

# An Electronic Fishery Data Management System: a demonstration of a unique, wheelhouse, software solution for the collection, management and utilization of commercial fishing data

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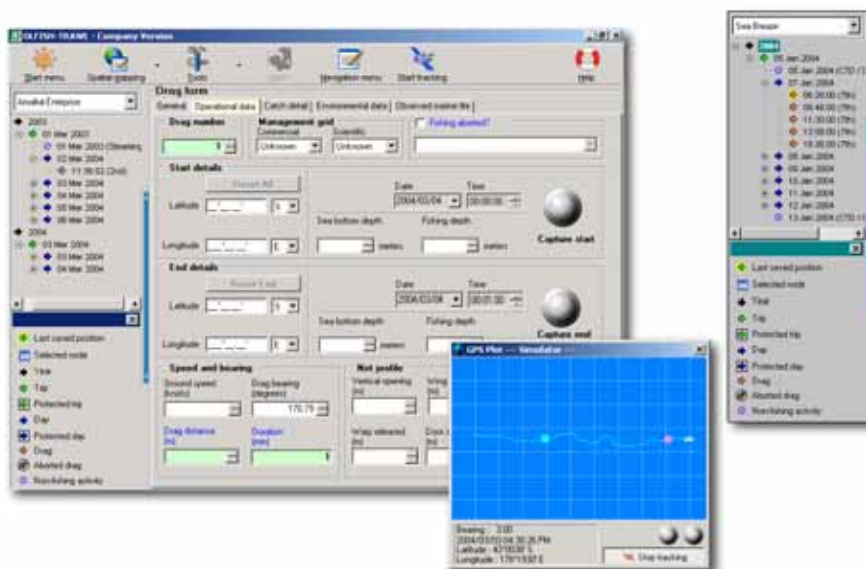
## **1. Background**

OLFISH is a unique electronic fishery management system developed by the South African company, OLRAC. OLFISH should not be confused with navigational or charting software. It is a completely unique, intelligent database solution for the capture and management of all fishing data in either real time or from old records. OLFISH is capable of collecting, analyzing, plotting, mapping and reporting all data related to commercial fishing operations, and is suitable for use by skippers, company managers, scientists and onboard observers. OLFISH is being presently tested, intensively in Australia and New Zealand. In Australia OLFISH was adopted as the electronic replacement of the logbook program by SETFIA (South East Trawl Fishing Industry Association) and by the Great Australian Bight Trawl Fishery (GABTF). Olfish is complying fully with all AFMA (Australian Fisheries Management Authority), present, reporting requirements. OLFISH is presently being considered by the EU fisheries management authority as a candidate for the collection and transmission of fisheries data in its EU fishing fleets. OLFISH is part of the SHEEL project and complies with EAN standards.

The OLFISH team has combined forces with a **UK based company** on a project to add full traceability to its list of functions. This module named **OLFISH-Trace** will allow OLFISH to record, label and trace individual fish boxes and store such information on a centralized web site for users to extract as permitted and required. Below is a short description of OLFISH main features:

## 2. Data Entry

Data can be entered at trip, day or fishing activity levels (drag, set, line section, etc.) GPS readout is captured for date, time and location information. Catch information can be recorded in real time as fish are caught or in summarized form with a full breakdown of product grades and packing information. OLFISH keeps record of fishing gear used, environmental data and other relevant information can also be captured in relation to the catch information. Any fishing activity captured in the data entry component can be transferred automatically to the OLFISH built-in GIS component (Spatial Mapper). The data entry component permits the skipper to monitor stock on a vessel separately from his catches, for cases where fish was offloaded to shore or another vessel, or brought on board during a fishing trip. OLFISH can also store historic data from old governmental and industry databases. Recently incorporated into OLFISH is a **remote unit version** which is portable and can be used in locations such as on a fishing deck or processing factory to capture catch and transmit it to the main bridge module

