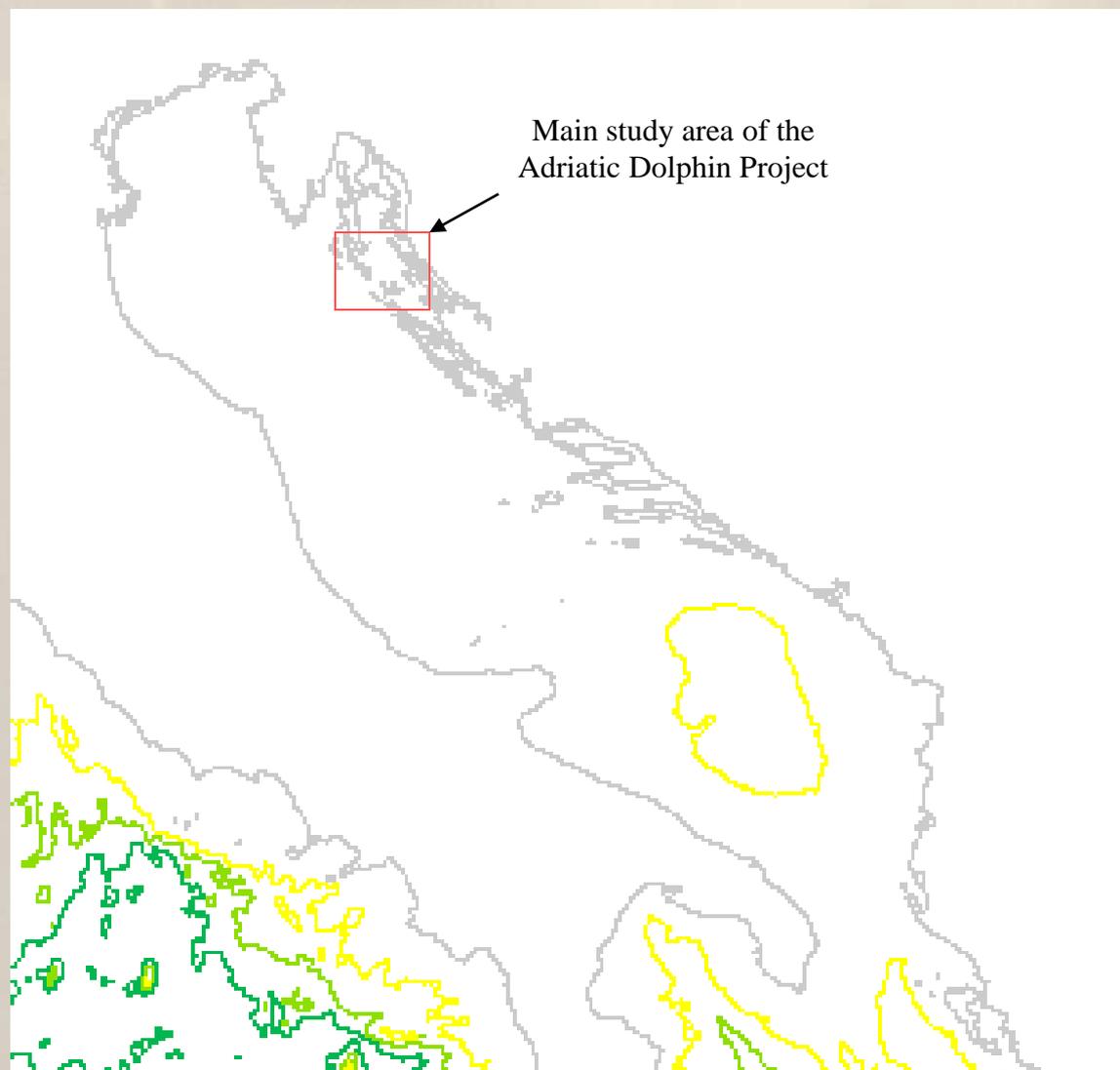




Cetaceans in the Croatian part of the Adriatic Sea



Main study area of the
Adriatic Dolphin Project

Historical data records on Cetaceans species in Croatian waters *during the past 150 years*



7 rare

- | | |
|---------------------------|------------------------------|
| • Fin whale | <i>Balaenoptera physalus</i> |
| • Sperm whale | <i>Physeter catodon</i> |
| • Cuvier's beaked whale | <i>Ziphius cavirostris</i> |
| • Long-finned pilot whale | <i>Globicephala melas</i> |
| • False killer whale | <i>Pseudorca crassidens</i> |
| • Risso's dolphin | <i>Grampus griseus</i> |
| • Striped dolphin | <i>Stenella coeruleoalba</i> |

