CCAMLR

C4 Data Entry Form
- Survey Database
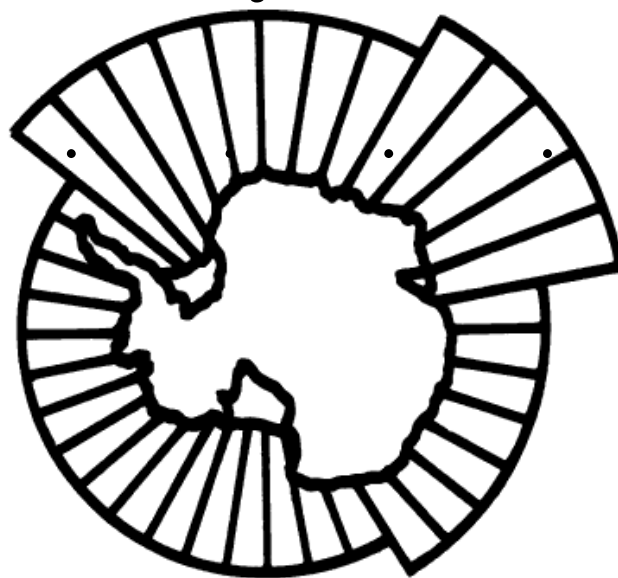
User Guide and Technical Reference

November 2005

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CCAMLR C4 Survey Database Input Form

Introduction

In accordance with Conservation Measure 24-01 (2003) the Secretariat has developed an electronic input form to assist with the submission of Catch and Effort Data associated with Research Surveys.

This form was created using a Microsoft Access shell, containing a table structure to match that of the CCAMLR Survey Database (SDB).

This allows for easy importing and updating of submitted data into the SDB.

The Database also contains a number of 'lookup' tables, containing existing information from the SDB, such as ASD Codes, Species Codes, Vessel Codes and Country Codes. These tables are used to provide accuracy in both data entry via the input forms, as well as accurate validation of data before submission. (See *Appendix 1, Table 1* for details of lookup codes)

The Data can be input through a number of input forms, which contain a number of in-built validation routines and notifications, to assist the user with identifying and correcting potential inconsistencies before submission to the Secretariat. These input forms also contain some mandatory fields, identified as essential for use of the Survey Data, and which must be completed before saving the record. The use of Mandatory fields ensures that no incomplete data are submitted to the Secretariat. These input forms allow the entry of data on a single record by record basis. (See *Appendix 1, Table 2* for details of mandatory fields)

For bulk inserts and imports, data may also be entered directly into the Access tables, using the standard Access shell, with methods such as copy and paste, or importing via Queries.

The C4 Database contains a number of validation routines, which can be accessed from a single form, that can be run after the data has been entered, to ensure accuracy and data integrity of the highest standard before submission. This should greatly reduce the workload required to standardize the data before importing into the secretariats Survey Database, as well as help to reduce the possibility of errors in the data. These routines use a number of lookups and calculations to check that the data complies to certain 'rules' and uses existing recognizable codes whenever possible. (See *Appendix 1, Table 3* for details of validations performed)

Common Concepts

The C4 Database uses a number of common forms that appear throughout the database.

- REQUIRED FIELDS – On all forms that can be used for adding new Data, a number of fields have been identified as mandatory, and are required to be entered before the record can be saved. These are denoted by a star (*) beside the field name.

- BUTTONS – On each Data Entry form, there is a Close button and a Save Button. By default the Save button is disabled, until some data has been entered, at which point it is automatically enabled. At this point the close button changes to a Cancel button, and can be used to cancel entry of the record.

- CONFIRMATIONS – When you click on the SAVE button on a form, the data is checked to ensure that any required fields have been completed. If there are any fields not complete, a dialog box will appear, specifying which fields are still required. The field names on the form will then be highlighted in red, allowing easier identification.