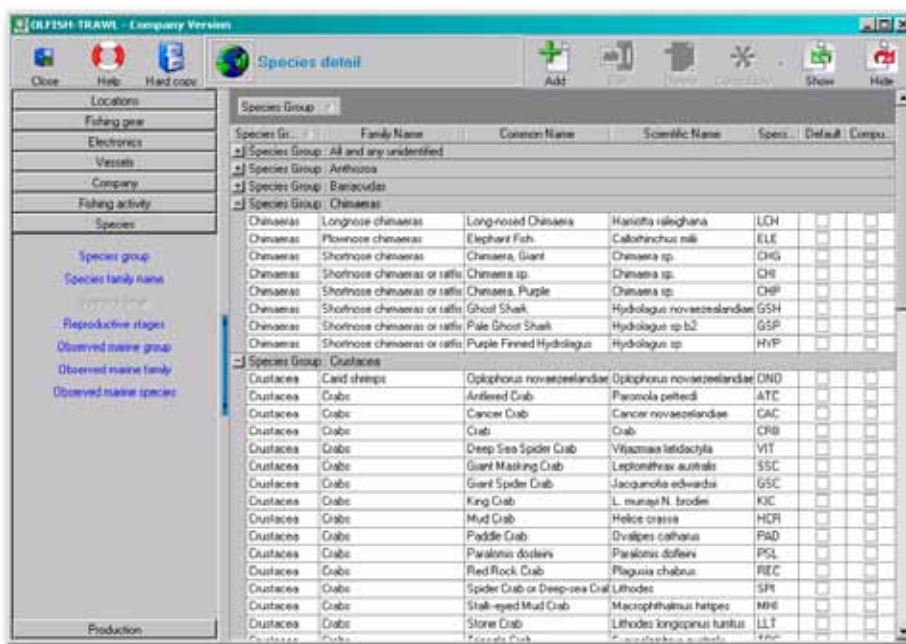


### 3. Data Browsing

Use of an "intelligent" data tree structure to view all data entered at all levels of resolution. Data can be viewed, printed and edited (provided the user has the relevant security key).

