



ASSESSMENT AND MONITORING OF THE FISHERY RESOURCES
AND ECOSYSTEMS IN THE STRAITS OF SICILY

MiPAAF

Report of the MedSudMed-10 Oceanographic and Acoustic Survey

Straits of Sicily, Libyan continental shelf

06 August – 02 September 2010



MEDSUDMED



***MedSudMed Component on “Small Pelagic Fish: Stock
Identification and Oceanographic Processes Influencing their
abundance and distribution”***

Type of survey: Oceanographic – acoustic

Country: Libya, FAO GFCM Geographical Sub-area 21

Research vessel: R/V Maria Grazia (Italy)

Survey number/date: MedSudMed Oceanographic and acoustic

Number of days: 28

Target species: Anchovy (*Engraulis encrasicolus*), Round sardinella (*Sardinella aurita*), Sardine (*Sardina pilchardus*); Mediterranean horse mackerel (*Trachurus mediterraneus*); Chub mackerel (*Scomber japonicus*); Bogue (*Boops boops*); *Spicara* sp.; Red-eye round herring (*Etrumeus teres*)

General objectives:

- Assessment of small pelagic target species biomass;
- Describe of the spatial distribution of target specie;
- Delineate some biological characteristics (e.g. length frequency distribution, length weight relationship) during the survey time;
- Describe some oceanographic characteristics of water masses (e.g. temperature, salinity, oxygen, ph, water transparency.);
- Highlight any possible differences in physical parameters in water masses during the study period

The survey was organized with the scope of collecting data in the Libyan waters, in order to provide and up to date description of the overall biomass and distribution of some small pelagic species and to extend the areas monitored by experimental surveys in the south-central Mediterranean Sea (MedSudMed Project area).

Survey main itinerary:

Sail	Port	Dock	Port	Activity
06-08 August '10	Mazara del Vallo (Italy)	---	---	Organisation Calibration of instruments
08 August '10	Mazara del Vallo (Italy)	09 August '10	Zwara (Libya)	Transfer Sampling
09 August '10	Zwara (Libya)	14 August '10	Tripoli (Libya)	Transfer Sampling
15 August '10	Tripoli (Libya)	17 August '10	Lampedusa (Italy)	Transfer Change of Scientific staff Sampling
18 August '10	Lampedusa (Italy)	26 August '10	Misurata (Libya)	Sampling
27 August '10	Misurata (Libya)	31 August '10	Zwara (Libya)	Sampling Transfer
31 August '10	Zwara (Libya)	02 September '10	Messina (Italy)	Sampling Disembarking

Cruise leader:

On 06-17 August 2010 Dr Gualtiero Basilone, IAMC-CNR, Capo Granitola, Italy

On 17 August – 02 September 2010 Dr Angelo Bonanno, IAMC-CNR, Capo Granitola, Italy

Participating institutes:

- Istituto per l'Ambiente Marino Costiero (IAMC – CNR), U.O.S. of Capo Granitola, Italy
- Marine Biology Research Centre (MBRC), Tripoli, Libya
- Fishery Acoustic Laboratory of VNIRO, Moscow, Russia
- FAO - MedSudMed Project.

Experts on board:06-17 August 2010

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|-----------------------|--------------------------------|
| 1) Gualtiero Basilone | IAMC-CNR Capo Granitola, Italy |
| 2) Ignazio Fontana | IAMC-CNR Capo Granitola, Italy |
| 3) Maurizio Pulizzi | IAMC-CNR Capo Granitola, Italy |
| 4) Sergey Popov | VNIRO, Moscow, Russia |
| 5) Mohamed El-Sgear | MBRC Tripoli, Libya |
| 6) Ahmed Nfate | MBRC Tripoli, Libya |
| 7) Jamal Salem Rabha | Tripoli, Libya |

17 August-02 September 2010

- | | |
|-----------------------|--------------------------------|
| 1) Angelo Bonanno | IAMC-CNR Capo Granitola, Italy |
| 2) Sergey Popov | VNIRO, Moscow, Russia |
| 3) Mohamed El-Sgear | MBRC Tripoli, Libya |
| 4) Ahmed Nfate | MBRC Tripoli, Libya |
| 5) Vito Palumbo | IAMC-CNR Capo Granitola, Italy |
| 6) Giovanni Giacalone | IAMC-CNR Capo Granitola, Italy |
| 7) Esmail Elbaheri | Tripoli, Libya |

Summary of activities:

In total, the following sampling was completed:

- 114 CTD casts/stations covered
- 65 acoustic hauls; in total, about 1958 nm were covered;
- 18 mid water trawling for adult sampling

The echosurvey covered the continental shelf (0 to 200 m depth) of the western (Zwara-Tripoli region) and central (Gulf of Sirt) part of the Libyan waters. The sampling scheme was designed according to the general protocol agreed and adopted during the first MedSudMed acoustic survey (MedSudMed-08, August-September 2008). The echosurvey was conducted along parallel transects perpendicular to the coastline. The average distance between transect was set to 10 nm. Due to the different extension of the continental shelf, the sampling scheme was slightly modified in the western Libyan waters. In this area, owing to the wide shelf, the distance between transects was set to 15 nm.

Sample/data processing: Sample and data processing is currently ongoing.

Summary of results: A description of the activities carried out at sea has been produced. The results of the data processing are not available yet. An outline of the total abundance of target species will be estimated, as well as GIS maps describing the spatial distribution pattern of these species. A description of the samples collected in terms of, e.g., length frequency distribution will also be outlined. Temperature, salinity and conductivity pattern along coastal sections will be drawn.

Follow up: The results of the two MedSudMed acoustic surveys carried out respectively in 2008 and 2010 will be compared. The overall outcomes of the surveys will be discussed in the framework of the MedSudMed Working Group on Small Pelagic Fisheries Resources and presented to the relevant FAO-GFCM meetings.

Report status: A preliminary report describing the study area, the sampling scheme (including position of sampling stations) and the narrative of the survey has been circulated during the 9th MedSudMed Coordination Committee (Mazara del Vallo-Capo Granitola, Italy, 16-18 May 2011).

Constraints/comments: The MedSudMed acoustic survey was the second acoustic inspections in Libyan waters. Several difficulties were faced during the organisation and execution of the survey. However, the work at sea and the load of joint work carried out illustrate how cooperation was successfully established between the participating Institutes in the south-central Mediterranean Sea allowing to overcome such difficulties.