /1        PORT          69 -  71   (A)
                /1        DEALER        72         (I)
                /1        CASE          74         (I)
                /1        TOTDAYS       77 -  78   (I)
DATE VARS       DATE      ('YYMM')/
```

```
TASK NAME       RECORD 8 (TASABS  )  SCHEMA DEFINITION
RECORD SCHEMA   8  TASABS
DOCUMENT
   Record type: Raw CE
   Date Period: July 1978 to Jun 1981
   Source:      ABS Return Forms (Tas) (Form No 1.1.3)
                Input file is TASYY.ABS
   Description: Each record is one line of the Tas CE Fisher Return Form.
   Use:         Input of SIR Procedure TASABS.DETAIL to create SIR Record Types DETAIL, OPERATE, CATCH
   Variables:   MONTH    Month of Return Form
                YEAR     Year of Return Form
                PORT     Port Code converted to standard Port Code by prefixing with '6'
                BOAT     Boat No converted to standard Distinguishing Mark using SIR record type TASBOAT
               CREW     Number of crew
                METHOD   Gear (6 is long line, 97 is gill net)
                BLOCK    ABS fishing block -Latitude and longitude of fishing location
                HOOKS    Number of hooks
                TIME     Hours of fishing
                SPECIES  Standard Species Code
                WEIGHT   Wt(kg) of catch. Shark is trimmed carcass wt so is standardised to
                         untrimmed carcass wt
SORT IDS        YEAR (A)      MONTH (A)      BOAT (A)      SPECIES (A)      METHOD (A)     WEIGHT (A)
MAX REC COUNT   50000
DATA LIST       (1)
                /1        MONTH          3 -    4   (I)
                /1        YEAR           6          (I)
                /1        PORT           7 -   10   (I)
                /1        BOAT          11 -   14   (I)
                /1        CREW          15 -   18   (I)
                /1        TYPE          21 -   22   (I)
                /1        METHOD        25 -   28   (I)
                /1        BLOCK         29 -   32   (I)
                /1        HOOKS         50 -   54   (I)
                /1        TIME          55 -   60   (I)
                /1        SPECIES       68 -   70   (I)
                /1        WEIGHT        76 -   80   (I)
                /1        CASE         101          (I)
COMPUTE         port=port+6000
```

```
TASK NAME       RECORD 9 (TASUNI  )  SCHEMA DEFINITION
RECORD SCHEMA   9  TASUNI
DOCUMENT
   Record type: Raw CE
   Date Period: Jun 1981 to Dec 1988
   Source:      Tas MAPPER Return Forms ( Form No 1.1.3)
                Input file is TASUNIYY.REF
   Description: One line of the Tas CE Fisher Return Form.
   Use:         Input of SIR Procedure TASUNI.DETAIL to create standard SIR Record Types DETAIL,OPERATE,
                CATCH
   Variables:   DATE     Standard format MMYY
                BOAT     Standard Distinguishing Mark. also be used as Fisher No
                PORT     Standard Port Code
                CREW     Number of crew
                BLOCK    ABS Block Code
                METHOD   Gear (6 is long line, 97 is gill net)
                TIME     Hours of fishing using hooks
                HOOKS    Hook number
                SPECIES  Standard Species Code
                WEIGHT   Trimmed carcass Wt(kg) of shark. standardised to untrimmed carcass wt.
SORT IDS        DATE (A)      BOAT (A)      METHOD (A)    BLOCK (A)     SPECIES (A)
MAX REC COUNT   50000
DATA LIST       (1)
                /1        DATE           3 -    6   (A)
                /1        BOAT          11 -   18   (A)
                /1        PORT          19 -   22   (I)
                /1        CREW          26 -   27   (I)
                /1        BLOCK         30 -   33   (I)
                /1        METHOD        38 -   39   (I)
                /1        TIME          40 -   42   (I)
                /1        HOOKS         44 -   47   (I)
                /1        SPECIES       48 -   50   (I)
                /1        WEIGHT        51 -   56   (I)
                /1        CASE          67          (I)
DATE VARS       DATE      ('MMYY')/
```

```
TASK NAME       RECORD 10 (TASBOAT )  SCHEMA DEFINITION
RECORD SCHEMA   10  TASBOAT
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: Conversion of Tas ABS Boat Codes to standard Distinguishing Marks
   Use:         Referenced in SIR Procedure TASABS.DETAIL  (6/78 to 6/81)
   Variables:   ABSCODE  ABS Boat Code
                DISTING  Corresponding Standard Tas Boat Distinguishing Mark
SORT IDS        ABSCODE (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   3000
DATA LIST       (1)
                /1        ABSCODE        1 -    4   (I)
                /1        DISTING        6 -   12   (A)
                /1        CASE          23          (I)
END SCHEMA
```

```
TASK NAME       RECORD 11 (REGION  )  SCHEMA DEFINITION
RECORD SCHEMA   11  REGION
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: Region names and latitude and longitude of the mid-point
   Use:         For reports when name of region is necessary
                Used with SIR Record Types REGSET and REGVERT for aggregation by locality of fishing
   Variables:   SET       Set No (1 is shark fishery region, 2 is management zone and
                          3 is division inside/outside inlet)
                REGION    Standard No of region, zone or division (as specified by SIR Variable SET)
                LATITUDE  Latitude of mid-point of region zone or division
                LONGITUD  Longitude of mid-point of region zone or division
                NAME      Name of zone region or division
SORT IDS        SET (A)        REGION (A)
MAX REC COUNT   1000
DATA LIST       (1)
                /1        SET            3 -    4   (I)
                /1        CASE           5          (I)
                /1        REGION         6 -    7   (I)
                /1        LATITUDE       8 -   10   (I)
                /1        LONGITUD      11 -   14   (I)
                /1        NAME          15 -   54   (A)
SCALED VARS     LATITUDE  (-1)/
                LONGITUD  (-1)/
```

```
TASK NAME       RECORD 12 (REGVERT )  SCHEMA DEFINITION
RECORD SCHEMA   12  REGVERT
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: Each record is a vertex of a polygon of the region of a set( 1= shark fishery, 2=State,
                3= Division inside/outside inlets)
                Referenced in SIR procedure UTIL.GETREG to locate the region, zone or division
                given any latitude and longitude.
   Use:         To convert a latitude and longitude to region, management zone or division for reports
   Variables:   SET       Standard Set No, See SIR Record Schema REGION (No 11)
                REGION    Standard No of region,zone or division, See SIR Record Schema REGION (No 11)
                VERTEX    Counter for each vertex of a region, zone or division
                LATITUDE  Latitude of the vertex
                LONGITUD  Longitude of the vertex
SORT IDS        SET (A)        REGION (A)     VERTEX (A)
MAX REC COUNT   1000
DATA LIST       (1)
                /1        SET            3 -    4   (I)
                /1        CASE           5          (I)
                /1        REGION         6 -    7   (I)
                /1        VERTEX         8 -    9   (I)
                /1        LATITUDE      10 -   12   (I)
                /1        LONGITUD      13 -   16   (I)
SCALED VARS     LATITUDE  (-1)/
                LONGITUD  (-1)/
```

```
TASK NAME       RECORD 13 (AREA    )  SCHEMA DEFINITION
RECORD SCHEMA   13  AREA
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: Conversion of Area Block Code to the latitude and longitude of the mid-point
   Use:         Used is SIR Procedures B68.DETAIL, NEWRAW87.DETAIL and GARFIS.DETAIL
   Variables:   STATE    State is 'Vic' or 'SA'
                AREA     Standard Area Block Code
                LATITUDE Latitude of mid-point of Area Block
                LONGITUD Longitude of mid-point of Area Block
SORT IDS        STATE (A)     AREA (A)
MAX REC COUNT   500
DATA LIST       (1)
                /1        STATE          1 -    3   (A)
                /1        CASE           4          (I)
                /1        AREA          11 -   12   (I)
                /1        LATITUDE      31 -   34   (I)
                /1        LONGITUD      41 -   45   (I)
CAT VARS        STATE     ( 'NSW' 'VIC' 'SAB' 'SA ' 'TAB' 'TAS'  )/
COMPUTE         latitude=(latitude-0.4*trunc(latitude))/0.6;
COMPUTE         longitud=(longitud-0.4*trunc(longitud))/0.6
SCALED VARS     LATITUDE  (-2)/ LONGITUD  (-2)/
VALUE LABELS    STATE     ('NSW')'NSW' ('VIC')'VIC' ('SAB')'SAB' ('SA ')'SA' ('TAB')'TAB' ('TAS')'TAS' /
```

```
TASK NAME       RECORD 14 (TEMPNET )  SCHEMA DEFINITION
RECORD SCHEMA   14  TEMPNET
DOCUMENT
   Record type: Temporary
   Date Period: Complete time series
   Source:      Not applicable
   Description: A temporary record to store boat/ Fisher details for searching
   Use:         SIR Procedures using this temporary record include TWOREP.CREATE
   Variables:   ORIGIN   Origin of Return Form (see SIR Record Schema DETAIL (No 2))
                DISTING  Standard
                FISHERM  Standard
   Notes:       This is always cleared at the end of the SIR Procedure
SORT IDS        ORIGIN (A)    DISTING (A)
MAX REC COUNT   500000
DATA LIST       (1)
                /1        ORIGIN         1          (I)
                /1        DISTING        2 -    8   (A)
                /1        FISHERM        9 -   13   (A)
                /1        CASE          14          (I)
```

```
TASK NAME       RECORD 15 (FISHDIST)  SCHEMA DEFINITION
RECORD SCHEMA   15  FISHDIST
DOCUMENT
   Record type: Temporary
   Date Period: Complete time series
   Source:      Not applicable
   Description: A temporary record to store DISTING/ Fisher details for searching
   Use:         SIR Procedures using this temporary record include BOATMAN.TWOREP
   Variables:   FISHERM  Standard
                DISTING  Standard
   Notes:       This is always cleared at the end of the SIR Procedure
SORT IDS        FISHERM (A)   DISTING (A)
MAX REC COUNT   500000
DATA LIST       (1)
                /1        CASE           1          (I)
                /1        FISHERM        2 -    6   (A)
                /1        DISTING        7 -   13   (A)
```

```
TASK NAME        RECORD 16 (CCSRAW  )  SCHEMA DEFINITION
RECORD SCHEMA    16  CCSRAW
DOCUMNENT
   Record type: Raw CCS
   Date Period: 1978 to 1988
   Source:      CCS forms (Form Nos 1.3)
                All earlier forms are reformatted to this format
                Input file is CCSYY.DAT
   Description: Each record is one line of the CCS Return Form.
   Use:         Input of SIR Procedure CCS.DETAIL to create standardised CCS detail data SIR Record
                Types CCSSAMP CCCSFREQ
   Variables:   The meaning of the SIR Variables depend on SIR Variable SEX

                SEX is  '1' for  a header record
                YEAR     Date format YY
                MONTH    Month (see below)
                PCODE    Standard Port Code
                SAMPLE   Unique No to identify samples at same port and date
                SEX      1 (header record)
                STRING   FISHERM  Standard Fisher No supplying batch
                         BATCHWT, Total wt(kg) of Batch processed
                         SAMPLEWT Total wt(kg) of Sample measured

                SEX <> 1  for a data record
                SPECIES  Species Code (0 is 699, 1 is 675, 2 is 676, 3 is 665, 4 is 654,5 is 660
                         If SPECIES is 699 ,SIR Variable SEX identifies school or gummy shark
                PCODE    Standardised to standard Port Code by multiplying by 10
                DAY      Day of sampling
                SAMPLE   Unique No to identify samples at same port and date
                SEX      Sex of sampled species
                         If species is 699
                            SEX: .3 is 651 female,4 is 651 male, 5 is 655 female, 6 is 655 male
                         Otherwise SEX:  5 is female, 6 is male
                SEQUENCE Unique No for each line of form
                STRING   Length(3 characters),freq(2 characters) repeated every 5 characters
SORT IDS         SORTID (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    100000
DATA LIST        (1)
                 /1        SPECIES        1          (I)
                 /1        STATE          2          (I)
                 /1        YEAR           3          (I)
                 /1        MONTH          4          (A)
                 /1        PCODE          5          (I)
                 /1        DAY            6 -    7   (I)
                 /1        SAMPLE         8          (I)
                 /1        SEX            9          (I)
                 /1        SEQUENCE      10          (I)
                 /1        SORTID         1 -   10   (A)
                 /1        STRING        11 -   80   (A)
                 /1        CASE         100          (I)
CAT VARS         MONTH     ( '1'
                             '2'
                             '3'
                             '4'
                             '5'
                             '6'
                             '7'
                             '8'
                             '9'
                             'X'
                             'Y'
                             'Z'  )/
END SCHEMA
```

```
TASK NAME       RECORD 17 (SAPORT  )  SCHEMA DEFINITION
RECORD SCHEMA   17  SAPORT
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: For conversion of SA Port Code to standard Port Code
   Use:         Referenced in SIR Procedure GARFIS.DETAIL
   Variables:   SAPORT   SA Port Code used on SA CE Return Forms(Form No 1.1.11)
                ABSCODE  Standard Port Code
SORT IDS        SAPORT (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   500
DATA LIST       (1)
                /1        SAPORT         1 -    3   (A)
                /1        ABSCODE        4 -    7   (I)
                /1        CASE           8          (I)
END SCHEMA
```

```
TASK NAME       RECORD 18 (TEMDEPTH)  SCHEMA DEFINITION
RECORD SCHEMA   18  TEMDEPTH
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: Each record represents the Depth Intervals and their areas(sq m) within each Area Block
   Use:         For dividing CE and CCS data into relative areas of Depth Intervals within Area Block
                For reports or downloading
   Variables:   AREA     Standard Area Block Code
                ZONE     Standard Depth Interval
                SQUARE   Area of the Depth Interval within the area
   Notes:       One record per depth zone per area
SORT IDS        AREA (A)      ZONE (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   1000
DATA LIST       (1)
                /1        CASE           2          (I)
                /1        AREA           3 -    4   (I)
                /1        ZONE           5 -    7   (I)
                /1        SQUARE         8 -   17   (F4)
END SCHEMA
```

```
TASK NAME       RECORD 19 (DEPTH   )  SCHEMA DEFINITION
RECORD SCHEMA   19  DEPTH
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: One record per depth zone per latitude and longitude
                Each record represents the Depth Intervals and their areas(sq m) within one degree by one
                degree
                Area Block
   Use:         For dividing CE and CCS data into relative areas of Depth Intervals within area block one
                degree by one degree Area Block
                For reports or downloading
   Variables:   LATITUDE Standard latitude of mid-point of one degree by one degree Area Block
                LONGITUD Standard longitude of mid-point of one degree by one degree Area Block
                ZONE     Standard Depth Interval
                SQUARE   Area of the Depth Interval within the area
SORT IDS        LATITUDE (A)  LONGITUD (A)  ZONE (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   1000
DATA LIST       (1)
                /1        CASE           3          (I)
                /1        LATITUDE       4 -    6   (I)
                /1        LONGITUD       7 -   10   (I)
                /1        ZONE          11 -   12   (I)
                /1        SQUARE        13 -   22   (F4)
SCALED VARS     LATITUDE  (-1)/
                LONGITUD  (-1)/
END SCHEMA
```

