

Research report

RESEARCH OF PERCEPTIONS AND ATTITUDES OF THE TARGET GROUPS UNDER THE PROJECT "LIFE ARTINA - Network for the Conservation of Seabirds in the Adriatic"

Report for all target groups

Report is available also in Croatian.

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Sažetak

U sklopu projekta LIFE Artina - “Seabird Conservation Network in the Adriatic” („Mreža za očuvanje morskih ptica u Jadranu“) koji se bavi problemima u očuvanju morskih ptica na području srednjeg Jadrana provedeno je zasebno istraživanje percepcija i stavova ciljanih skupina. Istraživanje je proveo Institut društvenih znanosti „Ivo Pilar“, temeljem Ugovora o pružanju usluga sklopljenog s Udrugom za prirodu, okoliš i održivi razvoj Sunce, a trajalo je od listopada 2019. godine do kolovoza 2023. godine.

U ovom istraživačkom izvješću predstavljeni su podaci dobiveni provedbom anketnih upitnika među svim ciljanim skupinama: lokalnim stanovništvom (što uključuje zaposlenike turističke zajednice i turističkih agencija, zaposlenike pomorske policije, djelatnike općine i lokalne tvrtke za gospodarenje otpadom, djelatnike hotela i restorana, vlasnike apartmana te ostale članove lokalne zajednice), turistima i posjetiteljima otoka Lastova te školske djece otoka Lastova, Visa i Korčule. Istraživanje stavova ribara u okviru projekta provedeno je kroz zasebno istraživanje i izvješće (Marinović Golubić M. (2023): Procjena prisutnih interakcija ribara i ugroženih vrsta morskih ptica te mogućnosti za uvođenje prilagođenih ribolovnih alata za smanjenje slučajnog ulova morskih ptica u Hrvatskoj. Završno izvješće. Projekt LIFE Artina. Institut Ivo Pilar. Udruga za prirodu, okoliš i održivi razvoj Sunce).

Istraživanje se temeljilo na kvantitativnoj metodi, odnosno anketi. Ankete su se među svim ciljanim skupinama provodile u dva kruga – ulaznim na početku provedbe projektnih aktivnosti i izlaznim na kraju provedbe projektnih aktivnosti. Odabir uzoraka bio je neprobabilistički, a koristila se tehnika prigodnog i kvotnog uzorkovanja. Prikupljene ankete statistički su obrađivane programskim paketom SPSS. Budući da su uzorci u pojedinačnim anketama bili relativno maleni pa je i u određenim skupinama prisutan mali broj ispitanika (manji od dvadeset) korištena su neparametrijska testiranja. Izrađeni su posebni anketni upitnici

za svaku od navedenih ciljanih skupina te za svaki krug istraživanja. Ukupno je svim anketnim upitnicima obuhvaćeno 653 ispitanika.

Opći ciljevi istraživanja bili su među ciljanim skupinama procijeniti poznavanje i prepoznavanje morskih ptica, dobiti uvid u poznavanje utjecaja i opasnosti koje prijete morskim pticama, ispitati svijest o važnosti očuvanja morskih ptica te istražiti spremnost na podršku budućim projektima zaštite okoliša. Provedba istraživanja u dva kruga imala je za cilj usporediti i utvrditi eventualne promjene koje su se u istraživanim percepcijama i stavovima pripadnika ciljanih skupina dogodile tijekom provedbe projekta.

Abstract

We conducted a separate research of the perceptions and attitudes of the target groups within the project LIFE Artina - "Seabird Conservation Network in the Adriatic", which deals with problems of seabird conservation in the central Adriatic. The research was conducted by the Institute of Social Sciences "Ivo Pilar", based on the Service Agreement concluded with the Association for Nature, Environment and Sustainable Development Sunce, and which lasted from October 2019 to August 2023.