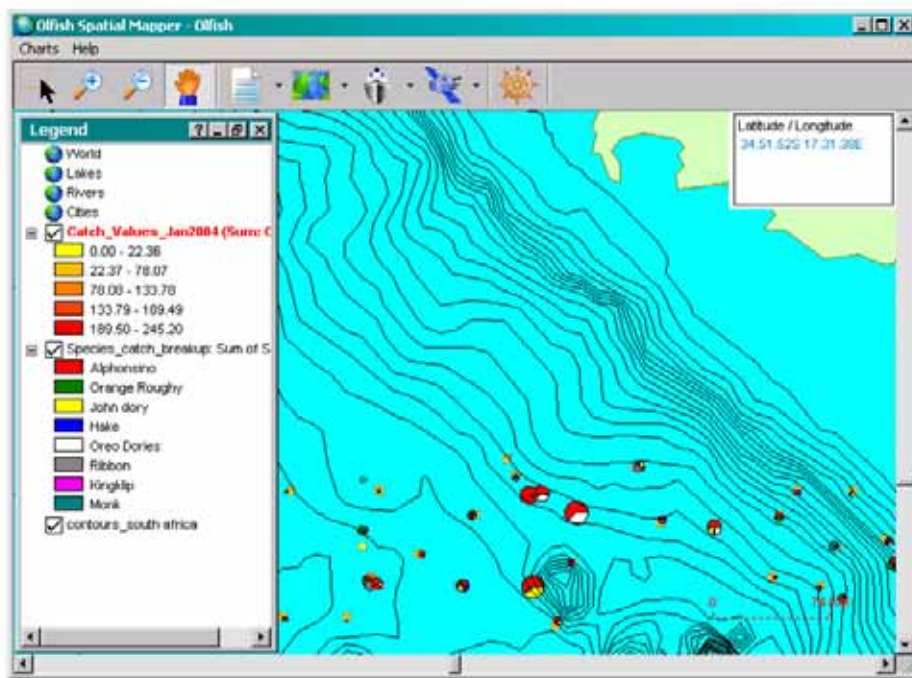
### 4. Database customisation

A powerful utility which allows each company to customize OLFISH to it's needs and specifications, and to create a set of pre-defined data lists to minimize keyboard usage and control data consistency and accuracy. The company can customise an enormous amount of pre-defined data using this utility. The customisation database also comes with built in predefined data whenever possible. (e.g. species name, product list, fishing area, grades list, product type, product conversion factors and many more.) The customisation database once applied will rarely need to be changed and will allow the user in most cases to enter data with a simple mouse click.



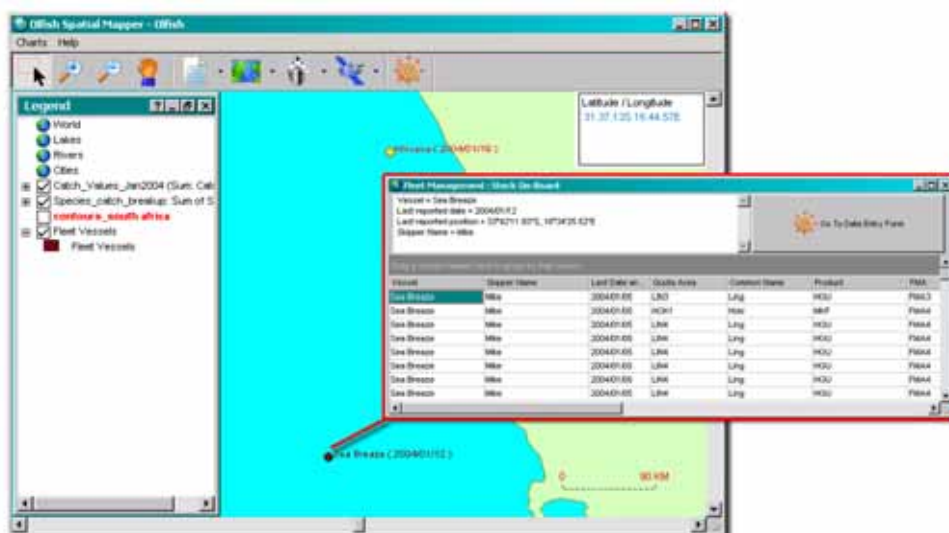
## 5. Spatial Mapper

A built-in GIS utility or Mapper for overlaying user defined geographical displays of fishing performance and environmental and physical data. Any data captured by OLFISH can be displayed by the Mapper. The user can, for example, plot catch rate and simultaneously display the associated fishing effort and water temperature values in a geographical format. Any combinations of data can be plotted and there is no limit to the number of GIS layers that can be displayed simultaneously. The Mapper contains a world atlas and has a built in utility which allows the user to enhance the resolution of its operational area. Maps can be saved, printed and sent as email attachments. The Mapper is dynamically linked to the OLFISH data entry component and the user can move dynamically between graphical and tabulated views of the data.