```
TASK NAME        RECORD 20 (PRO1YEAR)  SCHEMA DEFINITION
RECORD SCHEMA    20  PRO1YEAR
DOCUMENT
   Record type: Raw Processor
   Date Period: Jan 1970 to Jun 1978
   Source:      Early Processor Return Forms with Fisher No (Form No 1.2.1)
                Input file is StatePROCYY.CLEAN
   Description: Header the Processor Return Form.
                Used with SIR Record Type PRO1DAY
   Use:         Input of SIR Procedure PROCESS.EACREATE to link with detail
                CE records with SIR Record Type PRO1YEAR See SIR Record Schema PRO1YEAR(No 20)
                Input of SIR Procedure PROCESS.EAHIST for aggregating processing details by date ,
                port and Processor
   Variables:   SPECCODE Species Code (see below for codes)
                STATE    Standard State code
                YEAR     Date YY ( < = 78)
                UNIT     K is kg, P is lb, M is mixed indicates pounds Jan to Sep; kg Oct to Dec
                BOAT     Boat Registration No
                NAME     Fisher name
                FISHERM  Standard Fisher No
                DISTING  Standard Distinguishing Mark
                PORT     Standardised to Port Code by multiplying by 10
SORT IDS         BOAT (A)      YEAR (A)      SPECCODE (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    20000
DATA LIST        (1)
                 /1        SPECCODE       3          (I)
                 /1        STATE          4          (I)
                 /1        YEAR           5 -    6   (I)
                 /1        UNIT           7          (A)
                 /1        BOAT           8 -   12   (I)
                 /1        NAME          13 -   42   (A)
                 /1        FISHERM       43 -   46   (I)
                 /1        DISTING       47 -   53   (A)
                 /1        PORT          54 -   56   (I)
                 /1        CASE          77         (I)
CAT VARS         UNIT      ( 'P'
                             'K'
                             'M'  )/
VAR RANGES       SPECCODE  (0 3)/
                 STATE     (1 6)/
MISSING VALUES   UNIT      ( ' '  )/
                 FISHERM   ( 9999  )/
VALUE LABELS     SPECCODE  (0)'School and Gummy combined'
                           (1)'Saw and Elephant separate'
                           (2)'School and Gummy separate'
                           (3)'Saw and Elephant combined' /
                 STATE     (1)'New South Wales'
                           (2)'Victoria'
                           (4)'South Australia'
                           (5)'Western Australia'
                           (6)'Tasmania' /
                 UNIT      ('P')'Pound'
                           ('K')'Kg'
                           ('M')'Mixed' /
ACCEPT REC IF    (year le 78)
END SCHEMA
```

```
TASK NAME        RECORD 21 (PRO1DAY )  SCHEMA DEFINITION
RECORD SCHEMA    21  PRO1DAY
DOCUMENT
   Record type:  Raw Processor
   Date Period:  Jan 1970 to Jun 1978
   Source:       Early Processor Return Forms with Fisher No( Form No 1.2.1)
                 Input file is StatePROCYY.CLEAN
   Description:  One line of the Processor Return Form.
   Use:          Input of SIR Procedure PROCESS.EACREATE to link Processor data with fishing operation
                 details from Fisher Return Forms.
                 Processed with SIR Record Type PRO1YEAR See SIR Record Schema PRO1YEAR(No 20)
                 SIR Record types DETAIL OPERATE CATCH are searched for the selected number of days prior
                 to date of SIR Variable MONTH for details of fishing operation for the catch processed.
                 If found, SIR Record Type OPERATE is created and the locality of fishing and depth details
                 are added. SIR Record Type CATCH is created with any extra weight(kg) not in CE catch
                 Otherwise SIR Record Types DETAIL OPERATE CATCH is created without fishing operation
                 details.
                 Input of SIR Procedure PROCESS.EAHIST to aggregate by date and Processor.
    Variables:   SPECCODE as SIR Record Schema PRO1YEAR(No 20)
                 YEAR     as SIR Record Schema PRO1YEAR(No 20)
                 UNIT     as SIR Record Schema PRO1YEAR(No 20)
                 BOAT     as SIR Record Schema PRO1YEAR(No 20)
                 PROCESS  Standard Processor code
                 MONTH    Month of processing
                 DAY      Day of processing
                 WEIGHT1  Standardised to wt(kg) of school shark if SPECCODE is combined
                          or standardised to wt(kg) of saw shark if SPECCODE is saw shark
                 WEIGHT2  Standardised to wt(kg) of elephant fish if SPECCODE is elephant fish
SORT IDS         BOAT (A)      YEAR (A)      MONTH (A)     DAY (A)
                 PROCESS (A)   SPECCODE (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    50000
DATA LIST        (1)
                 /1        SPECCODE       3          (I)
                 /1        YEAR           5 -    6   (I)
                 /1        UNIT           7          (A)
                 /1        BOAT           8 -   12   (I)
                 /1        PROCESS       13 -   15   (I)
                 /1        MONTH         16 -   17   (I)
                 /1        DAY           18 -   19   (I)
                 /1        WEIGHT1       20 -   24   (I)
                 /1        WEIGHT2       25 -   29   (I)
                 /1        CASE          40          (I)
CAT VARS         UNIT      ( 'P'
                             'K'
                             'M'  )/
VALUE LABELS     UNIT      ('P')'P'
                           ('K')'K'
                           ('M')'M' /
ACCEPT REC IF    (year lt 78 or (year eq 78 and month lt 6))
END SCHEMA
```

```
TASK NAME        RECORD 22 (VESSEL  )  SCHEMA DEFINITION
RECORD SCHEMA    22  VESSEL
DOCUMENT
   Record type:  Summary CE and  Processor
   Date Period:  Complete time series
   Source:       SIR Record Types DETAIL , OPERATE, CATCH
                 Created by SIR Procedure BOATMAN.CREATE
   Description:  CE aggregated by vessel
   Use:          For reports of CE by vessel
                 This Sir Record Type can be accessed at anytime via user access BOATMAN.BROWSE
   Variables:    DISTING  Standard
                 DATE     Standard
                 FISHERM  Standard
                 TWOREP   Flag for Fisher when these CE details have been double reported, if flagged
                          this SIR Record is excluded in Aggregation reports.
                 PORT     Standard
                 GEAR     Standard code of the primary gear used this month
                 SCHOOL   Wt(kg) of total school shark catch
                 GUMMY    Wt(kg) of total gummy shark catch
                 COMBINED Wt(kg) of total gummy and school shark catch
                 SAW      Wt(kg) of total saw shark catch
                 ELEPHANT Wt(kg) of total elephant fish catch
                 SHARK    Wt(kg) of total other shark catch
                 SCALE    Wt(kg) of total scalefish catch
                 SHOTS    Total effort for month in Shots
                 HORMLIFT Total effort for month ((Net Length or Hook Number) * total shots)
                 DAYS     Total effort for month in Days
                          Number of Days fishing for the month
   Notes         If details are required by Fisher, instead of boat, the inverted list FISHERM
                 is available.
SORT IDS         DISTING (A)   DATE (A)      FISHERM (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    100000
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        DISTING       4 -   10   (A)
                 /1        DATE         11 -   14   (A)
                 /1        FISHERM      15 -   19   (A)
                 /1        TWOREP       20         (I)
                 /1        PORT         21 -   24   (I)
                 /1        GEAR         25         (I)
                 /1        SCHOOL       26 -   30   (I)
                 /1        GUMMY        31 -   35   (I)
                 /1        COMBINED     36 -   40   (I)
                 /1        SAW          41 -   45   (I)
                 /1        ELEPHANT     46 -   50   (I)
                 /1        SHARK        51 -   55   (I)
                 /1        SCALE        56 -   60   (I)
                 /1        SHOTS        61 -   62   (I)
                 /1        HORMLIFT     63 -   68   (I)
                 /1        DAYS         69 -   70   (I)
DATE VARS        DATE      ('MMYY')/
MISSING VALUES   SHOTS     ( -1  )/
                 HORMLIFT  ( -1  )/
                 DAYS      ( -1  )/
END SCHEMA
```

```
TASK NAME        RECORD 23 (FISHERM )  SCHEMA DEFINITION
RECORD SCHEMA    23  FISHERM
DOCUMENT
   Record type:  Summary CE and Processor
   Date Period:  Complete time series
   Source:       SIR Record Types DETAIL , OPERATE, CATCH
                 Created by SIR Procedure BOATMAN.CREATE
   Description:  Inverted list for SIR Record Type VESSEL, when CE details are required by master Fisher
   Use:          For reports of CE Fisher, used with SIR Record Type VESSEL
   Variables:    FISHERM  Standard
                 DATE     Standard
                 DISTING  Standard
   Notes:        These records are on the summary database on MSL1A and can be accessed at anytime
SORT IDS         FISHERM (A)   DATE (A)      DISTING (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    100000
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        FISHERM       4 -    8   (A)
                 /1        DATE          9 -   12   (A)
                 /1        DISTING      13 -   19   (A)
DATE VARS        DATE      ('MMYY')/
END SCHEMA
```

```
TASK NAME        RECORD 24 (VICBOAT )  SCHEMA DEFINITION
RECORD SCHEMA    24  VICBOAT
DOCUMENT
   Record type:  Reference
   Date Period:  Complete time series
   Source:       Entered via user access FORMS
   Description:  Conversion of Vic ABS Boat Codes to present boat Distinguishing Marks.
   Use:          Referenced in SIR Procedure B68.DETAIL (6/78 to 6/81)
   Variables:    ABSCODE  ABS Boat Code
                 DISTING  Standard Distinguishing Mark
SORT IDS         ABSCODE (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    3000
DATA LIST        (1)
                 /1        DISTING       1 -    7   (A)
                 /1        ABSCODE       8 -   12   (I)
                 /1        CASE         18          (I)
MISSING VALUES   DISTING   ( '       ' )/
                 ABSCODE   ( 0  )/
VAR LABELS       DISTING     '''Boat registration'''/
REJECT REC IF    (disting eq'       ')
END SCHEMA
```

```
TASK NAME        RECORD 25 (MENULINE)  SCHEMA DEFINITION
RECORD SCHEMA    25  MENULINE
DOCUMENT
   Record type:  Utility
   Date Period:  Complete time series
   Source:       Input file, MENU.DAT, is read in using SIR Procedure MENU.INPUT
   Description:  Lines displayed for a menu specified by MENUNO
   Use:          Used to display Menus using SIR procedure MENU.DISPLAY
                 User access BOATMAN.BROWSE uses this SIR procedure to display its menu
   Variables:    MENUNO   Number to identify the menu
                 LINENO   Line number of choices of the menu
                 LINE     Message displayed
SORT IDS         MENUNO (A)    LINENO (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    500
DATA LIST        (1)
                 /1        MENUNO        3 -    4   (I)
                 /1        LINENO        5 -    6   (I)
                 /1        LINE          7 -   86   (A)
                 /1        CASE         87          (I)
END SCHEMA       *
```

```
TASK NAME       RECORD 26 (MENUOPT )  SCHEMA DEFINITION
RECORD SCHEMA   26  MENUOPT
DOCUMENT
   Record type: Utility
   Date Perion: Complete time series
   Source:      Input file, MENU.DAT, is read in using SIR Procedure menu.input
   Description: Valid menu options for menu specified by MENUNO
   Variables:   MENUNO   Number to identify the menu
                VALID    Options available for each menu
SORT IDS        MENUNO (A)
MAX REC COUNT   100
DATA LIST       (1)
                /1        MENUNO        3 -   4   (I)
                /1        VALID         5 -  24   (A)
                /1        CASE         25         (I)
```

```
TASK NAME       RECORD 27 (PORTDIR )  SCHEMA DEFINITION
RECORD SCHEMA   27  PORTDIR
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: Details of each port by Port Code (SIR Variable PORT)
   Use:         Reports requiring name of port and/or latitude and longitude
   Variables:   PORT      Standard
                NAME      Name of port
                LATITUDE  Latitude of port
                LONGITUD  Longitude of port
SORT IDS        PORT (A)
MAX REC COUNT   500
DATA LIST       (1)
                /1        CASE          3         (I)
                /1        PORT          4 -   7   (I)
                /1        NAME          8 -  27   (A)
                /1        LATITUDE     28 -  30   (I)
                /1        LONGITUD     31 -  34   (I)
SCALED VARS     LATITUDE  (-1)/
                LONGITUD  (-1)/
```

```
TASK NAME       RECORD 28 (PROCESS )  SCHEMA DEFINITION
RECORD SCHEMA   28  PROCESS
DOCUMENT
   Record type: Summary Processor
   Date Period: Complete time series
   Source:      Raw Processor SIR Record Types (PRO1YEAR PRO2YEAR PRO1DAY PRO2DAY)
                Created by SIR Procedures PROCESS.EAHISTORY, PROCESS.MDHISTORY,PROCESS.LACREATE
   Description: Aggregated Processor data by month/Processor/locality of landing
                Total monthly weights (kg) of combined (gummy & school) saw shark and elephant fish
                processed by each Processor for locality of landing
   Use:         For reports of Processor totals
   Variables:   PROCESS   Standard
                DATE      Standard
                COMBINED  Total wt(kg) of gummy and school shark processed
                SAW       Total wt(kg) of saw shark processed
                ELEPHANT  Total wt(kg) of elephant fish processed
                PORT      Standard
   Notes:       These records are on the summary database on MSL1A and can be accessed at anytime
SORT IDS        DATE (A)      PROCESS (A)   PORT (A)
MAX REC COUNT   50000
DATA LIST       (1)
                /1        CASE          3         (I)
                /1        PROCESS       4 -   7   (I)
                /1        DATE          8 -  11   (A)
                /1        COMBINED     12 -  18   (I)
                /1        SAW          19 -  24   (I)
                /1        ELEPHANT     25 -  30   (I)
                /1        PORT         31 -  34   (I)
DATE VARS       DATE      ('MMYY')/
```

```
TASK NAME        RECORD 29 (PROC3    )  SCHEMA DEFINITION
RECORD SCHEMA    29  PROC3
DOCUMENT
   Record type: Temporary
   Date Period: 1980 - present
   Source:      not applicable
   Description: Temporary record to store totals of shark processed.
   Use:         Used by SIR Procedure PROCESS.LACREATE which inputs SIR Record Type PROCLATE
   Variables:   FISHERM  Standard Fisher No of the supplier of shark processed
                DATE     Standard
                PROCESS  Standard
                PORT     Standard
                COMBINED Wt(kg) total gummy and school shark processed
                SAW      Wt(kg) total saw shark processed
                ELEPHANT Wt(kg) total elephant fish processed
                SHARK    Wt(kg) total other shark processed
                DISTING  Standard
                SOURCE   Processor code of supplier if from another Processor
SORT IDS        FISHERM (A)   DATE (A)
MAX REC COUNT    500000
DATA LIST        (1)
                 /1        FISHERM        3 -    7   (A)
                 /1        DATE           8 -   13   (A)
                 /1        PROCESS       14 -   17   (I)
                 /1        PORT          18 -   21   (I)
                 /1        COMBINED      22 -   26   (I)
                 /1        SAW           27 -   31   (I)
                 /1        ELEPHANT      32 -   36   (I)
                 /1        SHARK         37 -   41   (I)
                 /1        DISTING       42 -   48   (A)
                 /1        SOURCE        49 -   52   (I)
                 /1        CASE          53          (I)
DATE VARS        DATE      ('MMYYDD')/
MISSING VALUES   FISHERM    (  '      '  )/
                 PORT       ( 0  )/
                 DISTING    (  '        '  )/
                 SOURCE     ( 0  )/
END SCHEMA
```

```
TASK NAME        RECORD 31 (PRO2YEAR)  SCHEMA DEFINITION
RECORD SCHEMA    31  PRO2YEAR
DOCUMENT
   Record type:  Raw Processor
   Date Period:  Jun 1978 to Dec 1979
   Source:       Middle Processor Return Forms with Distinguishing Marks(Form No 1.2.2)
                 Input file is StatePROCYY.CLEAN
   Description:  Header of the Processor Return Form.
   Use:          Input of SIR Procedures PROCESS.MDCREATE and PROCESS MDHIST with SIR Record Type PRO2DAY
                 See SIR Record Schema PRO2DAY(No 32)
   Variables:    SPECCODE Species Code (see below for codes)
                 STATE    Standard State code
                 YEAR     Date YY
                 UNIT     K is kg, P is lb, M is mixed indicates pounds Jan to Sep; kg Oct to Dec
                 BOAT     Boat Registration No
                 NAME     Fisher name
                 FISHERM  Standard Fisher No
                 DISTING  Standard Distinguishing Mark
                 PORT     Standardised to Port Code by *10
     Notes:      This SIR Record Type and SIR Record Type PRO2DAY make up the raw Processor details
                 for Processor Return Forms
SORT IDS         FISHERM (A)   YEAR (A)      SPECCODE (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    20000
DATA LIST        (1)
                 /1        SPECCODE       3          (I)
                 /1        STATE          4          (I)
                 /1        YEAR           5 -    6   (I)
                 /1        UNIT           7          (A)
                 /1        BOAT           8 -   12   (I)
                 /1        NAME          13 -   42   (A)
                 /1        FISHERM       43 -   46   (I)
                 /1        DISTING       47 -   53   (A)
                 /1        PORT          54 -   56   (I)
                 /1        CASE          77          (I)
CAT VARS         UNIT      ( 'P'
                             'K'
                             'M'  )/
VAR RANGES       SPECCODE  (0 3)/
                 STATE     (1 6)/
MISSING VALUES   UNIT      ( ' '  )/
                 FISHERM   ( 9999  )/
VALUE LABELS     SPECCODE  (0)'School and Gummy combined'
                           (1)'Saw and Elephant separate'
                           (2)'School and Gummy separate'
                           (3)'Saw and Elephant combined' /
                 STATE     (1)'New South Wales'
                           (2)'Victoria'
                           (4)'South Australia'
                           (5)'Western Australia'
                           (6)'Tasmania' /
                 UNIT      ('P')'Pound'
                           ('K')'Kg'
                           ('M')'Mixed' /
ACCEPT REC IF    (year ge 78)
END SCHEMA
```