- SELECT DIALOGS – On a number of forms, data is required that uses a 3-alpha code, and needs to match a lookup in the Secretariats Survey Database, such as Species Codes and Country Codes. This data can be entered by either manually typing the 3-alpha code, or by using the Select Dialog Form.

Select Country

Select Country from the list by double-clicking or select and then click 'Use Selected Country'

Search by Country Name

ARG	Argentina
AUS	Australia
BEL	Belgium
BGR	Bulgaria
BRA	Brazil
CHL	Chile
DDR	German Democratic Republic
DEU	Federal Republic of Germany
EEC	European Economic Commur
ESP	Spain
EST	Estonia
FRA	France
GBR	United Kingdom of Great Brit
IND	India
ITA	Italy
JPN	Japan
KOR	Republic of Korea
LTU	Lituania
LVA	Latvia
NAM	Namibia
NOR	Norway
NZL	New Zealand
PAN	Panama
POL	Poland
RUS	Russian Federation
SUN	Union of Soviet Socialist Rep
SWE	Sweden
TWN	Taiwan
UKR	Ukraine

Cancel   Use Selected Country

Select Species

Select Species from the list by double-clicking or select and then click 'Use Selected Species'

Search by Scientific Name

tre

ERN	Trematomus bernacchii
PTC	Trematomus pennellii
TLO	Trematomis loennbergii
TMH	Trematomus bernacchii
TMW	Trematomus vicarius
TRD	Trematomus lepidorhinus
TRL	Trematomus eulepidotus
TRM	Trematomus scotti
TRN	Trematomus nicolai
TRT	Trematomus spp
TRW	Trematomus newnesi
TTK	Trematomus tokarevi

Cancel   Use Selected Species

Using these forms, you can scroll through to find the desired code, or you can type a search into the search box. Filtering the list is automatic as you type.

Once the required Code is found, you can either double click on the row or select the row and then click on the **USE SELECTED** *button to select it.*

This form will then close, and the data you selected will be automatically completed on the underlying form.

Main Menu

The Main Menu opens automatically when you open the C4 Form.

It contains links to open the relevant forms to add, view or validate your Data.

ADDING NEW RECORDS

ADD NEW SURVEY

To Add a new Survey, Click on the **Add New Survey** button from the main screen.

This will open the following form:

This form allows you to enter details of your Survey.

Any fields required by the Secretariat as mandatory are marked with a star (*).

You can either manually enter the Species Code and Country Codes, or you can use the Select dialog forms to search and find the required codes.

Note that when you use the Select Country dialog to select a code, the selected code will be applied to all 3 country code fields. You can then manually change any data if required.

ADD NEW VESSEL

To Add a new Vessel, Click on the **Add New Vessel** button from the main screen.

This will open the following form:

This form allows you to enter details for your Vessel

Any fields required by the Secretariat as mandatory are marked with a star (*).

You can either manually enter the Flag State, or you can use the Select dialog form to search and find the required code.