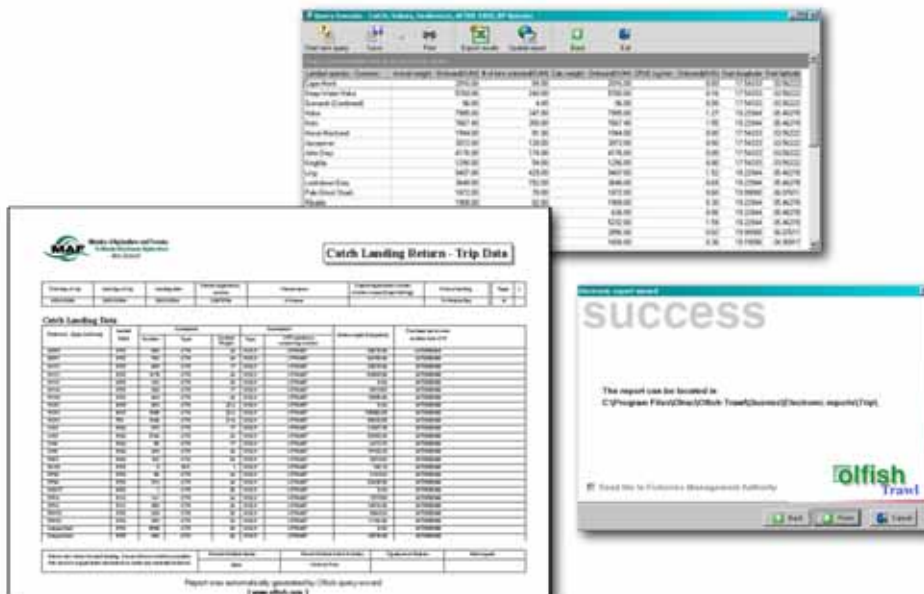
## 6. Fleet management system

The company version of Mapper includes a fleet management utility which can be prompted to plot the last reported location of each vessel in the fleet and report onboard catches for each vessel. Also included is a "drilling down" utility or inspector, which allows the user to plot data dynamically using different grouping variables such as catch rate by skipper, by area, by fishing season etc



## 7. Report Writer

OLFISH contains a number of data reporting and data summarizing facilities including the kind of reports that comply with the requirements set by fisheries management authorities. Options include a hard copy from logsheets, electronic reporting tools that include an automatic encryption and authentication utility and a powerful query wizard which allows the user to create virtually any type of report on the fly. Once created and saved all queries can be rerun when required to create fresh reports as data are gathered. Each report can be exported as a text or Excel file and can also be automatically sent to the Mapper for spatial viewing. All wizards in the report writer are intuitive and easy to use.



## 8. Import - Export

Predefined company data lists are automatically distributed to vessel databases. Information collected by different vessels during fishing operations is merged automatically on the company master database, or from companies into a resource wide database. Vessel databases can be fully restored using the company master database and the company master database can be fully restored using the vessel databases.



## 9. Year-planner

A calendar-like summary of annual fleet activities, including fishing and non-fishing days and daily catches. The year planner is dynamically linked to the data entry component and the user can rotate between the two presentations of data as needed.

The screenshot displays the 'Year Planner' application window. On the left is a 'LEGEND' panel with various activity icons and descriptions. The main area shows a calendar for the year 2004, with days of the week and months (Jan to Dec) visible. A red arrow points from a date on the calendar to a 'Daily catch' pop-up window. This window contains a table with the following data:

Custom name	Quota size	Fish	Portals	Grabs	Est code
Hake	HAK1	FNA3	SRE	24.5kg	2012
Hake	HAK1	FNA3	SRE	15.2 kg	2012
Hake	HAK3	FNA3	TSK	CP	367.2
Hake	HAK3	FNA3	MEF	IF	367.2
Hake	HAK3	FNA3	TSK	CP	367.2
Lang	LIN3	FNA3	HGU	15.2kg	2012
Lang	LIN3	FNA3	HGU	4.5kg	1617
Lang	LIN3	FNA3	HGU	1.1 kg	2012
Lang	LIN3	FNA3	HGU	2.9kg	2012
Lockdown Day	Unspecified	FNA3	SRE	100kg	2012
Lockdown Day	Unspecified	FNA3	SRE	100-500kg	2012
Rebuild	HAK3	FNA3	HGU	<1kg	2012

## 10. Other utilities

OLFISH has numerous other utilities and database management tools including (a) facilities for performing multi-level software backups, (b) a user specific security system, (c) a database packing utility, (d) software pre-defined setup options and many more, (e) vessel swapping utility for observers who use OLFISH to record information from various vessels.