```
TASK NAME       RECORD 32 (PRO2DAY )  SCHEMA DEFINITION
RECORD SCHEMA   32  PRO2DAY
DOCUMENT
   Date Period: Jun 1978 to Dec 1979
   Source:      Middle Processor Return Forms with Distinguishing Marks(Form No 1.1.2)
                Input file is StatePROCYY.CLEAN
   Description: One line of the Processor Return Form.
   Use:         Input of SIR Procedure PROCESS.MDCREATE to link Processor data with fishing operation
                details from Fisher Return Forms.
                Processed with SIR Record Type PRO2YEAR See Record Schema No 31
                SIR Record types DETAIL OPERATE CATCH are searched for the selected number of days prior
                to date of SIR Variable MONTH for details of fishing operation for the catch processed.
                If found, SIR Record Type OPERATE is created and the locality of fishing and depth details
                are added. SIR Record Type CATCH is created with any extra weight(kg) not in CE catch.
                Otherwise SIR Record Types DETAIL OPERATE CATCH are created without fishing operation
                details.
                Input of SIR Procedure PROCESS.MDHIST to aggregate processing details by date and
                Processor.
   Variables:   SPECCODE As SIR Record Schema PRO2YEAR(No 31)
                YEAR     As SIR Record Schema PRO2YEAR(No 31)
                UNIT     As SIR Record Schema PRO2YEAR(No 31)
                BOAT     As SIR Record Schema PRO2YEAR(No 31)
                PROCESS  Standard Processor code
                MONTH    Month of processing
                DAY      Day of processing
                WEIGHT1  Standardised to wt(kg) of school shark, if SPECCODE is 'combined'
                         Or standardised to wt(kg) of saw shark, if SPECCODE is 'saw shark'
                WEIGHT2  Standardised to wt(kg) of elephant fish, if SPECCODE is 'elephant fish'
    Notes:      Raw Processor data are stored in this SIR Record Type and SIR Record Type PRO2YEAR
SORT IDS        FISHERM (A)   YEAR (A)      MONTH (A)     DAY (A)
                PROCESS (A)   SPECCODE (A)
MAX REC COUNT   50000
DATA LIST       (1)
                /1        SPECCODE       3          (I)
                /1        YEAR           5 -    6   (I)
                /1        UNIT           7          (A)
                /1        FISHERM        9 -   12   (I)
                /1        PROCESS       13 -   15   (I)
                /1        MONTH         16 -   17   (I)
                /1        DAY           18 -   19   (I)
                /1        WEIGHT1       20 -   24   (I)
                /1        WEIGHT2       25 -   29   (I)
                /1        CASE          40          (I)
CAT VARS        UNIT      ( 'P'
                            'K'
                            'M'  )/
VALUE LABELS    UNIT      ('P')'P'
                          ('K')'K'
                          ('M')'M' /
ACCEPT REC IF   (year gt 78 or(year eq 78 and month ge 6))
```

```
TASK NAME       RECORD 33 (REGSET  )  SCHEMA DEFINITION
RECORD SCHEMA   33  REGSET
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered via user access FORMS
   Description: Locality of fishing catagorised into sets identified by SET No
   Use:         Referenced in locality reports to name the Set
   Variables:   SET      Set No, 1 is fishery regions, 2 is management zone, 3 is division inside/outside
                         inlets
                NAME     Set name corresponding to SET No
SORT IDS        SET (A)
MAX REC COUNT   99
DATA LIST       (1)
                /1        CASE           3          (I)
                /1        SET            4 -    5   (I)
                /1        NAME           6 -   45   (A)
```

```
TASK NAME        RECORD 35 (DISTCORR)  SCHEMA DEFINITION
RECORD SCHEMA    35  DISTCORR
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Boat Distinguishing Marks are entered via user access FORMS
   Description: Distinguishing Mark errors in raw CE data are stored with the Fisher No and the
                corresponding correct Distinguishing Mark
   Use:         When SIR Record Types DETAIL, OPERATE and CATCH are created the correct Distinguishing
                Mark is substituted.
   Variables:   FISHERM  Standard
                OLDDIST  Incorrect Distinguishing Mark
                NEWDIST  Correct Distinguishing Mark
   Notes:   SORT IDS        FISHERM (A)   OLDDIST (A)
MAX REC COUNT   500
DATA LIST       (1)
                /1        FISHERM        3 -    7   (A)
                /1        OLDDIST        8 -   14   (A)
                /1        NEWDIST       15 -   21   (A)
                /1        CASE          22          (I)
```

```
TASK NAME -      RECORD 36 (REGEAR  )  SCHEMA DEFINITION
RECORD SCHEMA    36  REGEAR
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Input file is REGEAR.DAT
   Description: Gear Code table
   Use:         Naming fishing gear
   Variables:   GEAR     Standard Gear Code
                MESHSIZE Mesh size (inches)
                GEARTYPE Gear description
SORT IDS        GEAR (A)
MAX REC COUNT   20
DATA LIST       (1)
                /1        GEAR           3          (I)
                /1        MESHSIZE       4          (I)
                /1        GEARTYPE       5 -   19   (A)
                /1        CASE          24          (I)
VAR LABELS      MESHSIZE    'inches'/
```

```
TASK NAME-        RECORD 37 (GEOCATCH)  SCHEMA DEFINITION
RECORD SCHEMA     37  GEOCATCH
DOCUMENT
   Record type:   Summary CE Processor
   Date Period:   Complete time series
   Source:        SIR Record Types DETAIL , OPERATE, CATCH
                  Created by SIR Procedure FISHERY.AGGR
   Description:   Fishery Catches by aggregated by one degree by one degree Area Block with latitude and
                  longitude of the mid-point and depth zone and gear
                  Corresponding details of the gear and effort are in SIR Record Type GEOGEAR
   Use:           For reports of CE by locality of fishing
                  Used with SIR Record Type GEOGEAR (effort in this geographic region and depth)
   Variables:     DATE      Standard
                  LATITUDE  Latitude of mid-point of one degree by one degree Area Block
                  LONGITUD  Longitude of mid-point of one degree by one degree Area Block
                  ZONE      Standard Depth Interval
                  GEAR      Standard Gear Code
                  SPECIES   Standard Species Code
                  KILO      Total wt(kg) of catch (from Fisher Return Forms)
                  PROCKILO  Total wt(kg) processed (from Fisher Return Forms)
   Notes:         These records are on the summary database on MSL1A and can be accessed at anytime
SORT IDS          DATE (A)       LATITUDE (A)  LONGITUD (A)  ZONE (A)
                  GEAR (A)       SPECIES (A)
SEQUENCE CHECK    OFF
MAX REC COUNT     300000
DATA LIST         (1)
                  /1        CASE          3          (I)
                  /1        DATE          4 -    7   (A)
                  /1        LATITUDE      8 -   10   (I)
                  /1        LONGITUD     11 -   14   (I)
                  /1        ZONE         15 -   16   (I)
                  /1        GEAR         17         (I)
                  /1        SPECIES      18 -   20   (I)
                  /1        KILO         21 -   28   (I)
                  /1        PROCKILO     29 -   36   (I)
DATE VARS         DATE      ('MMYY')/
SCALED VARS       LATITUDE  (-1)/
                  LONGITUD  (-1)/
END SCHEMA
```

```
TASK NAME        RECORD 38 (GEOGEAR )  SCHEMA DEFINITION
RECORD SCHEMA    38  GEOGEAR
DOCUMENT
   Record type:  Summary CE Processor
   Date Period:  Complete time series
   Source:       SIR Record Types DETAIL, OPERATE, CATCH
                 Created by SIR Procedure FISHERY.AGGR
   Description:  CE aggregated by one degree by one degree Area Block with latitude and longitude of the
                 mid-point and depth interval and gear
                 Corresponding details of catches are in SIR Record Type GEOCATCH
                 Effort & matching combined catch subtotals.
                 Target effort & matching catch subtotals of gummy and school shark
   Use:          For reports of CE by locatity of fishing
                 Used with SIR Record Type GEOCATCH (catches in this geographic region and depth)
   Variables:    DATE     Standard
                 LATITUDE Latitude of mid-point of one degree by one degree Area Block
                 LONGITUD Longitude of mid-point of one degree by one degree Area Block
                 ZONE     Standard Depth Interval
                 GEAR     Standard Gear Code
                 EFFORT1  Effort, no of Days
                 EFFORT2  Effort, No of Shots
                 EFFORT3  Effort, hook or metre-lifts
                 EFFORT4  Effort, hook or metre-hours
                 CATCH1   Total wt(kg) of gummy and school catch when effort (no of Days) known
                 CATCH2   Total wt(kg) of gummy and school catch when effort (Shots) known
                 CATCH3   Total wt(kg) of gummy and school catch when effort (hook or metre-lifts) known
                 CATCH4   Total wt(kg) of gummy and school catch when effort (hook or metre-hours) known
                 SCHEFF3  School target effort (hook or metre-lifts)
                 SCHEFF4  School target effort (hook or metre-hours)
                 SCHCAT3  School target catch corresponding to effort (hook or metre-lifts)
                 SCHCAT4  School target catch corresponding to effort (hook or metre-hours)
                 GUMEFF3  Gummy target effort (hook or metre-lifts)
                 GUMEFF4  Gummy target effort (hook or metre-hours)
                 GUMCAT3  Gummy target catch corresponding to effort (hook or metre-lifts)
                 GUMCAT4  Gummy target catch corresponding to effort (hook or metre-hours)
   Notes:        These records are on the summary database on MSL1A and can be accessed at anytime.
                 Target effort and catch is effort and school or gummy catch if
                 school or gummy kg > .7 * ((gummy + school)kg + scalefish kg)
SORT IDS         DATE (A)      LATITUDE (A)  LONGITUD (A)  ZONE (A)
                 GEAR (A)
MAX REC COUNT    100000
DATA LIST        (2)
                 /1        CASE          3          (I)
                 /1        DATE          4 -   7    (A)
                 /1        LATITUDE      8 -   10   (I)
                 /1        LONGITUD     11 -   14   (I)
                 /1        ZONE         15 -   16   (I)
                 /1        GEAR         17         (I)
                 /2        EFFORT1       3 -   10   (I)
                 /2        EFFORT2      11 -   18   (I)
                 /2        EFFORT3      19 -   26   (I)
                 /2        EFFORT4      27 -   34   (I)
                 /2        CATCH1       35 -   42   (I)
                 /2        CATCH2       43 -   50   (I)
                 /2        CATCH3       51 -   58   (I)
                 /2        CATCH4       59 -   66   (I)
                 /2        SCHEFF3      67 -   74   (I)
                 /2        SCHEFF4      75 -   82   (I)
                 /2        SCHCAT3      83 -   90   (I)
                 /2        SCHCAT4      91 -   98   (I)
                 /2        GUMEFF3      99 -  106   (I)
                 /2        GUMEFF4     107 -  114   (I)
                 /2        GUMCAT3     115 -  122   (I)
                 /2        GUMCAT4     123 -  130   (I)
DATE VARS        DATE      ('MMYY')/
SCALED VARS      LATITUDE  (-1)/ LONGITUD  (-1)/
VAR LABELS       EFFORT1     'days'/
                 CATCH1      'combined catch when days known'/
                 EFFORT2     'shots'/
                 CATCH2      'combined catch when shots known'/
                 EFFORT3     'horm-lifts'/
                 CATCH3      'combined catch when horm-lifts known'/
                 EFFORT4     'horm-hours'/
                 CATCH4      'combined catch when horm-hours known'/
                 SCHEFF3     'school targetted horm-lifts'/
```

```
                SCHEFF4      'school targetted horm-hours'/
                GUMEFF3      'gummy targetted horm-lifts'/
                GUMEFF4      'gummy targetted horm-hours'/
```

```
TASK NAME        RECORD 39 (PORTCAT )  SCHEMA DEFINITION
RECORD SCHEMA    39  PORTCAT
DOCUMENT
   Record type:  Summary CE Processor
   Date Period:  Complete time series
   Source:       SIR Record Types DETAIL, OPERATE, CATCH
                 Created by SIR Procedure FISHERY.AGGR
   Description:  Catches aggregated by locality of landing
                 Corresponding details of the gear and effort are in SIR Record Type PORTGEAR
   Use:          For reports of CE by locality of landing
                 Used with SIR Record Type PORTGEAR
  Variables:     DATE     Standard
                 PORT     Standard Port Code
                 GEAR     Standard Gear Code
                 SPECIES  Standard Species Code
                 KILO     Total wt(kg) of catch (from Fisher Return Forms)
                 PROCKILO Total wt(kg) processed (from Fisher Return Forms)
    Notes:          These SIR Records Types are on the summary database on MSL1A and can be accessed at
       anytime
SORT IDS         DATE (A)      PORT (A)      GEAR (A)      SPECIES (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    150000
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        DATE          4 -    7   (A)
                 /1        PORT          8 -   11   (I)
                 /1        GEAR         12          (I)
                 /1        SPECIES      13 -   15   (I)
                 /1        KILO         16 -   23   (I)
                 /1        PROCKILO     24 -   31   (I)
DATE VARS        DATE      ('MMYY')/
END SCHEMA
```

```
TASK NAME        RECORD 40 (PORTGEAR)  SCHEMA DEFINITION
RECORD SCHEMA    40  PORTGEAR
DOCUMENT
   Record type: Summary CE Processor
   Date Period: Complete time series
   Source:      SIR Record Types DETAIL, OPERATE, CATCH
                Created by SIR Procedure FISHERY.AGGR
   Description: CE aggregated by locality of landing
                Corresponding details of the catches are in SIR Record Type PORTCAT
                Effort & matching combined catch subtotals
                Target effort & matching catch subtotals of gummy and school shark
   Use:         For reports of catch and/or effort by locality of landing
                Used with SIR Record Type PORTCAT
   Variables:   DATE     Standard
                PORT     Standard Port Code
                GEAR     Standard Gear Code
                EFFORT1  Effort, No of Days
                EFFORT2  Effort, No of Shots
                EFFORT3  Effort, hook or metre-lifts
                EFFORT4  Effort, hook or metre-hours
                CATCH1   Total wt(kg) of gummy and school catch when effort (no of days) known
                CATCH2   Total wt(kg) of gummy and school catch when effort (shots) known
                CATCH3   Total wt(kg) of gummy and school catch when effort (hook or metre-lifts) known
                CATCH4   Total wt(kg) of gummy and school catch when effort (hook or metre-hours) known
                SCHEFF3  School target effort (hook or metre-lifts)
                SCHEFF4  School target effort (hook or metre-hours)
                SCHCAT3  School target catch corresponding to effort (hook or metre-lifts)
                SCHCAT4  School target catch corresponding to effort (hook or metre-hours)
                GUMEFF3  Gummy target effort (hook or metre-lifts)
                GUMEFF4  Gummy target effort (hook or metre-hours)
                GUMCAT3  Gummy target catch corresponding to effort (hook or metre-lifts)
                GUMCAT4  Gummy target catch corresponding to effort (hook or metre-hours)
   Notes:       These records are on the summary database on MSL1A and can be accessed at anytime.
                Target effort and catch is effort and school or gummy catch if
                school or gummy kg > .7 * ((gummy + school) kg + scalefish kg).
SORT IDS         DATE (A)      PORT (A)      GEAR (A)
MAX REC COUNT    50000
DATA LIST        (2)
                 /1        CASE          3          (I)
                 /1        DATE          4 -   7    (A)
                 /1        PORT          8 -  11    (I)
                 /1        GEAR         12          (I)
                 /2        EFFORT1       3 -  10    (I)
                 /2        EFFORT2      11 -  18    (I)
                 /2        EFFORT3      19 -  26    (I)
                 /2        EFFORT4      27 -  34    (I)
                 /2        CATCH1       35 -  42    (I)
                 /2        CATCH2       43 -  50    (I)
                 /2        CATCH3       51 -  58    (I)
                 /2        CATCH4       59 -  66    (I)
                 /2        SCHEFF3      67 -  74    (I)
                 /2        SCHEFF4      75 -  82    (I)
                 /2        SCHCAT3      83 -  90    (I)
                 /2        SCHCAT4      91 -  98    (I)
                 /2        GUMEFF3      99 - 106    (I)
                 /2        GUMEFF4     107 - 114    (I)
                 /2        GUMCAT3     115 - 122    (I)
                 /2        GUMCAT4     123 - 130    (I)
DATE VARS        DATE      ('MMYY')/
VAR LABELS       EFFORT1     'days'/
                 CATCH1      'combined catch when days known'/
                 EFFORT2     'shots'/
                 CATCH2      'combined catch when shots known'/
                 EFFORT3     'horm-lifts'/
                 CATCH3      'combined catch when horm-lifts known'/
                 EFFORT4     'horm-hours'/
                 CATCH4      'combined catch when horm-hours known'/
                 SCHEFF3     'school targetted horm-lifts'/
                 SCHEFF4     'school targetted horm-hours'/
                 GUMEFF3     'gummy targetted horm-lifts'/
                 GUMEFF4     'gummy targetted horm-hours'/
```

