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ADRIATIC DOLPHIN PROJECT – LOŠINJ

Researchers:
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Research summary
In the period from 1st January to 31st December 2013, 76 trips were made from the Veli Lošinj field station of the Blue World Institute (2 in January, 3 in February, 4 in March, 5 in April, 9 in May, 10 in June, 9 in July, 15 in August, 8 in September, 6 in October, 3 in November and 1 in December). During these surveys in the Northern Adriatic Sea, bottlenose dolphins (*Tursiops truncatus*) were encountered 122 times throughout the study area (Fig. 1). Standard photo-identification methods were successfully applied during each encounter. Behavioural sampling of the dolphin groups and surfacing patterns were also conducted. According to the best field estimation of number of dolphins present during the sightings, the average group size was 6.7 individuals with a range of between 1 and 37 individuals in a group (Appendix 1).
Figure 1 – Study area and sighting locations of bottlenose dolphins (*Tursiops truncatus*), (N=122) in the period January–December, 2014

**Analysis of navigation data**

The analysis of navigation data shows that the research vessel covered an overall distance of 2860 NM. Distance covered in search was 2148 NM (sea state <2 according to the Douglas scale) (Fig.2). Researchers spent 378 hours on the sea, 175 hours in search. Time spent with dolphins was 83 hours.
Other activities of scientific research

During 2014 the Blue World Institute conducted a research in collaboration with the Public Institution "Priroda" within the project "Identification of abundance of bottlenose dolphins (Tursiops truncatus) in the Northern Adriatic". During the 63 hours spent in the study area, researchers covered a distance of 558.84 NM and recorded 21 groups of dolphins. A total of 119 individuals of which 79 have already been recorded and included in the Adriatic Dolphin Project catalogue have been observed. The research effort and locations of observations of bottlenose dolphins are shown in Figure 3.
Besides the Public Institution "Priroda", The Blue World Institute also collaborated with the Public Institution "Kamenjak" in 2014. A survey was conducted within the project "Assessment of abundance and range of movement of bottlenose dolphins (Tursiops truncatus) in the coastal areas of Istria". The total distance covered in the area of research was 355.82 nm in which 24 groups of bottlenose dolphins were recorded. Overall 239 individuals, of which 24% already existed in the Blue World Institute catalogue, were observed. The research effort and locations of observations of bottlenose dolphins in the study are shown in Figure 4.
Strandings

In 2014 Blue World Institute has received reports of findings of 12 dead dolphins.

On 03.12.2014 researchers found a dead dolphin in the Bay St. Jacob (Veli Bok) after getting a hint. The responsible veterinary station was informed. External examination of the body showed that it is a common bottlenose dolphin. It had a length of about 2.7 m and in a state of a high degree of decomposition. Therefore, identification of the dolphin using the dorsal fin was not possible.
On 14.03.2014 the Blue World Institute received information about the finding of a dead dolphin in the Bay of Meli on the island of Cres. The veterinarian confirmed a high degree of decomposition of the carcass.

On 16.03.2014 researchers of the Blue World Institute received a report about a dead dolphin floating on the beach in the southern part of Znanj in Split. The responsible veterinarian Mario Gavranovic was informed.

On 24.03.2014 researchers received information about the finding of a dead dolphin on the east side of the island Olib in the bay Barmešnica (south of the harbor Smatvorac). Later it was confirmed that the carcass was highly decomposed.

On 15.05.2014 researchers received information about the finding of a dead dolphin between the Bay Krušćica and Cape Tarej on the island of Cres. The carcass was highly decomposed.

On 21.08.2014 the Blue World Institute received information about a dead dolphin found around 7 pm floating near the island of Lokrum near Dubrovnik. 112 was notified.

On 30.08.2014 researchers of the Blue World Institute were informed about the finding of a dolphin carcass halfway between the island Škrde and the island Morovnik. 112 and the responsible veterinarian were informed.

On 03.09.2014 researchers received information about the finding of a dead dolphin stranded on the beach in the bay Sućadrija on the island are at 13:30. The carcass was in a state of high decomposition. 112 was informed.

On 28.09.2014 researchers received information about the finding of a dead dolphin on the island Dolfin near cape Luna on the island of Pag.

On 18.10.2014 researchers received information about the finding of dead dolphin in the bay Fontana on the west coast of Istria. The highly decomposed carcass was floating in the sea. 112 and the port authority Porec were informed.

On 28.10.2014 researchers were informed about a dead dolphin stranded on the beach on the island Osljak. The locals of the island contacted 112. The carcass was in a high level of decomposition with no visible external injuries.

On 14.11.2014 Blue World Institute received information about a dead dolphin floating in front of the bay of Pučišća in the Brac channel. 112 was informed.