ADD SAMPLE GEAR

To add details for the gear used during the survey, Click on the **Add Sample Gear** button from the main screen.
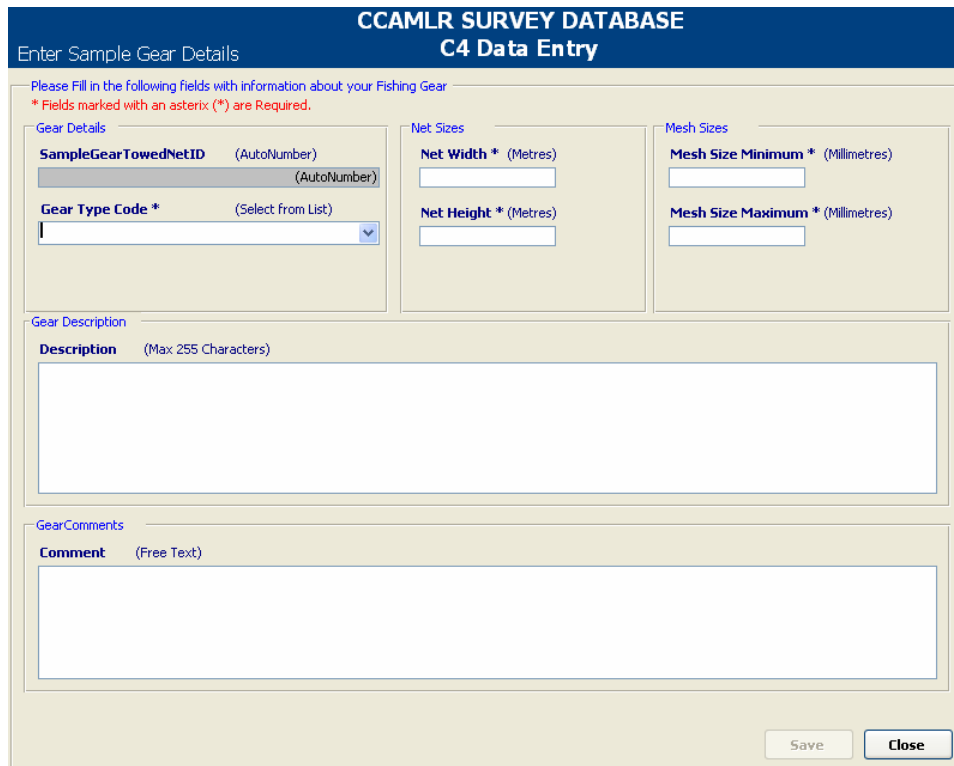
You will see the following dialog asking for the gear type.

Select the Gear Type and then click Open to go too the entry form for Sample Gear details.

This will open the following form:

This form allows you to enter details for your Gear that can later be linked to each Towed Net Event.

Any fields required by the Secretariat as mandatory are marked with a star (*).

Use the GearTypeCode drop down list to select the type of gear used.

If you selected Longline at the initial dialog, then you would open the form allowing specific Longline gear data to be entered rather than Towed Net.

ADD STRATUM

To add any Stratum details, Click on the **Add Stratum** button from the main screen.

This will open the following form:

This form allows you to enter Stratum details that can later be linked to each Survey Event.

Any fields required by the Secretariat as mandatory are marked with a star (*).

Use the SurveyID Dropdown list to select the Survey that you entered previously.

Use the ASD Dropdown list to select the ASD code.

ADD SURVEY EVENT

To add a Survey Event, Click on the **Add Survey Event** button from the main screen.

This will open the following form:

This form allows you to enter Survey Event details.

Any fields required by the Secretariat as mandatory are marked with a star (*).

Use the SurveyID Dropdown list to select the Survey that you entered previously.

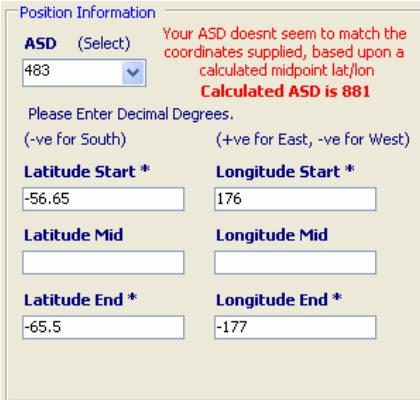Use the Stratum Dropdown list to select the Stratum that you entered previously if required.

Use theASD Dropdown list to select the ASD.

Use the Event Type drop down list to select the Event Type. Depending on the Event type selected, you will see event specific details appear immediately below the Event Codes section of this form.

The Survey Event Form contains a number of validations that are completed as you enter data. If any data does not conform to the validation routine, then a red Warning note will appear near the fields.

The Validations performed are as follows:

- **ASD** – Once the Start and End Latitude/Longitude have been entered, the midpoint is automatically calculated. This is then used to determine the ASD. The calculated ASD is then checked against the ASD entered in the field, and if they do not match, a Warning will appear as follows.

