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## ESTABLISHMENT OF A NATIONAL NETWORK FOR CETACEAN MONITORING WITHIN THE MARINE STRATEGY

### ISTITUZIONE DI UNA RETE NAZIONALE PER IL MONITORAGGIO DEI CETACEI NELL'AMBITO DELLA MARINE STRATEGY

**Abstract** - CONISMA, CNR and CIRCE, involved Italian research units (RUs) working on cetaceans to join a National Network answering the Marine Strategy Framework Directive (MSFD) requirements by sharing monitoring data. Data obtained during the 2016 monitoring campaigns by 13 RUs are presented here.

**Key-words:** MSFD, cetacean monitoring, National Network, biodiversity, Good Environmental Status.

**Introduction** - The Marine Strategy Framework Directive (MSFD) aims to develop strategies to achieve the “Good Environmental Status” in the marine environment, using 11 qualitative descriptors and activating systematic monitoring programs. Among the other MSFD descriptors (D), D1 requires that the biological diversity is maintained and D4 addresses the status of marine food webs. Cetaceans are top-level predators, good sentinel species of the health and status of lower trophic levels in the marine ecosystem (Wells *et al.*, 2004) and considered key species for both D1 and D4. Aware of the importance of a teamwork in responding to MSFD requirements, Italian researchers belonging to the main RUs joined in a National Network, under the request of CONISMA and CNR designated by the Environmental Italian Ministry in order to collect data related to monitoring activities exclusively during 2016. These data are shown here.

**Materials and methods** - To investigate the state of the art on Italian monitoring programs, a form was distributed to summarize areas, sampling platforms used and number of species sighted during 2016. Data were summarized for each research unit and areas, mapped through the software GIS MapInfo Pro 15.2 and overlaid with the Mediterranean Geographical Sub-Areas (GSAs).

**Results** - Thirteen out of the 35 contacted RUs responded positively and were involved in the network. Thirteen GSAs were monitored (Fig. 1) and a total of 1034 cetacean sightings were recorded during 2016. Data on species are presented in Tab. 1.

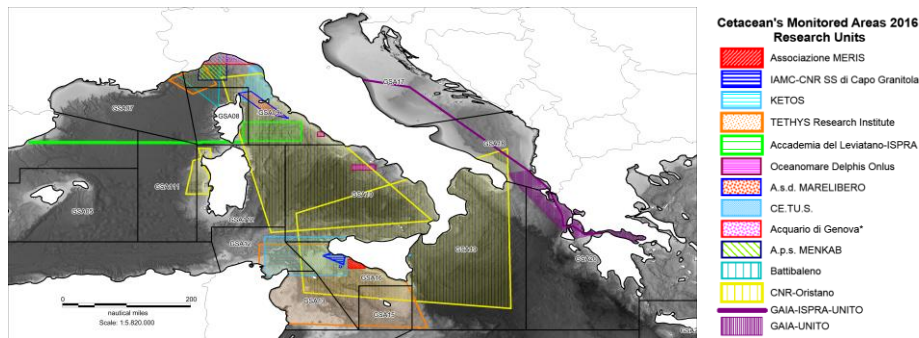


Fig. 1 - Areas monitored by each research unit; GSAs as black line.  
Aree monitorate da ogni unità di ricerca; le linee nere rappresentano le GSA.

Tab. 1 - Number of sightings for species and sampling platforms.  
Numero di avvistamenti per specie e piattaforme di campionamento.

Research Unit	Platform	Tt	Dd	Sc	Bp	Gg	Gm	Zc	Pm	NI	TOT
MERIS	M	13	1								14
IAMC-CNR SS Capo Granitola	M	16	8	4	2						30
KETOS	M			10							10
KETOS	F	8	1	20		1	1				31
TETHYS	A	25		59		2					86
TETHYS	S	10		174	18		2	2	19		225
Accademia del Leviatano	F	12	1	110	69	1	3	8	8	53	265
Oceano Mare Delphis	S-M	33	1	27	1				4		66
MARELIBERO	S	17		2							19
CETUS	S	60		1							61
Acquario di Genova*	M	3		54	1			19	1		78
MENKAB	M			21				5			26
Battibaleno	S	13		16	3	1			5		38
CNR-Oristano	O	13	1	2	7						23
GAIA-ISPRA-UNITO	F	14		12						6	32
GAIA-UNITO	S	3	2	25							30
<b>TOT</b>		<b>240</b>	<b>15</b>	<b>537</b>	<b>101</b>	<b>5</b>	<b>6</b>	<b>34</b>	<b>37</b>	<b>59</b>	<b>1034</b>

\* Data collected with the support of Whalewatch Genova - Golfo Paradiso

Tt: *Tursiops truncatus*, Dd: *Delphinus delphis*, Sc: *Stenella coeruleoalba*, Bp: *Balaenoptera physalus*, Gg: *Grampus griseus*, Gm: *Globicephala melas*, Zc: *Ziphius cavirostris*, Pm: *Physeter macrocephalus*, NI: No Identified/Non Identificato. M: motor boat/barca a motore, F: ferry-boat/traghetto, S: sailing boat/barca a vela, A: airplane/aereo, O: oceanographic ship/nave oceanografica.

**Conclusions** - This network is able to cover almost all the Italian coast of the western Mediterranean Sea, the Tyrrhenian Sea and the Strait of Sicily. The improvement of the network with RUs from the eastern coast of Italy should be desirable. The data here synthesized aim to contribute to the census conducted year-by-year from the Italian Environmental Ministry in order to know the research effort conducted by Italian bodies, useful to answer to the Marine Strategy Framework Directive.

**References**

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