**Sea Turtles**

During 2014 Blue World Institute researchers were informed about the findings of 8 dead sea turtles (*Caretta caretta*). All information was reported to the State Office for the Protection of Nature. During 2014 four injured sea turtles (*Caretta caretta*) were found. One turtle was returned to the sea after a short recovery in the turtle rescue center on Lošinj, while three turtles were transported to the marine turtle recovery center in Pula where two turtles still wait to recover. One turtle died.
**Education of students and researchers**

In 2014 Blue World Institute continued with its internship program. Eleven students from Croatia, Great Britain, USA, France, Denmark, Serbia and Brazil joined the Blue World Institute team. The students were involved in fieldwork and data analysis. Thereby they gathered experience in training basics and advanced research procedures used in Adriatic Dolphin Project. All of them gained extensive knowledge and experience in conducting research and in the protection of marine mammals, and some of them were particularly interested in participating in educational programs for school groups. Two students collected data for the preparation of their Master thesis.

**Eco-volunteers**

Eco-volunteers participated in the "Adriatic Dolphin Project" from May 19th to September 19th. The project was joined by 26 eco-volunteers from Europe (United Kingdom, Hungary, Austria, Germany, Belgium, Finland, Croatia), Canada, Singapore and Australia. They were introduced to the Blue World Institute research and activities and trained to provide a help during sampling procedures on the boat and data analysis. Their presence was of great significance for research during the season.

**International presentations**

In October our Research Director Ph.D. Nikolina Rako-Gospic participated in the 7th Meeting of the Technical Group on Underwater Noise (TG Noise) in Ljubljana. At the meeting she presented the results of the work on underwater acoustics Blue World Institute did as part of the long-term monitoring of underwater noise and its impact on bottlenose dolphins in the northern Adriatic. Marko Radulovic attended the 2014 Annual Scientific Conference of the European elasmobranch Association (EEA) in Leeuwarden. Gregory Pleslić participated in the 28th annual conference of the European Cetacean Society (http://europeancetaceansociety.eu/conference / 28thannual-conference) held in April in Liege, Belgium. At the conference he held an oral presentation about the assessment of abundance of bottlenose dolphins in the area Kvarneric. Ph.D. Peter Mackelworth was invited to take part in the forum of the Mediterranean Science Commission (http://www.ciesm.org/) for improving the East-West cooperation in the field of marine science in Sochi in December.

**Published papers**

During 2014, 4 scientific papers were published in reputable scientific journals:


http://dx.doi.org/10.1016/j.ocecoaman.2014.09.008


http://www.icm.csic.es/scimar/index.php/secId/6/IdArt/4262/
ADRIATIC DOLPHIN PROJECT – NORTH DALMATIA

Researchers:

Grgur Pleslić & Gary Kett

Research summary

Blue World Institute conducts research on bottlenose dolphins (*Tursiops truncatus*) in the waters of Zadarska and Šibensko-kninska counties since 2013. The aim of this study is to collect, analyze and present data on the biology and ecology of this species in a previously poorly known area.

A 13 meters wooden kutter was used as a mobile field station. Daily field surveys in search for dolphins were conducted using a 5.2 rigid hull inflatable boat equipped with a 55 HP outboard engine. Search routes were chosen *ad libitum*, depending on the current weather conditions. Additionally, aquaculture sites (6 in the study area) and bottom trawlers were inspected for the presence of dolphins. Upon spotting dolphins, standard photo-ID protocol was initiated and data on dolphins' surfacing intervals were collected.

From the 4th of June until 5th of October a total of 61 field surveys were conducted. Total time spent at sea was 221 hours, of which 160 in search for dolphins and 33 hours observing dolphins. Total distance travelled was 2236 NM, of which 2091 was travelled in favorable conditions for search (Figure 1).

Total of 69 sightings of bottlenose dolphins were recorded throughout the research season (Figure 2), of which 60 sighting were recorded „on effort“. Average group size, based on the field estimation, was 5.73 individuals, ranging from 1 to 13 individuals. Total of 4954 photographs of the dorsal fins were obtained. Detailed photo-ID analysis is currently in progress.

Based on the data from 2013 and preliminary analysis of the 2014 data, there are 205 identifiable bottlenose dolphins individuals in the reference catalog of the north Dalmatia.

Cooperations

In 2014 a cooperation was initiated between Blue World Institute, National park Kornati and Nature park Telašćica, on the research of the bottlenose dolphins in the northern Dalmatia. This cooperation is achieved through project „Research of bottlenose dolphins in Natura 2000 sites of the northern Dalmatia“ which is funded by the Environmental protection and energy efficiency Fund.
Other

During 2014 6 volunteers (1 from Croatia, 1 from Spain, 1 from UK and 3 from Germany) participated in activities of the Adriatic Dolphin Project in north Dalmatia. One student from Ireland participated in the internship program during 3 months.

Figure 1 – Research effort in northern Dalmatia in 2014
Figure 2 – Locations of sightings

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