- **EVENT START/END DATE & TIME** – Once you have entered the Start and End date and time for the Survey Event, these are compared to ensure that the start date is not after the end date. If it is, then a warning will appear as follows:

- **DEPTHS –** Once you have entered Both the Fishing Depths, and the SeaFloor Depths, they are checked to ensure that the Minimum depth is less than the Maximum depth. If there are any errors, a warning will appear as follows:

ADDING CATCH DATA

Adding Catch Data is done from the SurveyEvent form.

Once you have selected a SurveyID from the dropdown list, the **ADD CATCH** button is enabled on the SurveyEvent Form. This allows you to add the catch details for the Survey Event.

Clicking the **ADD CATCH** button will open the following form:

Any fields required by the Secretariat as mandatory are marked with a star (*).

The Length/Weight/Sex/Maturity (LWSM) subform is hidden by default, and does not appear until you have selected, or entered a Species Code.

Once available, you can use the LWSM form to add as many records as required for the selected Species.

As you complete the LWSM records, the Calculated Totals fields that are disabled on the Summary form are automatically calculated. These fields total the Sum of the LWSM Weight and No of Individuals for the species.

Once you have completed a Catch Summary record for a species, and you click SAVE, you will be prompted to enter other species if required. If you click yes, then the form will remain open, and you will be able to select a new species and complete the fields again.

NOTE – You can only enter the Catch Summary data for each Species ONCE per SurveyEvent. If you select the same species code, you will be prompted to change you selection.

Any Species Codes that have already been entered for this SurveyEvent will appear in the list to the right of the Species Code field.
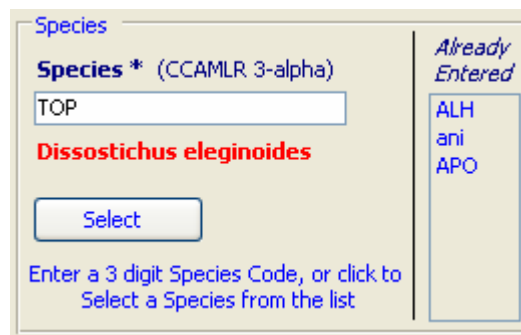
Once you have completed all Catch Summary details, and you close the form, you will be returned to the SurveyEvent Form.

NOTE - If you click CANCEL on the SurveyEvent form, any Catch Summary records that you have already entered relating to the Survey Event will be removed at the same time.

VIEWING EXISTING DATA

From the Main Menu, you can view your data after it has been entered, by clicking on the **VIEW SURVEY** Button.

This form can be used to view the Survey Data already entered.

Use the buttons at the bottom of the form to navigate between surveys

Each Tab on the form contains the data associated with the selected Survey.

VALIDATE DATA

Once you have entered your data into the Survey Database, you can use the inbuilt validations to check your data for potential inconsistencies.

From the Main Menu, to validate your data, click on the **VALIDATE DATA** button.

NOTE – As the validations are performed when the form opens, it may be quite slow to open, depending on the amount of Data in the Database. This is particularly relevant to Catch Summary Data.

Use the Tabs to view any data that has not met the validation rules.

Details of Validations are available in *Appendix 1, Table 3.*

SPECIES

The Species Tab will show any records in the Catch Summary or Catch LWSM Tables, where the Species 3-alpha codes are not recognized, and thus, do not match CCAMLR FAO Species Codes.

On the Species Tab, there are Two Columns.

The Column on the left contains any unknown Species codes found in the Data.

The Column on the right contains all of the CCAMLR 3-alpha codes.

To change the Species codes perform the following steps:

1. Click on the Species Code in the left column to select it.

2. Find the Correct Species Name/Code in the right hand column. You can type in the Scientific name in the search field to filter the list.