2 regular

- | | |
|--------------------------------------|---------------------------|
| • Bottlenose dolphin | <i>Tursiops truncatus</i> |
| • Short-beaked common dolphin | <i>Delphinus delphis</i> |

5 misidentified

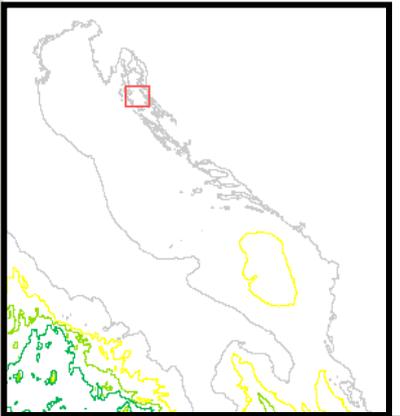
- | | |
|-----------------------------|-----------------------------------|
| • Northern right whale | <i>Eubalaena glacialis</i> |
| • Blue whale | <i>Balaenoptera musculus</i> |
| • Minke whale | <i>Balaenoptera acutorostrata</i> |
| • Northern bottlenose whale | <i>Hyperoodon ampullatus</i> |
| • Harbour porpoise | <i>Phocoena phocoena</i> |

Present situation



Bottlenose dolphin (*Tursiops truncatus*):

- population estimate for the Kvarnerić (mark-recapture model): 95 dolphins (95% CI = 57-133)
- no estimates for any other area



Common dolphin (*Delphinus delphis*):

- common in the past in all Croatian waters
- disappeared from the northern area



Striped dolphin (*Stenella coeruleoalba*):

- occasional in the past
- at the present seems more abundant than common dolphin



National legislation



- **1994**, Nature Protection Law
- **1995**, List of the protected species (including *Tursiops truncatus* and *Delphinus delphis*), State Directorate for the Protection of the Nature
- **1996**, Fines (*Tt*: 8,750 DM, *Dd* & all the others: 10,000 DM), State Directorate for the Protection of the Nature
- **1996**, ACCOBAMS (Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic Area (Principality of Monaco))
- **1999**, National Strategy and Action Plan for the Protection of Biological & Landscape Diversity, State Directorate for the Protection of the Nature => all Cetaceans are endangered mammals; common dolphin (*Delphinus delphis*)
- *Conventions on Migratory Species (Bonn 1979) & Conventions on the Conservation of Wild Life and Habitat in Europe (Bern 1979), Convention on International Trade of Endangered Species (CITES 1999)*



Strandings network

In 1997, researchers from the Natural History Museum and the Adriatic Dolphin Project proposed a strandings network based on the information collected through:

- Ministry of Agriculture and Fishery (Fisheries Inspectorate)
- Ministry of Maritime affairs (Harbour Master's offices)
- Ministry of Internal Affairs (Marine Police)
- Ministry of Defence (National Centres for Information and Alert)

The Natural History Museum of Zagreb should co-ordinate this network. A lack in personnel and financial support from official institutions, makes functioning of the strandings network strictly depending to the enthusiasm of the people involved.



Data on strandings (1990-2000)

- 26 Bottlenose dolphin (*Tursiops truncatus*)
- 3 Striped dolphin (*Stenella coeruleoalba*)
- 1 Fin whale (*Balaenoptera physalus*)

Co-operations for data processing:

- skeleton collection (Natural History Museum of Zagreb);
- toxicological analysis (University of Siena and University of Zagreb);
- genetic analysis (University of Durham);
- age determination (University of Zagreb);
- stomach contents (Sea Mammal Research Unit)



Conclusions

- Strandings network: to be effective must to be financially supported by Governmental Institutions (both Nationals and Internationals) concerned by Cetacean conservation
- Cetacean status: data on strandings and also observation of wild populations are mostly from the northern area of Croatian waters
- *Delphinus delphis* absent (geographical extinction => Why? Hypotheses:
1) toxicologically more sensitive than *Tursiops*; 2) the habitat does not “support” anymore their food habits;
- *Stenella coeruleoalba*, from about 1996, is not anymore occasional (expanding its geographical home range? Why?)



Conclusions

- A wide range census is needed, in order to find out the presence, distribution and relative abundance of Cetacean species in Central Adriatic Sea.
- Acoustic and visual survey
- Biopsies (genetic and toxicological analyses)