```
TASK NAME        RECORD 41 (SEVENTY)  SCHEMA DEFINITION
RECORD SCHEMA    41  SEVENTY
DOCUMENT
   Record type:  Raw CE
   Date Period:  Jan 1970 to Dec 1970 (Vic)
   Source:       ABS Vic CE Return Forms (Form No 1.1.2,3)
                 Input file is SHARK70.DAT
   Description:  Header of the Vic CE Fisher Return Form.
   Use:          Input of SIR Procedure SEVENTY.DETAIL with SIR Record Type SEVENTY2 for creating
                 SIR Record Types DETAIL, OPERATE, CATCH
   Variables:    DATE     Date in format YYMM
                 BOAT     Abs Boat Code substituted by standard Distinguishing Mark using TASBOAT or
                          VICBOAT Used as Fisher No
                 STATE    Standard State Code
                 PORT     Port Code standardised prefix with State and *10
                 NETUNIT  Unit of Net Length (F is feet, Y is yards, M is m)
                          Standardised to metres
                 CATUNI   Unit of catch (P is lbs K is Kg) standardised to kg
                 FISHERM  Fisher identification
                 ABSGEAR  ABS Gear Code First digit is 1 is gill net(3), 2 is long line(2), 7 is
                          unknown(0), otherwise other(1))
                 DAYS     Days fishing for month
                 CREW     Number of crew
   Notes:        Raw 1970 CE data from Vic ABS Return Forms to be used with SIR Record Type  SEVENTY2
SORT IDS         DATE (A)      BOAT (A)      ABSGEAR (A)
MAX REC COUNT    10000
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        DATE          4 -    7   (A)
                 /1        BOAT          8 -   12   (I)
                 /1        STATE        13          (I)
                 /1        PORT         14 -   15   (I)
                 /1        NETUNIT      17          (A)
                 /1        CATUNI       19          (A)
                 /1        FISHERM      20 -   23   (I)
                 /1        ABSGEAR      24 -   27   (I)
                 /1        DAYS         28 -   29   (I)
                 /1        CREW         30          (I)
DATE VARS        DATE      ('YYMM')/
CAT VARS         NETUNIT   ( ' '
                             'F'
                             'M'
                             'Y'  )/
                 CATUNI    ( ' '
                             'P'
                             'K'  )/
MISSING VALUES   BOAT      ( 0
                             9999  )/
                 STATE     ( 0  )/
                 PORT      ( 99
                             0  )/
                 NETUNIT   ( ' '  )/
                 CATUNI    ( ' '  )/
                 FISHERM   ( 0
                             9999  )/
                 ABSGEAR   ( 0  )/
                 DAYS      ( 99
                             0  )/
                 CREW      ( 0  )/
```

```
TASK NAME        RECORD 42 (SEVENTY2)  SCHEMA DEFINITION
RECORD SCHEMA    42  SEVENTY2
DOCUMENT
   Record type: Raw CE
   Date Period: Jan 1970 to Dec 1970 (Vic)
   Source:      ABS Vic CE Return Forms (Form 1.1.2,3)
                Input file is SHARK70.DAT
   Description: One line of the Vic CE Fisher Return Form.
   Use:         Input of SIR Procedure SEVENTY.DETAIL with SIR Record Type SEVENTY for creating
                SIR Record Types DETAIL, OPERATE, CATCH
   Variables:   ABSGD    ABS Gear Code 1 is gill net(3), 2 is long line(2), 7 is unknown(0), otherwise
                         other(1))
                DATE     Date format YYMM
                BOAT     Abs Boat Code substituted by standard Distinguishing Mark using TASBOAT or
                         VICBOAT
                         Used as Fisher No
                BLOCK    Standard ABS Block Code for locality of fishing
                HOOKS    Hook number
                LENGTH   Net length converted to metres
                HOURS    Hours of fishing for month
                SCHOOL   Total wt(kg or lb) of school shark catch converted to kg
                GUMMY    Total wt(kg or lb) of gummy shark catch converted to kg
                COMBINED Total wt(kg or lb) of gummy & school shark catch. Converted to kg
                SAW      Total wt(kg or lb) of saw shark catch converted to kg
                OTHER1   Total wt(kg or lb) of catch of species (CODE1). Converted to kg
                CODE1    Species Code (see below)
                OTHER2   Total wt(kg or lb) of catch of species (CODE1). Converted to kg
                CODE2    Species Code (see below)
SORT IDS         DATE (A)      BOAT (A)      ABSGD (A)     BBLOCK (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    10000
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        ABSGD         4          (I)
                 /1        DATE          5 -    8   (A)
                 /1        BOAT          9 -   13   (I)
                 /1        BBLOCK       14 -   17   (I)
                 /1        BLOCK        14 -   17   (I)
                 /1        HOOKS        18 -   21   (I)
                 /1        LENGTH       22 -   26   (I)
                 /1        HOURS        27 -   28   (I)
                 /1        SCHOOL       29 -   36   (I)
                 /1        GUMMY        37 -   44   (I)
                 /1        COMBINED     45 -   52   (I)
                 /1        SAW          53 -   60   (I)
                 /1        OTHER1       61 -   64   (I)
                 /1        CODE1        66 -   67   (A)
                 /1        OTHER2       69 -   72   (I)
                 /1        CODE2        74 -   75   (A)
DATE VARS        DATE      ('YYMM')/
CAT VARS         CODE1,CODE2 ( 'WH''SD''BZ''RC''EL''DG''WP''VC''BP''AN''HH''TH''BN''BW''SG''GN''SK''OT' )/
RECODE           SPEC1     SPEC2     =          CODE1     CODE2
                 ( 1 = 665 )( 2 = 670 )( 3 = 659 )( 4 = 667 )( 5 = 676 )( 6 = 669 )( 7 = 662 )
                 ( 8 = 679 )( 9 = 661 )( 10 = 678 )( 11 = 652 )( 12 = 666 )( 13 = 682 )
                 ( 14 = 659 )( 15 = 654 )( 16 = 679 )( 17 = 685 )( 18 = 679 )
RECODE           BLOCK     =          BLOCK
                 ( 9201 = 3744 )( 9202 = 3744 )( 9203 = 3744 )( 9204 = 3744 )( 9205 = 3744 )( 9206 = 3744 )
                 ( 9207 = 3744 )( 9208 = 3744 )( 9209 = 3744 )( 9210 = 3744 )( 9211 = 3744 )( 9212 = 3744 )
                 ( 9213 = 3744 )( 9214 = 3744 )( 9215 = 3744 )( 9216 = 3744 )( 9217 = 3745 )( 9218 = 3745 )
                 ( 9219 = 3745 )( 9220 = 3745 )( 9221 = 3745 )( 9222 = 3745 )( 9223 = 3745 )( 9224 = 3745 )
                 ( 9225 = 3745 )( 9226 = 3845 )( 9227 = 3748 )( 9228 = 3748 )( 9230 = 3748 )( 9231 = 3748 )
                 ( 9229 = 3749 )( 9232 = 3846 )( 9233 = 3846 )( 9234 = 3846 )( 9235 = 3846 )
END SCHEMA
```

```
TASK NAME        RECORD 43 (SIXCATCH)  SCHEMA DEFINITION
RECORD SCHEMA    43  SIXCATCH
DOCUMENT
   Record type:  Raw CE
   Date Period:  Jun 1962 to Dec 1969 (Vic)
                 Jan 1970 to Dec 1972 (SA)
   Source:       ABS Vic,SA,Tas summary Return Forms (Forms1.1.2,3,4)
                 Entered via user access FORMS
   Description:  One line of the ABS Return Form.
                 Details of catches by gear by ABS Block Code
   Use:          Input of SIR Procedure to create SIR Record Types DETAIL, OPERATE, CATCH
   Variables:    DATE     Standard
                 SPECIES  Standard
                 BLOCK    Standard ABS Block Code
                 GEAR     Standard
                 LBS      Live wt(lbs) of catch of species
                          Converted to untrimmed carcass wt (kg)
SORT IDS         DATE (A)      SPECIES (A)   BLOCK (A)     GEAR (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    30000
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        DATE          4 -   7    (A)
                 /1        SPECIES       8 -   10   (I)
                 /1        BLOCK        11 -   14   (I)
                 /1        GEAR         15          (I)
                 /1        LBS          16 -   21   (I)
DATE VARS        DATE      ('MMYY')/
VAR LABELS       LBS         '''Lbs live weight'''/
END SCHEMA
```

```
TASK NAME        RECORD 44 (SIXGEAR )  SCHEMA DEFINITION
RECORD SCHEMA    44  SIXGEAR
DOCUMENT
   Record type:  Raw CE
   Date Period:  Jun 1962 to Dec 1969 (Vic)
                 Jan 1970 to Dec 1972 (SA)
   Source:       ABS Vic,SA,Tas summary Return Forms(Forms 1.1.2,3,4)
                 Entered via user access FORMS
   Description:  One line of the ABS  Return Form.
   Use:          Input of SIR Procedure to create SIR Record Types DETAIL, OPERATE, CATCH
   Variables:    DATE     Standard
                 GEAR     Standard
                 BLOCTYPE Identifies BLOCPORT as a port (1) or block (0) Variable
                 BLOCPORT Standard Port Code or ABS Block Code
                 EFFORT   Total fishing effort for this port or block (hook or metre hours)
   Notes:        Detail of effort for each block or port for MMYY
SORT IDS         DATE (A)      GEAR (A)      BLOCTYPE (A)  BLOCPORT (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    30000
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        DATE          4 -   7    (A)
                 /1        GEAR          8          (I)
                 /1        BLOCTYPE      9          (I)
                 /1        BLOCPORT     10 -   13   (I)
                 /1        EFFORT       14 -   19   (I)
DATE VARS        DATE      ('MMYY')/
VALUE LABELS     GEAR      (2)'Long line'
                           (3)'Gill mesh net' /
                 BLOCTYPE  (0)'Block'
                           (1)'Port' /
VAR LABELS       BLOCTYPE    '''Block or Port used on this record'''/
                 BLOCPORT    '''Block or Port Code'''/
END SCHEMA
```

```
TASK NAME       RECORD 45 (CCSSAMP )  SCHEMA DEFINITION
RECORD SCHEMA   45  CCSSAMP
DOCUMENT
   Record type: Detail CCS
   Date Period: 1969 - present (Vic)
                Jan 1973 to May 1978  and 1985 - present (SA, Tas)
   Source:      CCS raw records
                Created by SIR Procedures CCS.DETAIL and CCS.DETAIL1
   Description: Standardised CCS data
                Input of SIR Procedure CCS.LINK to link CCS data with fishing operation details from
                Fisher Return Forms.
                Processed with SIR Record Type CCSFREQ See SIR Record Schema CCSFREQ(No 46)
                SIR Record types DETAIL OPERATE CATCH are searched for the selected number of days prior
                to date of SIR Variable DATE for details of locality of fishing and depth for the catch
                processed.
                If found, locality of fishing and depth details are added into SIR Variables LATITUDE,
                LONGITUD, MINDEPTH MAXDEPTH
   Use:         Input of Sir Procedure CCS.AGGREG to aggregate CCS data
   Variables:   DATE      Standard
                PORT      Standard
                SAMPLE    Unique sample No for each sample of this port this date
                BATCHWT   Total wt(kg) of the batch processed
                SAMPLEWT  Total wt(kg) of the sample measured of the batch processed
                FISHERM   Standard Fisher No supplying the batch processed
                DISTING   Standard distingguishing mark of boat supplying the batch processed
                MINDEPTH  Minimum depth of fishing operation for the catch processed
                MAXDEPTH  Maximum depth of fishing operation for the catch processed
                LATITUDE  Latitude of the mid-point of one degree by one degree Area Block of fishing
                          operation for the catch processed
                LONGITUD  Longitude of the mid-point of one degree by one degree Area Block of fishing
                          operation for the catch processed
                CALCSAMP  Total wt(kg) of the sample measured calculated from the frequency and lengths of
                          the batch processed
   Notes:       Detail sex length frequency record
                Header record with details of the sample and source of the sample
                CALCSAMPWT is the calculated wt of the sample given the length and frequency of the
                sample. It is used to verify the sample wt.
SORT IDS        DATE (A)      PORT (A)      SAMPLE (A)
MAX REC COUNT   20000
DATA LIST       (1)
                /1        DATE          3 -   8   (A)
                /1        PORT          9 -  12   (I)
                /1        SAMPLE       13         (I)
                /1        BATCHWT      14 -  18   (I)
                /1        SAMPLEWT     19 -  22   (I)
                /1        FISHERM      23 -  27   (A)
                /1        DISTING      28 -  34   (A)
                /1        MINDEPTH     35 -  42   (I)
                /1        MAXDEPTH     43 -  50   (I)
                /1        LATITUDE     51 -  53   (I)
                /1        LONGITUD     54 -  57   (I)
                /1        CASE         58         (I)
                /1        CALCSAMP     59 -  64   (I)
DATE VARS       DATE      ('DDMMYY')/
SCALED VARS     LATITUDE  (-1)/
                LONGITUD  (-1)/
VAR RANGES      PORT      (0 9999)/
                SAMPLE    (0 9)/
                BATCHWT   (0 99999)/
                SAMPLEWT  (0 9999)/
                MINDEPTH  (0 1000)/
                MAXDEPTH  (0 1000)/
                LATITUDE  (0 900)/
                LONGITUD  (0 900)/
                CALCSAMP  (0 999999)/
MISSING VALUES  FISHERM   ( '    0' ' 9999' '      '  )/
                DISTING   ( '       '  )/
                MINDEPTH  ( 0  )/ MAXDEPTH  ( 0  )/
                LATITUDE  ( 0  )/ LONGITUD  ( 0  )/
VAR LABELS      PORT        'Port Code'/
                BATCHWT     'Batch weight (kg)'/
                SAMPLEWT    'Sample weight (kg)'/
                DISTING     '''Boat registration'''/
                CALCSAMP    'Calculated sample weight (kg)'/
```

```
TASK NAME        RECORD 46 (CCSFREQ )  SCHEMA DEFINITION
RECORD SCHEMA    46  CCSFREQ
DOCUMENT
   Date Period: 1969 - present (Vic)
                Jan 1973 to May 1978  and 1985 - present (SA, Tas)
   Source:      CCS raw records
                Input file is CCSYY.REF
                Created by SIR Procedures CCS.DETAIL and CCS.DETAIL1
   Description: Standardised CCS data
                Input of SIR Procedure CCS.LINK to link CCS data with fishing operation details from
                Fisher Return Forms.
                Processed with SIR Record Type CCSSAMP See SIR Record Schema CCSFREQ(No 45)
   Use:         Input of Sir Procedure CCS.AGGREG to aggragate CCS data
   Variables:   DATE    Standard
                PORT    Standard
                SAMPLE  Unique sample No for each sample of this port this date
                SPECIES Standard Sex Code
                SEX     Sex Code (1 is male, 2 is female, 3 is unknown)
                LENGTH  Length (cm)
                FREQ    Total No measured in this species sex length class within this sample
   Notes:       Detail sex length frequency record
                In detail database only on MSL1R removable discpack
SORT IDS        DATE (A)      PORT (A)      SAMPLE (A)    SPECIES (A)
                SEX (A)       LENGTH (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   500000
DATA LIST       (1)
                /1        DATE          3 -    8   (A)
                /1        PORT          9 -   12   (I)
                /1        SAMPLE       13          (I)
                /1        SPECIES      14 -  16   (I)
                /1        SEX          17          (A)
                /1        LENGTH       18 -   20   (I)
                /1        FREQ         21 -   22   (I)
                /1        CASE         23          (I)
DATE VARS       DATE      ('DDMMYY')/
CAT VARS        SEX       ( 'M'
                            'F'
                            ' '  )/
VAR RANGES      PORT      (0 9999)/
                SAMPLE    (0 9)/
                SPECIES   (0 999)/
                LENGTH    (0 200)/
                FREQ      (0 99)/
MISSING VALUES  SPECIES   ( 0  )/
                SEX       ( ' '  )/
                LENGTH    ( 0  )/
VAR LABELS      PORT        'Port Code'/
                LENGTH      'Length (cm)'/
                FREQ        'Frequency (numbers)'/
END SCHEMA
```

