Printing of this publication was funded by the National Foundation for Civil Society Development. The contents of this publication are the sole responsibility of the authors and do not necessarily express the opinion of the National Foundation.
ADRIATIC DOLPHIN PROJECT – LOŠINJ

Researchers:

Nikolina Rako Gospić, Tihana Vučur, Marko Radulović,
Peter Mackelworth, Draško Holcer

Research summary

In the period from 1st January to 31st December 2015, 66 trips were made from the Veli Lošinj field station of the Blue World Institute (3 in February, 4 in March, 3 in April, 7 in May, 12 in June, 14 in July, 14 in August, 4 in September, 2 in October, 2 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 method was successfully applied during each encounter. Behavioural sampling of the dolphin groups was made and surfacing patterns data were collected. According to the best field estimation of number of dolphins present during the encounters, the average group size was 6.24 individuals with a range of between 1 and 31 individuals in a group.
Analysis of navigation data

The analysis of navigation data shows that the research vessel covered an overall distance of 2874 NM. Distance covered in search was 2083 NM (sea state <2 according to the Douglas scale) (Fig.2). Researchers spent 349 hours on the sea, 164 hours in search. Time spent with dolphins was 87 hours.
Other activities of scientific research

During 2015 the Blue World Institute conducted monitoring of Cres – Lošinj waters as a part of the project "Marine Partnership". During the 28 hours spent in the study area, researchers covered a distance of 352.48 NM and recorded 27 dolphin groups. A total of 141 individuals have been observed of which 114 have already been recorded and included in the Adriatic Dolphin Project catalogue. The research effort and locations of observations of bottlenose dolphins are shown in Figure 3 and 4.
The average group size was estimated to be 8.58 (2-17). Majority of dolphin groups were mixed, composed of both males and females with calves.
Strandings

In 2015 Blue World Institute has received reports on findings of 6 dead stranded dolphins.

On 28.2.2015 researchers of the Blue World Institute received a report about a dead dolphin found on the beach on the island Ladvara in the vicinity of place Sali on Dugi otok.

On 13.4.2015 researchers received information about a dead dolphin found in Artatore Bay (Lošinj). The responsible veterinary station was informed. Based on the external examination of the carcass we concluded that the species is a common bottlenose dolphin (*Tursiops truncatus*). It had a total body length of 200 cm and was in a state of a high decomposition. Identification of the dolphin based on its dorsal fin natural markings was
On 8.10.2015, researchers of the Blue World Institute received a report about a dead dolphin found on Garmenjak (Zadar county).

On 11.10.2015, researchers of the Blue World Institute received a report about a dead dolphin found on beach Banje (Dubrovnik). The carcass was in state of high decomposition.

On 25.10.2015, researchers of the Blue World Institute received a report about a dead dolphin found in the vicinity of place Bobovišće (island of Brač). Dolphin was in the state of high decomposition.

On 02.12.2015 the Blue World Institute received information about the finding of a dead dolphin that was later brought to the Bay of Čikat on the island of Lošinj. The responsible veterinarian was informed. The necropsy report confirmed that dolphin died by drowning, most likely because of entanglement in the fishing gear.

All reports were directed to 112 center.

**Sea Turtles**

During 2015 Blue World Institute observed 19 sea turtles (Caretta caretta) during the surveys in North Adriatic. Within NETCET project, in collaboration with local fishermen, researchers manage to put satellite transmitters on 9 individuals. The aim was to define important areas for migrations and habitat use of juvenile sea turtles. Only one sea turtle was hospitalized 5.8.2015 in Turtle rescue center on Island Lošinj and after a short recovery, it was released 17.5.2015 from Borik beach in Mali Lošinj.

**Education of students and researchers**

In 2015 Blue World Institute continued with its internship program. Four students from Italy, Germany, Slovenia and Serbia 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 on the subject “Effects of boats on surfacing patterns of bottlenose dolphins (Tursiops truncatus) in Northeastern Adriatic Sea (Croatia): analysis of group behavior” and “The potential for establishing a transboundary marine protected area in the Piran bay region, Northern Adriatic”.

**Eco-volunteers**

Eco-volunteers participated in the "Adriatic Dolphin Project" from May 4th to September 18th. The project was joined by 37 eco-volunteers from Europe (United Kingdom, Hungary, Austria, Germany, Sweden, Denmark, Belgium, Spain, Slovenia,), Canada, USA, India 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 Scientific Director Ph.D. Nikolina Rako-Gospic participated in the OceanNoise 2015 conference in Barcelona. At the conference she presented the results of the study of bottlenose dolphins' vocalization that Blue World Institute did along with the long-term monitoring of underwater noise in the northern Adriatic. At the conference she held both oral and poster presentation.

**Published papers**

During 2015, 2 peer-reviewed papers were published in reputable scientific journals:

ADRIATIC DOLPHIN PROJECT – NORTH DALMATIA

Researchers:
Grgur Pleslić, Annika Batel

Research summary

In 2015 Blue World Institute continued research on bottlenose dolphins (Tursiops truncatus) in the waters of Zadarska and Šibensko-kninska counties started in 2013. The aim of this study is to collect, analyze and present data on the biology and ecology of this species in this region. A 13 meters wooden kutter was used as a mobile field station for accommodation of the research team and logistical support. 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 (9 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 5th of May until 3rd of September a total of 49 field surveys were conducted. Total time spent at sea was 210 hours, of which 138 in search for dolphins and 35 hours observing dolphins. Total distance travelled was 2127 NM, of which 1850 NM were travelled in favorable conditions for search (Figure 1).

Total of 94 sightings of bottlenose dolphins were recorded throughout the research season (Figure 2), of which 70 sighting were recorded „on effort“. Average group size, based on the field estimation, was 4.77 individuals, ranging from 1 to 21 individuals. Total of 4667 photographs of the dorsal fins were obtained. Detailed photo-ID analysis revealed 227 individually identifiable, of which 36 individuals were newly identified.

Together with the data from 2013 and 2014, the reference dorsal fin catalog for the northern Dalmatia now counts 409 individuals.

Cooperations

In 2015, the cooperation on the research of the bottlenose dolphins in the northern Dalmatia
between Blue World Institute, National park Kornati and Nature park Telašćica initiated in 2014 was continued. 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 2015 7 volunteers (1 from the USA, 2 from Canada, 1 from France, 1 from The Netherlands, 1 from the UK, 1 from Belgium) participated in activities of the Adriatic Dolphin Project in north Dalmatia.

![Figure 1 – Research effort in northern Dalmatia in 2015](image)
This project is financed by the National Foundation for Civil Society Development