3. Once you are satisfied that you want to change all records with the selected codes, click on the CHANGE button between the two columns. You will be prompted with a confirmation, and if you agree, all records with the Species code selected in the left column will be updated to use the selected CCAMLR Species code from the right column.

4. Repeat as required for all unknown species codes wherever possible.

If there are no species codes in the Catch Summary or Catch LWSM tables that are not recognized, then these columns will not appear, and instead you will simply see text saying that the codes look good.

ASD

The ASD tab will list any Survey Event records where the entered ASD does not match the Calculated ASD.

The Calculated ASD is determined by first calculating the midpoint between the start/end Latitude/Longitude pairs entered for the SurveyEvent.

This Midpoint Latitude/Longitude is used to determine the ASD.

If this Calculated ASD does not match the ASD entered in the SurveyEvent record, then it will appear on this tab.

If you wish to correct or change the ASD code, you can click on the row to open a form allowing editing of the selected SurveyEvent.

If all ASD codes match the calculated ASD, then no records will appear in this list, and you will see confirmation text instead.

VALID EVENTS

The Valid Events Tab will list any Survey Events that have not been marked as Valid.

This will list both records where the valid field has not been completed, or where it is set to NO.
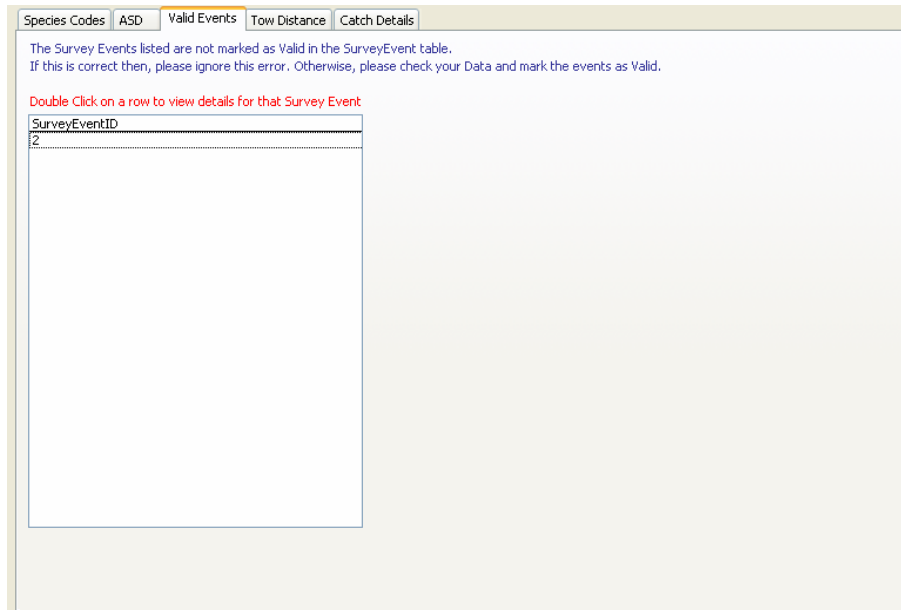
If you wish to change any of these, or check that the Valid Field should be set to NO, you can double click on the row to open an edit form allowing the changes to be made.

TOW DISTANCE

The Tow Distance Tab will list any Tow Distance Records where the TowDistanceOverGround field is outside a particular range.

Using the Start/End Latitude & Longitude records from the corresponding Survey Event a Tow Distance is calculated.

This is then compared to the entered Tow Distance. If the entered Tow Distance is more than 10% outside the Calculated Distance (greater or less) then the record will appear on this tab.

You can double click on a row to open an edit form, allowing you to change the record if required.

If no Tow Distance records fall outside the validations, then you will only see confirmation text on this Tab.

CATCH DETAILS

The Catch Details tab contains two columns. The columns will check the Catch Summary data and list any records where the Reported Sample Count or Reported Sample Weight is greater than the Totals.

Double clicking on a row from either column will open an edit form allowing you to check and change the Catch Summary data if required.