```
TASK NAME       RECORD 47 (GEOCCS  )  SCHEMA DEFINITION
RECORD SCHEMA   47  GEOCCS
DOCUMENT
   Record type: Summary CCS
   Date Period: Complete time series
   Source:      SIR Record Types CCSFREQ, CCSSAMP
                Created by SIR Procedure CCS.AGGR
   Description: Aggregated sex length frequency data .
                Total frequencies for each length class of species and sex aggregated by month, locality
                of fishing (one degree by one degree Area Block) and Depth Intervals
   Use:         For reports of CCS by locality of fishing
   Variables:   MONTH     Standard date
                LATITUDE Standard
                LONGITUD Standard
                DEPTHINT Standard
                SPECIES  Standard
                SEX      Standard
                LENGTH   Length class (cm)
                SAMPLEWT Total wt(kg) of sample
                FREQ     Total number sampled in this sex length class
    Notes:      These records are on the summary database on MSL1A and can be accessed at anytime
SORT IDS        MONTH (A)     LATITUDE (A)  LONGITUD (A)  DEPTHINT (A)
                SPECIES (A)   SEX (A)       LENGTH (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   400000
DATA LIST       (1)
                /1        MONTH          3 -    6   (A)
                /1        LATITUDE       7 -    9   (I)
                /1        LONGITUD      10 -   13   (I)
                /1        DEPTHINT      14 -   15   (I)
                /1        SPECIES       16 -   18   (I)
                /1        SEX           19         (A)
                /1        LENGTH        20 -   22   (I)
                /1        SAMPLEWT      23 -   31   (I)
                /1        FREQ          32 -   36   (I)
                /1        CASE          37         (I)
DATE VARS       MONTH     ('MMYY')/
CAT VARS        SEX       ( 'M'
                            'F'
                            ' '  )/
SCALED VARS     LATITUDE  (-1)/
                LONGITUD  (-1)/
                SAMPLEWT  (-2)/
VAR RANGES      LATITUDE  (0 900)/
                LONGITUD  (0 900)/
                DEPTHINT  (0 14)/
                SPECIES   (0 999)/
                LENGTH    (0 200)/
                SAMPLEWT  (0 9999999)/
                FREQ      (0 99999)/
VAR LABELS      DEPTHINT    'Depth Interval (m)'/
                LENGTH      'Length (cm)'/
END SCHEMA
```

```
TASK NAME        RECORD 48 (PORTCCS )  SCHEMA DEFINITION
RECORD SCHEMA    48  PORTCCS
DOCUMENT
   Record type:  Summary CCS
   Date Period:  Complete time series
   Source:       SIR Record Types CCSFREQ, CCSSAMP
                 Created by SIR Record Type CCS.AGGR
   Description:  Length frequency data aggregated by locality of fishing, depth, species and sex
                 Total frequencies for each length class of species and sex aggregated by month, port and
                 Depth Intervals
   Use:          For reports of CCS by locality of fishing
   Variables:    MONTH     Standard date
                 PORT      Standard
                 DEPTHINT  Standard Depth Interval
                 SPECIES   Stansard
                 SEX       Standard
                 LENGTH    Length class (cm)
                 SAMPLEWT  Total wt(kg) of sample
                 FREQ      Total number sampled in this length class
    Notes:       These records are on the summary database on MSL1A and can be accessed at anytime
SORT IDS         MONTH (A)      PORT (A)       DEPTHINT (A)  SPECIES (A)
                 SEX (A)        LENGTH (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    400000
DATA LIST        (1)
                 /1         MONTH          3 -    6   (A)
                 /1         PORT           7 -   10   (I)
                 /1         DEPTHINT      11 -   12   (I)
                 /1         SPECIES       13 -   15   (I)
                 /1         SEX           16          (A)
                 /1         LENGTH        17 -   19   (I)
                 /1         SAMPLEWT      20 -   28   (I)
                 /1         FREQ          29 -   33   (I)
                 /1         CASE          34          (I)
DATE VARS        MONTH      ('MMYY')/
CAT VARS         SEX        ( 'M'
                              'F'
                              ' '  )/
SCALED VARS      SAMPLEWT   (-2)/
VAR RANGES       PORT       (0 9999)/
                 DEPTHINT   (0 14)/
                 SPECIES    (0 999)/
                 LENGTH     (0 200)/
                 SAMPLEWT   (0 9999999)/
                 FREQ       (0 99999)/
VAR LABELS       PORT         'Port Code'/
                 DEPTHINT     'Depth Interval (m)'/
                 LENGTH       'Length (cm)'/
END SCHEMA
```

```
TASK NAME       RECORD 49 (AGGRCCS )  SCHEMA DEFINITION
RECORD SCHEMA   49  AGGRCCS
DOCUMENT
   Record type: Download
   Date Period: As required
   Source:      SIR Record Types PORTCCS and PORTCAT
                Created in SIR Procedure CCS.DOWNLOAD
   Description: Created with SIR Record Type MNREGSPC
   Use:         Download CCS details
   Variables:   PERIOD   Standard date
                REGION   Standard management zone number
                SPECIES  Standard
                SEX      Standard
                LENGTH   Length class (cm)
                FREQ     Total number sampled within this length class
                SAMPLEWT Total sample wt
                RATIO    Ratio total reported catch : total sample wt
   Notes:       Aggregation record of length frequency data for downloading
SORT IDS        PERIOD (A)    REGION (A)    SPECIES (A)   SEX (A)
                LENGTH (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   100000
DATA LIST       (1)
                /1        CASE          3          (I)
                /1        PERIOD        4 -    7   (A)
                /1        REGION        8 -    9   (I)
                /1        SPECIES      10 -   12   (I)
                /1        SEX          13         (A)
                /1        LENGTH       14 -   16   (I)
                /1        FREQ         17 -   22   (I)
                /1        SAMPLEWT     23 -   29   (I)
                /1        RATIO        30 -   39   (F4)
DATE VARS       PERIOD    ('MMYY')/
CAT VARS        SEX       ( 'M'
                            'F'
                            ' '  )/
SCALED VARS     SAMPLEWT  (-2)/
VAR RANGES      REGION    (0 99)/
                SPECIES   (0 999)/
                LENGTH    (0 200)/
                FREQ      (0 999999)/
                SAMPLEWT  (0 99999)/
                RATIO     (0 99999)/
VAR LABELS      REGION      'Region number'/
END SCHEMA
```

```
TASK NAME        RECORD 50 (SYSTEM  )  SCHEMA DEFINITION
RECORD SCHEMA    50  SYSTEM
DOCUMENT
   Record type: Utility
   Date Period: As required
   Source:      User access FORMS
   Description: A utility record used in SIR Procedures requiring the ability to restart after being are
                stopped before processing is completed
                SIR Procedures using this feature include CCS.DETAIL
   Variables:   CR451    Date format DDMMYY
                CR452    Standard Port Code
                CR453    Sample No
                CR11     Date format MMYY
                CR12     Standard Fisher No
                ALARM    Time for alarm to restartable procedures
                ALSAFE   Time for alarm clear
VAR LABELS       CR451       'date'/
                 CR452       'Port Code'/
                 CR453       'sample'/
                 CR11        'date'/
                 CR12        'fisherm'/
                 ALARM       'Set alarm time'/
                 ALSAFE      'End alarm time'/
SEQUENCE CHECK   OFF
MAX REC COUNT    1
DATA LIST        (1)
                 /1        CASE          3          (I)
                 /1        CR451         4 -    9   (A)
                 /1        CR452        10 -   13   (I)
                 /1        CR453        14         (I)
                 /1        CR11         15 -   20   (A)
                 /1        CR12         21 -   24   (I)
                 /1        ALARM        25 -   28   (A)
                 /1        ALSAFE       29 -   32   (A)
TIME VARS        ALARM     ('HHMM')/
                 ALSAFE    ('HHMM')/
DATE VARS        CR451     ('DDMMYY')/
                 CR11      ('DDMMYY')/
VAR RANGES       CR452     (0 9999)/
                 CR453     (0 9)/
VAR LABELS       CR451       'date'/
                 CR452       'Port Code'/
                 CR453       'sample'/
                 CR11        'date'/
                 CR12        'fisherm'/
                 ALARM       'Set alarm time'/
                 ALSAFE      'End alarm time'/
END SCHEMA
```

```
TASK NAME       RECORD 51 (MNREGSPC)  SCHEMA DEFINITION
RECORD SCHEMA   51  MNREGSPC
DOCUMENT
   Record type: Download
   Date Period: As required
   Source:      SIR Record Types PORTCCS and PORTCAT
                Created in SIR Procedure CCS.DOWNLOAD
   Description: Created with SIR Record Type AGGRCCS
   Use:         Download CCS details
   Variables:   PERIOD   Standard date
                REGION   Standard region number
                SPECIES  Standard
                CATKILO  Total reported catch of this species in this region
                SAMPLEWT Total sample wt of this species in this region
                CORRKILO Corrected total reported catch of school or gummy in this region
Notes:          Total reported and sampled wts(kg) for each species aggregated by month and region
                Corrected total is reported catch * combined catch/gummy + school catches
SORT IDS        PERIOD (A)    REGION (A)    SPECIES (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   100000
DATA LIST       (1)
                /1        CASE          3          (I)
                /1        PERIOD        4 -    7   (A)
                /1        REGION        8 -    9   (I)
                /1        SPECIES      10 -   12   (I)
                /1        CATKILO      13 -   19   (I)
                /1        SAMPLEWT     20 -   26   (I)
                /1        CORRKILO     27 -   33   (I)
DATE VARS       PERIOD    ('MMYY')/
SCALED VARS     SAMPLEWT  (-2)/
VAR RANGES      REGION    (0 99)/
                SPECIES   (0 999)/
                CATKILO   (0 9999999)/
                SAMPLEWT  (0 99999)/
VAR LABELS      REGION      'Region number'/
END SCHEMA
```

```
TASK NAME        RECORD 52 (LICENCE )  SCHEMA DEFINITION
RECORD SCHEMA    52  LICENCE
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      AFS licence & State licence data
   Description: Licence details of vessel with a licence
   Use:         For all reports requiring licence details
   Variables:   DISTING  Standard
                CAT      Catagory of Licence (A or B)
                STATE    Standard
                NETS     No of nets endorsed (2 to 10)
                INDATE   Date that this current licence became valid
                OUTDATE  Date that this licence is no longer current
                         (Reason is given in SIR Variable STATUS)
                REPLAC   Distinguishing Mark of replacement boat
                STATUS   Current status of licence
   Notes:       A new LICENCE record is created when a new licence is granted or the status of a
                licence changes
SORT IDS.       DISTING (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   100000
DATA LIST       (1)
                /1        CASE          3          (I)
                /1        DISTING       4 -   10   (A)
                /1        CAT          11          (A)
                /1        STATE        12          (I)
                /1        NETS         13 -   14   (I)
                /1        INDATE       15 -   18   (I)
                /1        OUTDATE      19 -  22    (I)
                /1        REPLAC       23 -   29   (I)
                /1        STATUS       30          (A)
CAT VARS        LICTYPE   ( 'A'
                            'B'
                            ' '  )/
VAR RANGES      STATE     (0 6)/
                NETS      (0 99)/
VALID VALUES    STATE     ( 2
                            4
                            6
                            0  )/
VALUE LABELS    LICTYPE   ('A')'A'
                          ('B')'B'
                          (' ')'' /
                STATE     (2)'Victoria'
                          (4)'South Australia'
                          (6)'Tasmania' /
                STATUS    ('T') 'Trasferred'
                          ('A') 'Amalgamated'
                          ('C') 'Consolidated'
                          ('F') 'Forfeited'
                          (' ') 'Current'
END SCHEMA
```

```
TASK NAME        RECORD 54 (TASAFZIS)  SCHEMA DEFINITION
RECORD SCHEMA    54  TASAFZIS
DOCUMENT
   Record type: Raw CE
   Date Period: 1988 - present
   Source:      Tas Shot Return Form (Form No 1.1.10)
                Input file is TASAFZISYY.REF
   Description: One line of the Tas shot CE Fisher Return Form.
   Use:         Input of TASAFZIS.DETAIL for creating SIR Record Types DETAIL, OPERATE, CATCH records
   Variables:   The meaning of some SIR Variables depend on the value of the SIR Variable KEY

                KEY is '01' for header record
                FISHERM  Fisher No, '7' + DISTING
                DATE     Standard
                BOATREG  Standard Port Code
                AREA     No of crew
                QUARTER  Purchaser No of first purchaser
                TASGEAR  Wt(kg) sold to first Purchaser
                SHOTSTRT Purchaser No of second purchaser
                MINDEPTH Wt(kg) sold to second Purchaser
                MAXDEPTH Purchaser No of third purchaser
                NETLEN   Wt(kg) sold to third Purchaser

                KEY is '06' for gear record
                TASGEAR  Mesh Size (cm) of gill net with first Mesh Size
                SHOTST   Net Length (m) of gill net with first Mesh Size
                NETLEN   Mesh Size (cm) of gill net with second Mesh Size(if used)
                DOWNTIME Net Length (m) of gill net with second Mesh Size( if used)

                KEY is 'SC' for species record
                CATCH9   Standard Species Code
                CATCH10  Standard Species Code
                CATCH11  Standard Species Code
                CATCH12  Standard Species Code
                CATCH13  Standard Species Code

                KEY is 'SH' for shot record
                DAY       Day of fishing operation
                BOATREG   Standard Distinguishing Mark
                          Validated using SIR Record Type DISTCORR
                AREA      Standard Area Block Code
                          Converted to latitude and longitude of the mid-point using SIR Record AREA
                QUARTER   Area Block quarter of fishing operation (A,B,C,D)
                TASGEAR   Gear used for shot ('SL' is long line(2), 'MD' is deep sea mesh (3),
                          'MS' is mesh gill net(3))
                SHOTSTRT  Time of start of shot
                MINDEPTH  Minimum depth (m)
                MAXDEPTH  Maximum depth (m)
                NETLEN    Net Length (m) or Hook Number
                DOWNTIME  Downtime(hours or HHMM)
                HAULS     Number of hauls (should be blank)
                SEARCHTM  Search time
                CATCH1    Wt(kg) of school shark for fishing operation
                CATCH2    Wt(kg) of gummy shark for fishing operation
                CATCH3    Wt(kg) of saw shark for fishing operation
                CATCH4    Wt(kg) of elephant fish for fishing operation
                CATCH5    Wt(kg) of snoek for fishing operation
                CATCH6    Wt(kg) of deep sea travalla for fishing operation
                CATCH7    Wt(kg) of warehou for fishing operation
                CATCH8    Wt(kg) of trevally for fishing operation
                CATCH9    Wt(kg) of fish (spec code is CATCH9 when KEY is 'SC') for fishing operation
                CATCH10   Wt(kg) of fish (spec code is CATCH10 when KEY is 'SC') for fishing operation
                CATCH11   Wt(kg) of fish (spec code is CATCH11 when KEY is 'SC') for fishing operation
                CATCH12   Wt(kg) of fish  (spec code is CATCH12 when KEY is 'SC') for fishing operation
                CATCH13   Wt(kg) of fish (spec code is CATCH13 when KEY is'SC') for fishing operation
                CATCH14   Wt(kg) of unknown fish for fishing operation
                SEQUENCE  unique operation No for this Fisher and date
   Notes:       All Return Forms have been coded and verified by the AFS and
                again by SIR Procedure TASAFZIS.VERIFY
SORT IDS        DATE (A)      FISHERM (A)   KEY (A)       SEQUENCE (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   150000
DATA LIST       (1)
                /1        FISHERM        1 -    4   (A)
                /1        DATE           5 -    8   (A)
```

