# FEAS Inshore Sampling Overview.

## At Sea observer programme

Due to the nature of Inshore Fisheries in Ireland sampling is carried out in targeted sampling frames consistent with management boundaries and/or the spatial distribution of the fishery and its associated fleet. For example the oyster fisheries sampling is targeted according to the spatial distribution of the oyster beds and the effective management boundary i.e Tralee Bay, Lough Swilly etc... while the lobster and crab fishery is sampled by targeted sampling in geographically defined areas of operation, North west, West, South west, South east, Irish Sea.

Sampling targets for each frame are defined at the start of the year and field sampling is carried out throughout the respective season to meet these targets. Targets are not design based as vessels under 10m do not report catch and are more defined by the capacity of the programme to undertake a given number of trips per season per sampling frame. The field sampling is carried out by a combination of Marine Institute staff and external contractors all working to the fishery/species specific Standard Operating Procedure (SOP) as described in accompanying documents. The services of the external contractors are assigned to the targeted geographical areas with a defined sampling target following a Competitive Tendering Process of our approved contractors.

As not all vessels operating in the Inshore Fleet are obliged to record their catch in log books (i.e vessels <10m overall length) a subset of the inshore fleet are issued with a log where they record their catch/effort data with associated economic data. This self-sampling programme is known as the Sentential Vessel Programme, (SVP) and is a joint project run in collaboration with BIM. The sampling effort in the ‘at sea observer programme’ is split between SVP and non SVP vessels.

## Port sampling programme

“Port sampling” is carried out at shellfish processing companies which act as collection points for landings made at numerous small harbours in the defined geographical areas. Port sampling occurs in the South East/Irish Sea at Sofrimar, South at Shellfish De Le Mer, West at Breizon Teo and Northwest at Errigal Bay Seafoods. Sampling is at vessel level and generally of unsorted catch. Where catch is sorted the sampling effort is representative across the grades. Multiple vessels are sampled during each sampling event. The processors provide a breakdown of the catch landed by vessels as requested for the sampling event. As with the at sea sampling, port sampling targets are not design based as vessels under 10m do not report catch and are more defined by the capacity of the programme to undertake a given number of sampling events per season per sampling frame. Port based staff carry out the port sampling with assistance as required from staff based at HQ. An online tracking system is used to ensure that the sampling targets are met and tracked.

## Data handling

On return from field sampling the raw data is screened for possible errors and entered into sampling type specific Excel spreadsheets, i.e Observer Data, Survey Data, Commercial (SVP) Data (See Appendix 1.0). Here data validation checks (plotting of data, length/weight regressions etc...) are undertaken to ensure that the correct data is entered. Once data entry and validation are complete the data are uploaded to the Inshore SQL Database using an upload utility developed in house. The upload utility is specific to each sampling type and ensures that the correct data in the correct format is uploaded to the Inshore SQL Database. The SQL Inshore Database is designed and built by the in-house IT team to hold all inshore data and is designed to use common reference tables used across FEAS. Data used for analysis is extracting from the Inshore Database using SQL and analysed using appropriate packages such as R.

We are currently in the process of developing a Graphical User Interface, (GUI) for the Inshore Database which will allow the user enter data directly to the database via a web enabled GUI. This will incorporate data validation checks and ensure that data is validated and entered in the correct format with greater efficiency.

Appendix 1:

Tables 1-9 below are screen grabs of Inshore Data Entry Template associated with the SVP dataset.



Table 1.0 Inshore Upload Template: Metadata data entry



Table 2.0 Inshore Upload Template: Events Data entry



Table 3.0 Inshore Upload Template: Events Position Data entry



Table 4.0 Inshore Upload Template: Effort Data entry



Table 5.0 Inshore Upload Template: Catch Data entry



Table 6.0 Inshore Upload Template: Biological Data entry



Table 7.0 Inshore Upload Template: Bait Species Data entry



Table 8.0 Inshore Upload Template: Fuel Purchased Data entry



Table 9.0 Inshore Upload Template: Prices Data entry

Figure 1.0: Data Model of the Inshore Database.



Figure 2.0: Data Model of the Inshore Database, Common Reference Tables.