If there are no Catch Summary records where the reported fields are greater than the Totals, then the columns will not appear, and you will see a confirmation message instead.

APPENDIX 1 – REQUIRED DATA AND VALIDATIONS

Table 1 – Lookup Codes Used

Table	Description	Use
Lookup_ASD	Contains all ASD codes used in CCAMLR Databases	Used to check ASD codes, used in SurveyEvent and Stratum Tables
Lookup_Country	Contains CCAMLR Country Codes.	Used anytime a Country Code is entered into tables. Also used for FlagState
Lookup_EventType	Contains a list of Survey Event Types	Used for the SurveyEvent table
Lookup_GearType	Contains a list of Gear Types from the CCAMLR Databases	Used to select the gear type when entering samplegear details
Lookup_LengthMeaning	Contains LengthMeaning information	Used for CatchLWSM Length Data
Lookup_LengthScale	Contains LengthScale information	Used for CatchLWSM Length Data
Lookup_MaturityCodes	Contains a list of CCAMLR Maturity Codes	Used for CatchLWSM Maturity Data
Lookup_Species	Contains a list of FAO 3-alpha Species Codes and Descriptions	Used to validate species codes in any tables that use them
Lookup_WeightScale	Contains WeightScale information	Used for CatchLWSM Weight Data
Lookup_WeightMeaning	Contains WeightMeaning information	Used for CatchLWSM Weight Data

Table 2 – Mandatory Fields required

Table	Description	Mandatory Fields
New_Survey	Contains information regarding the Survey.	Description, TargetSpecies OrganisingCountry, DataOwnerCountry, CatchOwnerCountry
New_Vessel	Contains Information about the Vessel used to conduct the Survey	VesselName, CallSign, FlagState
New_Stratum	Optional information about the Stratum	(if Stratum details are entered) SurveyID,StratumCode, Area(km2)
New_SampleGear	Contains Information about the Fishing Gear used	(if SampleGear is entered) GearTypeCode, NetWidth, NetHeight, MeshSizeMin, MeshSizeMax
New_SurveyEvent	Contains information of each SurveyEvent, and is linked to the CatchSummary, and TowNet Data.	SurveyID, EventType. Validity, StartDate/Time, EndDate/Time, UTCOffset, DepthMin, DepthMax, SeafloorDepthMin, SeafloorDepthMax, LatStart ,LonStart,LatEnd, LonEnd

Table	Description	Mandatory Fields
New_TowNetEvent	Contains information about each Towed Net Event, related to each SurveyEvent	SurveyID, SurveyEventID, TowDistanceOverGround, NetWidth
New_CatchSummary	Contains Catch Summary information for each Event. One Catch Summary record per Species	SurveyID, SurveyEventID, Species, TotalWeight, TotalCaught, SampledWeight, SampleCount
New_CatchLWSM	Contains the Length/Weight/Sex/Maturity information for sampled species	SurveyID, CatchSummaryID, SpeciesCode, NoofIndividuals

Table 3 – Validations

Validation	Description	Calculations
Species	Checks all Species Codes entered in CatchSummary and CatchLWSM tables, against the lookup_Species table	Lists any species found in tables that don't appear in the lookup_Species table
ASD	Checks the ASD entered in SurveyEvent table against a calculated ASD	Calculates ASD based upon latitude/longitude start and end data and lists any ASD's that have been entered and don't match.
TowDistance	Checks the entered TowDistanceOverGround in CatchLWSM table against Calculated Distance	Calculates GreatCircleDistance based on the Latitude/longitude start/end data, and lists any entered towdistance that is more than 10% different
Valid Events	Checks the SurveyEvent table for valid Events	Lists any SurveyEvents that are not marked as Valid, for checking and confirmation
CatchDetails	Checks the CatchSummary Data	Lists any CatchSummary records where the Total Weight or TotalCaught is less than the Reported Weight or Reported Caught