```
                /1          DAY             9 -   10    (I)
                /1          KEY            11 -   12    (A)
                /1          BOATREG        13 -   19    (A)
                /1          AREA           20 -   24    (A)
                /1          QUARTER        25 -   31    (A)
                /1          TASGEAR        32 -   36    (A)
                /1          SHOTSTRT       37 -   41    (A)
                /1          MINDEPTH       42 -   46    (A)
                /1          MAXDEPTH       47 -   51    (A)
                /1          NETLEN         52 -   56    (A)
                /1          DOWNTIME       57 -   61    (A)
                /1          HAULS          62 -   66    (A)
                /1          SEARCHTM       67 -   71    (A)
                /1          CATCH1         72 -   76    (A)
                /1          CATCH2         77 -   81    (A)
                /1          CATCH3         82 -   86    (A)
                /1          CATCH4         87 -   91    (A)
                /1          CATCH5         92 -   96    (A)
                /1          CATCH6         97 -  101    (A)
                /1          CATCH7        102 -  106    (A)
                /1          CATCH8        107 -  111    (A)
                /1          CATCH9        112 -  116    (A)
                /1          CATCH10       117 -  121    (A)
                /1          CATCH11       122 -  126    (A)
                /1          CATCH12       127 -  131    (A)
                /1          CATCH13       132 -  136    (A)
                /1          SEQUENCE      137 -  138    (A)
                /1          CASE          139           (I)
DATE VARS       DATE        ('MMYY')/
STRING LENGTH   5
MISSING VALUES  BOATREG     ( '9999999'  )/
                NETLEN      ( '99999'  )/
                DOWNTIME    ( '99999'  )/
END SCHEMA
```

```
TASK NAME        RECORD 55 (GARFIS87)  SCHEMA DEFINITION
RECORD SCHEMA    55  GARFIS87
DOCUMENT
   Record type:  Raw CE
   Date Period:  1987 - present (SA)
   Source:       SA GARFIS Return Forms(Form No 1.1.11)
                 Input File is MSYY.DAT
   Description:  Data is prepared and verified in SA
                 Same as SIR Record Type GARFIS but different SIR Variable lengths
   Use:          Input of SIR Procedure GARFIS87.DETAIL to create SIR Record Types DETAIL, OPERATE, CATCH
   Variables:    The meaning of some SIR Variables depend on the SIR Variable SPECIES

                 When SPECIES is '000' effort record
                 LICENCE  Standard Fisher No
                 DATE     Date format YYMM
                 AREA     Standard SA Area Block Code
                 SPECIES  '000'
                 DAYS     Total days fishing for month
                 MANDAYS  Total days * crew for month

                 When SPECIES is not '000' catch record
                 LICENCE  Standard Fisher No
                 DATE     Date format YYMM
                 AREA     Standard SA Area Block Code
                 GEAR     Fishing gear ('SH' is gill net, 'LL' is long line)
                 TARGET   Target species '001' for shark operation
                 SPECIES  Standard Species Code
                 COND     W is whole or H is headed
                 CARCASE  Wt(kg) carcass wt of catch
                 LIVE     Wt(kg) live wt of catch. Shark is standardised to untrimmed carcass wt
                          All other species are whole live weight
                 VALUE    Value of catch
                 GEAR1    Shots per day
                 GEAR2    Hook Number or Net Length (metres)
                 GEAR3    Mesh Size (inches)
                 PORT     SA Port Code converted to standard Port Code using SIR Record Type SAPORT
   Notes:  SORT IDS        DATE (A)      LICENCE (A)   AREA (A)      GEAR (A)
                 TARGET (A)    SPECIES (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    60000
DATA LIST        (1)
                 /1        LICENCE        1 -    4   (A)
                 /1        DATE           5 -    8   (A)
                 /1        AREA           9 -   10   (I)
                 /1        GEAR          11 -   12   (A)
                 /1        TARGET        13 -   15   (I)
                 /1        SPECIES       16 -   18   (I)
                 /1        COND          19 -   20   (A)
                 /1        CARCASE       21 -   25   (I)
                 /1        LIVE          26 -   32   (I)
                 /1        VALUE         33 -   37   (I)
                 /1        DAYS          38 -   39   (I)
                 /1        MANDAYS       40 -   41   (I)
                 /1        GEAR1         42 -   45   (I)
                 /1        GEAR2         46 -   49   (I)
                 /1        GEAR3         50 -   53   (I)
                 /1        PORT          54 -   56   (A)
                 /1        DEALER        57          (I)
                 /1        TOTDAYS       58 -   59   (I)
                 /1        CASE          60          (I)
DATE VARS        DATE      ('YYMM')/
END SCHEMA
```

```
TASK NAME        RECORD 56 (NEWRAW87)  SCHEMA DEFINITION
RECORD SCHEMA    56  NEWRAW87
DOCUMENT
   Record type: Raw CE
   Date Period: Vic CE data .1988 - present
                Vic late CE data 85-88 entered 1989
   Source:      Vic Shot Return Forms (Forms 1.1.8,9)
                Input file is NEWRAW87.REF
   Description: One line of the Vic CE Fisher Return Form.
   Use:         Input of SIR Procedure NEWRAW87.DETAIL to create SIR Record Types DETAIL, OPERATE, CATCH
   Variables:   The meaning of the SIR Variables depend on the value of the SIR Variable KEY

                KEY is '01' for header record
                FISHERM  Standard
                DATE     Standard
                BOATREG  Standard Port Code
                AREA     No of crew
                SHOTSTRT Purchaser No of first purchaser
                MINDEPTH Wt(kg) sold to first Purchaser
                MAXDEPTH Purchaser No of second purchaser
                NETLEN   Wt(kg) sold to second Purchaser

                KEY is '06' for gear record
                SHOTSTRT always 'MS'
                MINDEPTH Mesh Size (cm) of gill net with first Mesh Size
                MAXDEPTH Net Length (m) of gill net with first Mesh Size
                NUMDEAD  Mesh Size (cm) of gill net with second Mesh Size( if used)
                WTDEAD   Net Length (m) of gill net with second Mesh Size( if used)

                KEY is 'SC' for species record
                CATCH9   Standard Species Code
                CATCH10  Standard Species Code
                CATCH11  Standard Species Code
                CATCH12  Standard Species Code
                CATCH13  Standard Species Code

                KEY is 'SH' for shot record
                DAY      Day of fishing operation
                AREA     Standard Area Block Code converted to latitude and longitude of the mid-point
                         using SIR Record Type AREA
                BOATREG  Standard Distinguishing Mark
                         Validated against SIR record DISTCORR
                SHOTSTRT Time of start of shot
                MINDEPTH Minimum depth (m)
                MAXDEPTH Maximum depth (m)
                NETLEN   Net Length (m)
                NUMHOOKS Hook Number
                DOWNTIME Downtime(hours or HHMM)
                CATCH1   Wt(kg) of school shark for fishing operation
                CATCH2   Wt(kg) of gummy shark for fishing operation
                CATCH3   Wt(kg) of gummy and school shark for fishing operation
                CATCH4   Wt(kg) of saw shark for fishing operation
                CATCH5   Wt(kg) of elephant fish for fishing operation
                CATCH6   Wt(kg) of broadnosed shark for fishing operation
                CATCH7   Wt(kg) of bronze whaler for fishing operation
                CATCH8   Wt(kg) of blue whaler for fishing operation
                CATCH9   Wt(kg) of fish (spec code is CATCH9 when KEY is 'SC') for fishing operation
                CATCH10  Wt(kg) of fish (spec code is CATCH10 when KEY is 'SC') for fishing operation
                CATCH11  Wt(kg) of fish (spec code is CATCH11 when KEY is 'SC') for fishing operation
                CATCH12  Wt(kg) of fish (spec code is CATCH12 when KEY is 'SC') for fishing operation
                CATCH13  Wt(kg) of fish (spec code is CATCH13 when KEY is'SC') for fishing operation
                CATCH14  Wt(kg) of unknown fish for fishing operation
                SEQUENCE Unique operation No for this Fisher and date
   Notes:       All records are validated by SIR Procedure NEWRAW87.VERIFY and edited via NEWRAW87.FORMS
                Same as SIR Record Type RAW but different Variable lengths
SORT IDS         DATE (A)      FISHERM (A)   KEY (A)       SEQUENCE (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    150000
DATA LIST        (1)
                 */1        FISHERM        1 -    4   (I)
                 /1         DATE           5 -    8   (A)
                 /1         DAY            9 -   10   (I)
                 /1         KEY           11 -   12   (A)
                 /1         BOATREG       13 -   19   (A)
                 /1         AREA          20 -   26   (A)
```

```
                /1          SHOTSTRT      27 -   31   (A)
                /1          MINDEPTH      32 -   36   (A)
                /1          MAXDEPTH      37 -   41   (A)
                /1          NETLEN        42 -   46   (A)
                /1          NUMHOOKS      47 -   51   (A)
                /1          DOWNTIME      52 -   56   (A)
                /1          NUMDEAD       57 -   61   (A)
                /1          WTDEAD        62 -   66   (A)
                /1          CATCH1        67 -   71   (A)
                /1          CATCH2        72 -   76   (A)
                /1          CATCH3        77 -   81   (A)
                /1          CATCH4        82 -   86   (A)
                /1          CATCH5        87 -   91   (A)
                /1          CATCH6        92 -   96   (A)
                /1          CATCH7        97 -  101   (A)
                /1          CATCH8       102 -  106   (A)
                /1          CATCH9       107 -  111   (A)
                /1          CATCH10      112 -  116   (A)
                /1          CATCH11      117 -  121   (A)
                /1          CATCH12      122 -  126   (A)
                /1          CATCH13      127 -  131   (A)
                /1          CATCH14      132 -  136   (A)
                /1          SEQUENCE     137 -  138   (A)
                /1          CASE         139          (I)
DATE VARS       DATE        ('MMYY')/
MISSING VALUES  BOATREG     ( '9999999'  )/
                NETLEN      ( '99999'  )/
                NUMHOOKS    ( '99999'  )/
                DOWNTIME    ( '99999'  )/
REJECT REC IF   (key eq'SC' and boatreg ne'SH     ' and boatreg ne
                'GF     ')
REJECT REC IF   (key eq'06' and boatreg ne'SH     ' and boatreg ne
                'GF     ')
END SCHEMA
```

```
TASK NAME       RECORD 57 (BRR     )  SCHEMA DEFINITION
RECORD SCHEMA   57  BRR
DOCUMENT
   Record type: Download
   Date Period: any required
   Source:      SIR Record Types GEOCATCH and GEOGEAR
                Created with SIR Procedure BRR.RETRIEVE
   Description: Temporary record for downloading target effort data
                Aggregated by locality of fishing (one degree by one degree square) and Depth Interval
   Variables:   DATE      Standard
                LATITUDE  Standard
                LONGITUD  Standard
                ZONE      Standard Depth Interval
                T1 - T20  Totals of catches and efforts as required for downloading
SORT IDS        DATE (A)      LATITUDE (A)  LONGITUD (A)  ZONE (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   100000
DATA LIST       (2)
                /1        CASE          3          (I)
                /1        DATE          4 -   7    (A)
                /1        LATITUDE      8 -   10   (I)
                /1        LONGITUD     11 -   14   (I)
                /1        ZONE         15 -   16   (I)
                /1        T1           17 -   24   (I)
                /1        T2           25 -   32   (I)
                /1        T3           33 -   40   (I)
                /1        T4           41 -   48   (I)
                /1        T5           49 -   56   (I)
                /1        T6           57 -   64   (I)
                /1        T7           65 -   72   (I)
                /1        T8           73 -   80   (I)
                /1        T9           81 -   88   (I)
                /1        T10          89 -   96   (I)
                /2        T11           3 -   10   (I)
                /2        T12          11 -   18   (I)
                /2        T13          19 -   26   (I)
                /2        T14          27 -   34   (I)
                /2        T15          35 -   42   (I)
                /2        T16          43 -   50   (I)
                /2        T17          51 -   58   (I)
                /2        T18          59 -   66   (I)
                /2        T19          67 -   74   (I)
                /2        T20          75 -   82   (I)
DATE VARS       DATE      ('MMYY')/
SCALED VARS     LATITUD   (-1)/
                LONGITUD  (-1)/
END SCHEMA
TASK NAME       RECORD 60 (BOAT    )  SCHEMA DEFINITION
RECORD SCHEMA   60  BOAT
DOCUMENT
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered Via user access FORMS
   Description: Details of each shark vessel
   Variables:   DISTING   Standard
                NAME      Vessel name
                LENGTH    Length of vessel (metres)
                TONNAGE   Weight of vessel (tonnes)
                STOWAGE   Type of stowage
 SORT IDS        DISTING (A)
SEQUENCE CHECK  OFF
MAX REC COUNT   60000
DATA LIST       (1)
                /1        DISTING       1 -   7    (A)
                /1        NAME          8 -   27   (A)
                /1        HULL         28 -   29   (A)
                /1        LENGTH       30 -   35   (I)
                /1        TONNAGE      36 -   41   (I)
                /1        STOWAGE      42 -   43   (A)
                /1        CASE         66         (I)
END SCHEMA
```

```
TASK NAME        RECORD 61 (OWNER    )  SCHEMA DEFINITION
RECORD SCHEMA    61  OWNER
DOCUMENT         LICENCE HOLDER
   Record type:  Reference
   Date Period:  Complete time series
   Source:       Entered Via user access FORMS
   Description:  Details of each Commonwealth Shark licence holder
   Variables:    DISTING  Standard
                 HOMEPORT Standard
                 NAME     Name of owner
                 NAME2    Name of owner
                 STREET   Address of owner
                 TOWN     Address of owner
                 POSTCODE Address of owner
                 PHONE    Telephone No of owner
                 CMGEAR   Commonwealth gear endorsements
                 STGEAR   State gear endorsements
                 COMMENTS Comments
 SORT IDS         DISTING (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    60000
DATA LIST        (1)
                 /1        DISTING        1 -    7   (A)
                 /1        HOMEPORT       8 -   11   (I)
                 /1        NAME          12 -   31   (A)
                 /1        NAME2         32 -   41   (A)
                 /1        STREET        42 -   56   (A)
                 /1        TOWN          57 -   66   (A)
                 /1        POSTCODE      67 -   70   (I)
                 /1        PHONE         71 -   82   (A)
                 /1        CMGEAR        83 -   94   (A)
                 /1        STGEAR        95 -  106   (A)
                 /1        COMMENTS     107 -  136   (A)
                 /1        CASE         140          (I)
END SCHEMA
```

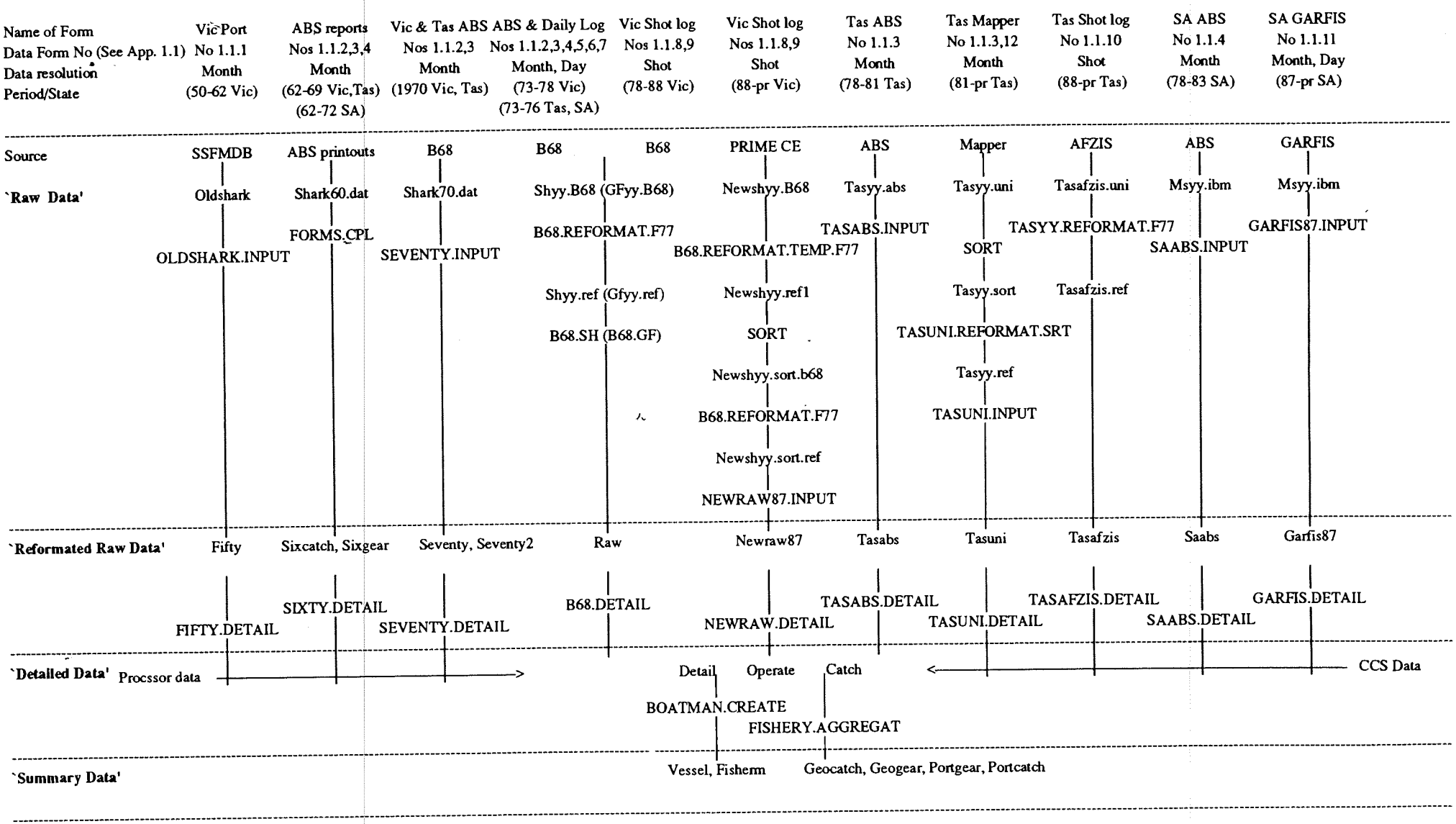
```
TASK NAME        RECORD 62 (FISHER   )  SCHEMA DEFINITION
RECORD SCHEMA    62  FISHER
DOCUMENT         FISHER DETAILS
   Record type:  Reference
   Date Period:  Complete time series
   Source:       Entered Via user access FORMS
   Description:  Details of each Shark Fisher
   Variables:    FISHERM  Standard
                 DATEIN   Entry date
                 DATEOUT  Exit date
                 NAME     Name of fisher
                 NAME2    Name of fisher
                 STREET   Address of fisher
                 TOWN     Address of fisher
                 POSTCODE Address of fisher
                 PHONE    Telephone No of fisher
                 COMMENTS Comments
 SORT IDS         FISHERM (A)
SEQUENCE CHECK   OFF
MAX REC COUNT    60000
DATA LIST        (1)
                 /1        FISHERM        1 -    7   (A)
                 /1        DATEIN         8 -   11   (A)
                 /1        NAME          12 -   31   (A)
                 /1        NAME2         32 -   41   (A)
                 /1        STREET        42 -   56   (A)
                 /1        TOWN          57 -   66   (A)
                 /1        POSTCODE      67 -   70   (I)
                 /1        PHONE         71 -   82   (A)
                 /1        DATEOUT       83 -   86   (A)
                 /1        COMMENTS      87 -  116   (A)
                 /1        CASE         120          (I)
DATE VARS        DATEIN    ('YYMM')/
                 DATEOUT   ('YYMM')/
END SCHEMA
```

```
TASK NAME       RECORD 63 (PROCOR  )  SCHEMA DEFINITION
RECORD SCHEMA   63  PROCOR
DOCUMENT        PROCESSOR DETAILS
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered Via user access FORMS
   Description: Details of each Shark Processor
   Variables:   PROCESS  Standard Processor number
                DATEIN   Entry date
                DATEOUT  Exit date
                NAME     Name of Processor
                NAME2    Name of Processor
                STREET   Address of Processor
                TOWN     Address of Processor
                POSTCODE Address of Processor
                PHONE    Telephone No of Processor
                COMMENTS Comments
                CONTACT  Name of contact person
SORT IDS        PROCESS (A)
MAX REC COUNT   60000
DATA LIST       (1)
                /1        PROCESS        4 -   7   (A)
                /1        DATEIN         8 -  11   (A)
                /1        NAME          12 -  31   (A)
                /1        NAME2         32 -  41   (A)
                /1        STREET        42 -  56   (A)
                /1        TOWN          57 -  66   (A)
                /1        POSTCODE      67 -  70   (I)
                /1        PHONE         71 -  82   (A)
                /1        DATEOUT       83 -  86   (A)
                /1        CONTACT       87 - 106   (A)
                /1        COMMENTS     107 - 126   (A)
                /1        CASE         127         (I)
DATE VARS       DATEIN    ('YYMM')/
                DATEOUT   ('YYMM')/
```

```
TASK NAME       RECORD 64 (MEASURER)  SCHEMA DEFINITION
RECORD SCHEMA   64  MEASURER
DOCUMENT        MEASURER  DETAILS
   Record type: Reference
   Date Period: Complete time series
   Source:      Entered Via user access FORMS
   Description: Details of each Shark Measurer
   Variables:   MEASNO   Standard Measurer number
                DATEIN   Entry date
                DATEOUT  Exit date
                NAME     Name of Measurer
                NAME2    Name of Measurer
                STREET   Address of Measurer
                TOWN     Address of Measurer
                POSTCODE Address of Measurer
                PHONE    Telephone No of Measurer
                PROC1    Name of sampling site
                PROC2    Name of sampling site
                PROC3    Name of sampling site
                COMMENTS Comments
SORT IDS        MEASNO (A)
MAX REC COUNT   60000
DATA LIST       (1)
                /1        MEASNO         6 -   7   (A)
                /1        DATEIN         8 -  11   (A)
                /1        NAME          12 -  31   (A)
                /1        NAME2         32 -  41   (A)
                /1        STREET        42 -  56   (A)
                /1        TOWN          57 -  66   (A)
                /1        POSTCODE      67 -  70   (I)
                /1        PHONE         71 -  82   (A)
                /1        DATEOUT       83 -  86   (A)
                /1        PROC1         87 -  90   (I)
                /1        PROC2         91 -  94   (I)
                /1        PROC3         95 -  98   (I)
                /1        COMMENTS      99 - 128   (A)
                /1        CASE         130         (I)
DATE VARS       DATEIN    ('YYMM')/
                DATEOUT   ('YYMM')/
```

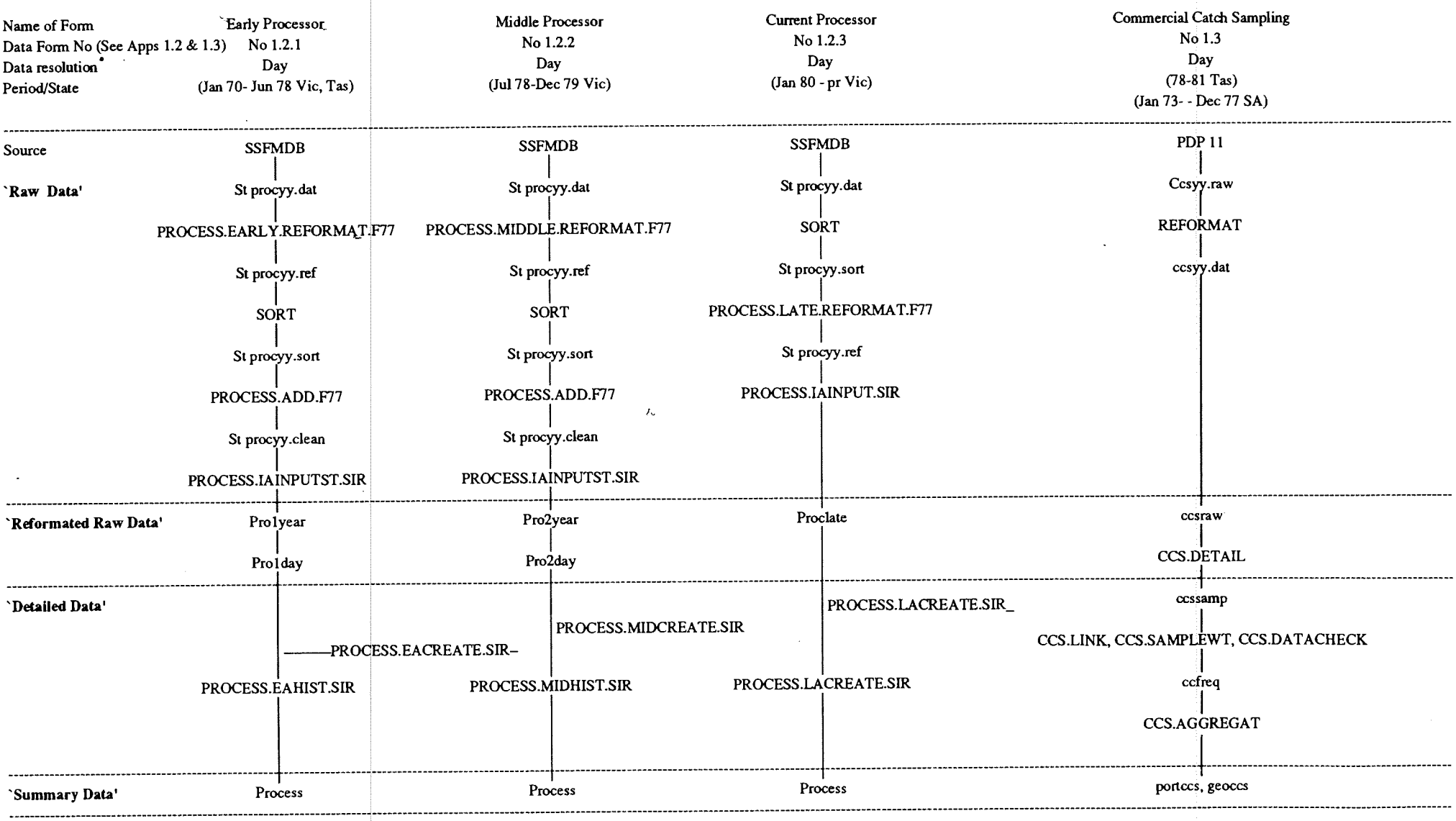
Appendix 4.1 SSFMDB Data Flow Chart - Fishermen's Catch and effort data

CPL Jobs, FORTRAN Programs and SIR Produres are in uppercase and Data Files and SIR Record Types ate in lower case



Appendix 4.2 SSFMDB Data Flow Chart - Processor and sex-length-frequency commercial catch sampling data

CPL Jobs, FORTRAN Programs and SIR Produres are in uppercase and Data Files and SIR Record Types are in lower case; `St ' represents Vic, Tas and SA separately



Appendix 5.1.1 **Validation of SIR Record Type NEWRAW87 by SIR Procedure NEWRAW87.VERIFY**

SIR Key Field is 'SH'

SIR Variable	Error condition
MONTH	< 0 or > 12
YEAR	< 85 or > 89
CATCH1	< 0 or > 4000
CATCH2	< 0 or > 4000
CATCH3	< 0 or > 8000
CATCH4	< 0 or > 4000
CATCH5	< 0 or > 4000
CATCH6	< 0 or > 2000
CATCH7	< 0 or > 2000
CATCH8	< 0 or > 2000
CATCH9	< 0 or > 4000
CATCH10	< 0 or > 6000
CATCH11	< 0 or > 6000
CATCH12	< 0 or > 4000
CATCH13	< 0 or > 4000
CATCH14	< 0 or > 4000
CATCH1/NETLEN	> 1
CATCH2/NETLEN	> 1
CATCH3/NETLEN	> 1
CATCH4/NETLEN	> 1
CATCH5/NETLEN	> 1
AREA	< 0 or > 67
DAY	< 0 or > 40 and not = 99
MINDEPTH	< 0 or > 360
MAXDEPTH	< 0 or > 360
NETLEN	< 0 or 6000 and date > 0488
NETLEN	< 0 or > 9999 and date < or = 0488
NUMHOOKS	< 0 or > 3500
DOWNTIME	< 0 or > 2400

Appendix 5.1.2 **Validation of SIR Record Type TASAFZIS by SIR Procedure TASAFZIS.VERIFY**

SIR Key Field is 'SH'

SIR Variable	Error condition
MONTH	< 0 or > 12
YEAR	< 85 or > 89
CATCH1	< 0 or > 4000
CATCH2	< 0 or > 4000
CATCH3	< 0 or > 8000
CATCH4	< 0 or > 4000
CATCH5	< 0 or > 2000
CATCH6	< 0 or > 2000
CATCH7	< 0 or > 2000
CATCH8	< 0 or > 2000
CATCH9	< 0 or > 2000
CATCH10	< 0 or > 4000
CATCH11	< 0 or > 4000
CATCH12	< 0 or > 4000
CATCH13	< 0 or > 4000
NETLEN	> 0
CATCH1/NETLEN	> 1
CATCH2/NETLEN	> 1
CATCH3/NETLEN	> 1
CATCH4/NETLEN	> 1
CATCH5/NETLEN	> 1
AREA	< 0 or > 67
DAY	< 0 or > 40 and day not = 99
MINDEPTH	< 0 or > 300
MAXDEPTH	< 0 or > 300
NETLEN	< 0 or > 2500
DOWNTIME	< 0 or > 2400

Appendix 6 Sir Reports

PROCEDURE	INPUT	REPORT	PURPOSE
BRR.NONTARLT	Geogear Geocatch	Brr.nontarglt.yy.dat	Download catch effort and target catch effort (lifts) agg by geo location and depth requested by brr for special analysis
BRR.TARGETHR	Geocatch Geogear, Afs	Brr.targethr.yy.dat	Extract target CE data for downloading, effort in kmhours
BRR.TARGETLT	Geocatch, Geogear, Afs	Brr.targetlt.yy.data	Extract target CE data for downloading, effort in kmlifts
CCS.DOWNLOAD	Portccs, portcat,Mnregspc	Ccs.downld.dat	Extract catch and len freq data agg by port/region for downlding
CCS.KOMQ	Ccssamp Ccsreq	Ccs.kom.q	Report of frequencies by species/port of landing/month
CCS.KSMQ	Ccssamp, Ccsreq	Ccs.ksm.q	Report of frequencies by species/state of landing/month
CCS.TABKZYJQ	Geoccs	Ccs.jzyjqc.tab.<sp>	Example of a download using table files download length freq data by geo location
CCS. YOKQW	Ccssamp,	Ccs.yo.kqw	Report of freqs, sample wts by yr/port of landing/species
CCSF.KRMQ	Ccssamp, Ccsreq	Ccsf.krm.q	Report of freqs by species/region of fishing/month
CCSF.KSEYJQW	Portccs	Ccsf.kseyj.qw	Report of length freqs by species/state of fishing/mesh size/year
CCSF.KSEYJQQW1	Portccs	Ccsf.kseyj.qw1.dat	Report of length freqs by species/state of fishing/mesh size/yr
CCSF.KSYJEQ	Ccssamp, Ccsfreq	Ccsf.ksyje.q	Report of length freqs by species/state of landing/yr/mesh size
CCSF.KSYJEQ1	Ccssamp, Cssfreq	Ccsf.ksyje.q1.dat	Downnload of length freqs by species/state of landing/yr/mesh size
CCSF.KZEYJQW	Geoccs	Ccsf.kzeyj.qw	Report of length freqs by species/state of fishing/mesh size/yr
CCSF.KZEYJQW1	Geoccs	Ccsf.kzeyj.qw1.dat	Report of length freqs by species/state of fishing/mesh size/yr
CCSF.KZMQ	Ccssamp, Ccsfreq	Ccsf.kzmq	Report of freqs by species/state of fishing/month
CCSF.KZYJEQ	Ccssamp Ccsfreq	Ccsf.kzyje.q	Report of length freqs by species/state of fishing/yr/mesh size
CCSF.KZYJEQ1	Ccssamp, Ccsfreq	Ccsf.kzyje.q1.dat	Dnload of length freqs by species/state of fishing/yr/mesh size
CCSF.SYOMFADQ	Ccssamp, Ccsfreq	Ccsf.syom.fvadqm	Report of length freq data by state of landing/yr /port /mth details of vessel, fisher, area and depth of fishing, freqs,batch and sample wts
DETAILF.COUNT	Detail, Operate, Catch		Count of detail records by year
DETAILF.FGEM	Detail Operate	Detail.fg.em	Create a report fisher/gear/mesh size/date (MMYY) Catch
DETAILF.KGRDTNCI	Detail Operate, Catch	Detailf.kgyrd.tnci	Target and nontarget catch effort details by gear/region/yr depth
DETAILF.MOFAIC	Detail Operate, Catch	Warehou.dowot.dat	Catch and effort details of fishing operations when no warehou is caught
DETAILF.MOFAICKX	Detail, Operate, Catch	Warehou.down.dat	Catch and effort details of fishing operations when warehou is caught
DETAILF.ORIG26M	Detail, Operate, Catch	Detailf.ori26m.kx	Catch of shark species by origin of return/double report code/6 months
DETAILF.ORIG2S6M	Detail, Operate, Catch	Detailf.ori2s6m.ckx	Catch of shark species by origin of return/double report code/state of landing/6 month
DETAILF.SLVY	Detail, Operate, Catch	Detailf.slvy.bgnckhi	Report nontarget effort by state/licence/vessel
DETAILF.SLY	Detail, Operate, Catch	Detailf.sly.bgnkhi.0	Report nontarget effort by state/licence for selected vessels with no net endorsements

PROCEDURE	INPUT	REPORT	PURPOSE OF REPORT
DETAILF.SY1	Detail, Operate, Catch	Detailf.svy.bgkhl.a.	Report nontarget effort by state vessel for selected vessels with an A licence (input the number of nets)
DETAILF.SY2	Detail, Operate, Catch	Detailf.sy.bgckhl.b	Report nontarget effort by state for selected vessels with a B licence
DETAILF.V2PMCI	Detail Operate, Catch	Detailf.v2pm.ci	Catches of each species of shark and effort (lifts) if some of the species is caught. By port of landing/double report code/mth
DETAILF.V2PYCI	Detail, Operate, Catch	Detailf.v2py.ci	Catches of each species of shark and effort (lifts) if some of the species is caught. By port of landing/double report code/year
DETAILF.V2S6M	Detail Operate, Catch	Detailf.v2s6m.ckx	Catch of shark species by double report code/state of landing/6 mths
DETAILF.V2Z6M	Detail Operate, Catch	Detailf.v2z6m.ckx	Catch of shark species by double report code/state of fishing/6 mths
DETAILF.U2ZS6M	Detail Operate, Catch	Detailf.u2zs6m.ckx	Catch of shark species by double report code/state of fishing/state of landing/6 months
DETAILF.V6MGRC	Detail Operate, Catch	Detailf.v6mgr.c	Report days by vessel and specified periods inside and outside the SA Gulf
DETAILF.VGAYNTIC	Detail, Operate, Catch	Detailf.vgay.ntic	Target and nontarget catch effort details by vessel
DETAILF.VYAGNTHC	Detail Operate, Catch	Detailf.vyag.nth.dat	Target and nontarget catch effort details by vessel
DETAILF.VYAGNTIC	Detail, Operate, Catch	Detailf.vyag.nti.dat	Target and nontarget catch effort (lifts) details by vessel
DETAILFP.SVY	Detail, Operate, Catch	Detailfp.svy.lnck	Catch details by state/vessel from fisher returns, from processor returns, not linked
GEOF.AGDYH	Geocatch, Geogear	Geof.agdy.tnhck	Report of shark target and non target catches and efforts by area/gear/depth/yr (effort in hrs)
GEOF.AGDYI	Geocatch, Geogear	Geof.agdy.tnick	Report of shark target and non target catches and efforts by area/gear/depth/year (effort in lifts)
GEOF.AGYH	Geocatch, Geogear	Geof.agy.tnhck	Report of shark target and non target catches and efforts by area/gear/yr (effort in hrs)
GEOF.AGYI	Geocatch, Geogear	Geof.agy.tnick	Report of shark target and non target catches and efforts by area/gear/yr (effort in lifts)
GEOF.EYH	Geocatch, Geogear	Geof.ey.tnhck	Report of shark target and non target catches and efforts by mesh size/yr (effort in hrs)
GEOF.EYI	Geocatch, Geogear	Geof.ey.tnick	Report of shark target and non target catches and efforts by mesh size/yr (effort in lifts)
GEOF.EZYH	Geocatch Geogear	Geof.ezy.tnhck	Report of shark target and non target catches and efforts by mesh size/state of fishing/yr (effort in hrs)
GEOF.EZYI	Geocatch, Geogear	Geof.ezy.tnick	Report of shark target and non target catches and efforts by mesh size/state of fishing/yr (effort in lifts)
GEOF.KGADCIH	Geocatch, Geogear	Geof.kgad.cih	Catch and effort data for shark by species/gear/area/depth
GEOF.MAEXNIC	Geocatch, Geogear	Geof.maex.nic	Report total trevally catch by mth/area
GEOF.RDYI	Geocatch, Geogear	Geof.rdy.tnick	Report of shark target and non target catches and efforts by region/depth/yr (effort in lifts)
GEOF.RGDYH	Geocatch, Geogear	Geof.rgdy.tnhck	Report of shark target and non target catches and efforts by region/gear/depth/yr (effort in hrs)
GEOF.RGDYI	Geocatch, Geogear	Geof.rgdy.tnick	Report of shark target and non target catches and efforts by region/gear/depth/yr (effort in lifts)
GEOF.RGDYK	Geocatch, Geogear	Geof.rgdy.nck	Report of shark (all species) by region/gear/depth
GEOF.RGDYX	Geocatch, Geogear	Geof.rgdy.ncx	Report of scale catches by region/gear/depth

PROCEDURE	INPUT RECORD		REPORT	PURPOSE OF REPORT
GEOF.RGYH	Geocatch, Geogear	Geof.rgy.tnhck		Report of shark target and non target catches and efforts by region/geara/yr (effort in hrs)
GEOF.RGYI	Geocatch, Geogear	Geof.rgy.tnick		Report of shark target and non target catches and efforts by region/gear/yr (effort in lifts)
GEOF.XGDCIH	Geocatch, Geogear	Geof.xgd.cih		Catch and effort data for warehou by species/gear/depth
GEOF.XRG	Geocatch, Geogear	Geof.xrg.c		Report of scale fish catches by region of fishing/gear/yr
GEOF.YRGECK	Geocatch, Geogear	Geof.yrge.ck		Annual report corrected catch data by region and mesh size
GEOF.ZEYH	Geocatch, Geogear	Geof.zey.tnhck		Report of shark target and non target catches and efforts by state of fishing/mesh size/yr (effort in hrs)
GEOF.ZEYI	Geocatch, Geogear	Geof.zey.tnick		Report of shark target and non target catches and efforts by state of fishing/mesh size/yr (effort in lifts)
GEOF.ZGDYH	Geocatch, Geogear	Geof.zgdy.tnhck		Report of shark target and non target catches and efforts by state of fishing/gear/depth/yr (effort in hrs)
GEOF.ZGDYI	Geocatch, Geogear	Geof.zgdy.tnick		Report of shark target and non target catches and efforts by state of fishing/gear/depth/yr (effort in lifts)
GEOF.ZGYH	Geocatch, Geogear	Geof.zgy.tnhck		Report of shark target and non target catches and efforts by state of fishing/gear/yr (effort in hrs)
GEOF.ZGYI	Geocatch, Geogear	Geof.zgy.tnick		Report of shark target and non target catches and efforts by state of fishing/gear/yr (effort in lifts)
GEOF.ZYGNTCHK	Geocatch, Geogear	Geof.zyg.ntchk.data Geof.zyg.ntchk		Target and non target catch and effort by mgmt zone/yr/gear effort in hrs
GEOF.ZYGNTCIK	Geocatch, Geogear	Geof.zyg.ntcik.data Geof.zyg.ntcik		Target and non target catch and effort by management zone/yr/gear (effort in lifts)
NEWRAW87.FYC	Newraw87	Newraw87.fy.c		Total reported catch from fisher returns by fisher/yr
NEWRAW87.PYC	Newraw87	Newraw87.py.c		Total reported catch from fisher returns by processor/yr
NEWRAW87.YFPC	Newraw87	Newraw87.yfp.c		Total reported catch from fisher returns by yr/fisher/processor
NEWRAW87.YOFPC	Newraw87	Newraw87.yofp.c		Total reported catch from fisher returns by yr/port of landing/fisher/purchaser
NEWRAW87.YOPFC	Newraw87	Newraw87.yopf.c		Total reported catch from fisher returns by yr/port of landing/purchaser/fisher
NEWRAW87.YPFC	Newraw87	Newraw87.ypf.c		Total reported catch from fisher returns by yr/processor/fishery
PORTF.G6MSNCK	Portcat, Portgear	Portf.g6ms.nck		Report total nontargetted shark catches by gear/state of landing/6 mth
PORTF.G6MSNIK	Portcat, Portgear	Portf.g6ms.nik		Report total nontargetted shark effort (lifts) by gear/state of landing/half yr
PORTF.GMSNCK	Portcat, Portgear	Portf.gms.nck		Report total nontargetted shark catches by gear/state of landing/month
PORTF.GMSNIK	Portcat, Portgear	Portf.gms.nik		Report total nontargetted shark effort (lifts) by gear/state of landing/mth
PORTF.GYSNCK	Portcat, Portgear	Portf.gys.nck		Report total nontargetted shark catches by gear/state of landing/yr
PORTF.GYSNIK	Portcat, Portgear	Portf.gys.nik		Report total nontargetted shark effort by gear/state of landing/yr
PORTF.M6SNCK	Portcat, Portgear	Portfp.m6s.nck		Report total nontargetted shark catches by state of landing/half yr
PORTF.M6SNICK	Portcat, Portgear	Portf.m6s.nick		Report total nontargetted shark catch & effort by half year/state of landing
PORTF.MSNCK	Portcat, Portgear	Portf.ms.nck		Report total nontargetted shark catches by state of landing/mth
PORTF.MSNICK	Portcat, Portgear	Portf.ms.nick		Report total nontargetted shark catch & effort by mth/state of landing

PROCEDURE	INPUT	REPORT	PURPOSE OF REPORT
PORTF.OYCK	Portcat, Portgear	Portf.oyk.c	Report total nontargetted shark catch by port of landing/yr
PORTF.SGYKC	Portcat, Portgear	Portf.sgyk.c	Report total nontargetted shark catch by state of landing/gear/yr
PORTF.SGYXC	Portcat, Portgear	Portf.sgyx.c	Report of total scale fish catch by state of landing/gear/yr
PORTF.SYKC	Portcat, Portgear	Portf.syk.c	Report total nontargetted shark catch by state of landing/yr
PORTF.SYXKC	Portcat, Portgear	Portf.syx.c	Report total scale fish catch by state of landing/yr
PORTF.XOG	Portcat, Portgear	Portf.xog.c	Reported scale fish catches by port/gear
PORTF.XSG	Portcat, Portgear	Portf.xsg.c	Reported scale fish catches by state of landing/gear
PORTF.YSNCK	Portcat, Portgear	Portf.ys.nck	Reported total nontarget shark catches by state of landing/year
PORTF.YSNICK	Portcat, Portgear	Portf.ys.nick	Reported total nontarget shark catches and effort by state of landing/year
PORTFP.M6SNCK	Portcat, Portgear	Portfp.m6s.nck	Report total nontargetted shark catches by state of landing/half yr (processor & fisher source)
PORTFP.MSNCK	Portcat, Portgear	Portfp.ms.nck	Reported total nontarget shark catches by state of landing/month(processor & fisher source)
PORTFP.YSNCK	Portcat, Portgear	Portfp.ys.nck	Reported total nontarget shark catches by state of landing/year(processor & fisher source)
PORTF.OYNCK	Portcat,	Portfp.oy.nck	Reported total nontarget shark catches by port of landing/year(processor & fisher source)
PROCESS.FMP	Proclate	Process.fmp	Report fisher/month/processor
PROCESS.FMV	Proclate	Process.fmv	Report fisher/month/vessel
PROCESS.MSCK	Process	Process.ms.ck	Report tot wt by species/processor/month
PROCESS.OYLC	Proclate	Process.oyl.c	Report tot wt by combined shark/port/year/licence type
PROCESS.OYLCK	Proclate	Process.oyl.ck	Report tot wt by total shark/port/year/licence type
PROCESS.OYPC1	Proclate	Process.oyp.c1	Report tot wt by combined shark/port/year/SA Processor
PROCESS.OYPCK1	Proclate	Process.oyp.ck1	Report tot wt by total shark/port/year/SA Processor
PROCESS.OYPC2	Proclate	Process.oyp.c2	Report tot wt by combined shark/port/year/Tas Processor
PROCESS.OYPCK2	Proclate	Process.oyp.ck2	Report tot wt by total shark/port/year/Tas Processor
PROCESS.OYPC3	Proclate	Process.oyp.c3	Report tot wt by combined shark/port/year/Central Vic Processor
PROCESS.OYPCK3	Proclate	Process.oyp.ck3	Report tot wt by total shark/port/year/Central Vic Processor
PROCESS.OYPC4	Proclate	Process.oyp.c4	Report tot wt by combined shark/port/year/E & W Vic Processor
PROCESS.OYPCK4	Proclate	Process.oyp.ck4	Report tot wt by total shark/port/year/E & W Vic Processor
PROCESS.PMCK	Proclate	Process.pm.ck	Report processor/month/shark species
PROCESS.VMF	Proclate	Process.vmf	Report vessel/month/fisher
PROCESS.VMP	Proclate	Process.vmp	Report vessel/month/processor
VESSELF.BVSL0	Vessel Fisher	Vesself.bvnl0	Vessels with net endorsements and no returns
VESSELF.FMVU	Vessel Fisher	Vesself.fm.vu	Return history by Fisher
VESSELF.M6GLSC10	Vessel Fisher	Vesself.m6gls.c10	Catches by half year/gear/licence/state within 10tonne intervals
VESSELF.M6GLSC5	Vessel Fisher	Vesself.m6gls.c5	Catches by half year/gear/licence/state within 5 tonne intervals
VESSELF.M6LSC10	Vessel Fisher	Vesself.m6ls.c10	Catches by half year/licence/state within 10tonne intervals

PROCEDURE	INPUT	REPORT	PURPOSE OF REPORT
VESSELF.M6LSC5	Vessel Fisher	Vesself.m6ls.c5	Catches by half year/licence/state within 5 tonne intervals
VESSELF.OVY	Vessel Fisher	Vesself.ovy.lnckxgi	Catches and effort by port/vessel/year(lifts)
VESSELF.SBFMU	Vessel Fisher	Vesself.sbfmu	Return history by Vic fishers with Tas returns only
VESSELF.SBVM	Vessel Fisher	Vesself.sbvm.nckxg	Catches and effort by vessel/month(lifts). Vessels selected with suspect CPUE
VESSELF.SLBVMCK	Vessel Fisher	Vesself.slbvm.ck	Catches by state/licence/vessel/month(lifts).
VESSELF.SLBVYCK	Vessel Fisher	Vesself.slbvy.ck	Catches by state/licence/vessel/year(lifts).
VESSELF.SLVMFU	Vessel Fisher	Vesself.slvm.fu	Return history by state/licence/vessel.
VESSELF.SLYCIK	Vessel Fisher	Vesself.sly.cik	Catches and effort by state/licence type/year(lifts)
VESSELF.SMBV	Vessel Fisher	Vesself.smbv.lnckxg	Catches and effort by state/month(lifts). Vessels selected with suspect CPUE
VESSELF.SVM	Vessel Fisher	Vesself.svm.lnckxgi	Catches and effort by state/vessel/month(lifts)
VESSELF.SVY	Vessel Fisher	Vesself.svy.lnckxgi	Catches and effort by state/vessel/year(lifts)
VESSELF.U2BVMCIK	Vessel Fisher	Vesself.u2bvm.cik	Catches and effort by vessel/month(lifts).Vessels selected that double report
VESSELF.YGLSC10	Vessel Fisher	Vesself.ygls.c10	Catches by year/gear/licence/state within 10tonne intervals
VESSELF.YGLSC5	Vessel Fisher	Vesself.ygls.c5	Catches by year/gear/licence/state within 5 tonne intervals
VESSELF.YLSC10	Vessel Fisher	Vesself.yls.c10	Catches by year/licence/state within 10tonne intervals
VESSELF.YLSC5	Vessel Fisher	Vesself.yls.c5	Catches by year/licence/state within 5 tonne intervals