This research report presents the data obtained from the implementation of questionnaires among all target groups: the local population (which includes employees of the tourist board and travel agencies, employees of the maritime police, employees of the municipality and local waste management companies, hotel and restaurant employees, apartment owners and others members of the local community), tourists and visitors of the island of Lastovo and school children from the islands of Lastovo, Vis and Korčula. The survey of fishermen's attitudes within the project was carried out through a separate survey and report (Marinović Golubić M. (2023): Assessment of the present interactions between fishermen and endangered species of seabirds and the possibility of introducing adapted fishing tools to reduce

seabird bycatch in Croatia. Final report. LIFE Artina project, Ivo Pilar Institute, Association for Nature, Environment and Sustainable Development Sunce).

The research was based on a quantitative method, i.e., a survey. Surveys were conducted among all target groups in two rounds - baseline surveys at the beginning of the implementation of the project activities and endline surveys at the end of the implementation of the project activities. The selection of samples was non-probabilistic, with convenience and quota sampling technique. The collected surveys were statistically processed with the SPSS software package. Since the samples in the individual surveys were relatively small, in certain groups there was a small number of respondents (less than twenty), too, so we used non-parametric tests. Special survey questionnaires were prepared for each of the mentioned target groups and for each round of research. A total of 653 respondents were included in all survey questionnaires.

The general objectives of the research were to assess the knowledge and recognition of seabirds among the target groups, to gain insight into the knowledge of the impacts and dangers that threaten seabirds, to examine the awareness of the importance of preserving seabirds, and to investigate the willingness to support future environmental protection projects. The purpose of conducting research in two rounds was to compare them and thus determine any changes that occurred in the researched perceptions and attitudes of members of the target groups during the implementation of the project activities.

1. Survey of the local community groups in the island of Lastovo

Entry surveys

The survey of the local population of the island of Lastovo covered the following target groups: tourist board and travel agencies employees, maritime police employees, municipality and local waste management companies staff, hotel and restaurant employees, apartment owners and other members of the local community. The first round of research (entrance surveys) was conducted in October and November 2019. The entrance surveys included 122 respondents.

The basic conclusions obtained analysing the data collected by the entrance surveys as follows:

1. The respondents are aware of significance of seabirds and recognize them relatively well;
2. Although a significant number of respondents knows the impacts and dangers that endanger seabirds, almost half of the respondents are not familiar with this issue;
3. The absolute majority of respondents expresses support for the preservation of seabirds and associated measures;
4. The majority of respondents believe that the most important aspect of seabird protection is training, and in this respect they support the goals and activities carried out under the LIFE Artina project.

Despite the relative openness towards the project and its activities, i.e. the willingness to support the project expressed by the majority of 84.4% of respondents in the initial surveys, the analysed data showed that it would be useful to bring the course of the project and its practical activities even closer to the local population in order to strengthen the impression of openness and transparency.

Exit surveys

The second phase survey (exit survey) among target groups that include residents of Lastovo was conducted in the period from April 13 to May 13, 2023. A total of 103 respondents participated in the research.

The data obtained through the conduction of exit surveys indicate that:

1. A high percentage of respondents recognises different species of seabirds;
2. The majority of respondents mention specific dangers that threaten seabirds;
3. The majority of respondents believe that it is important to preserve seabirds in the Adriatic, most of them have heard about the LIFE Artina project and a high percentage support it. More than half of respondents believe that the project has had positive effects for the local community. Furthermore, most respondents were informed about the activities that took place under the project, and slightly more than a third of them participated in some of these activities;
4. In all the previous points (differentiation of seabirds, recognition of endangered seabird species, listing of specific dangers that threaten seabirds, recognition of the positive effects of the project, etc.) a statistically significant difference was established between respondents who participated in project activities and those who did not. As the most common reason for non-participation, respondents stated lack of time (about half), lack of interest (about a quarter), lack of information (12%) or were unable to explain (16%);
5. When it comes to future nature protection and conservation projects, about a third of the respondents claim that they would like to participate, while the rest would not, for various reasons. In this question too, a statistically significant difference was found between those respondents who participated in project activities and those who did not.

Comparison of data obtained by the entrance and exit surveys of the local population

By comparing the data collected in the entrance and exit survey questionnaires, it can be concluded that the local population recognizes different types of seabirds to a statistically significant extent at the end of the implementation of the project activities, specifically as follows: Audouin's gull ($\chi^2=7,047$, $df=$; $p<0,1$), Scopoli's shearwater ($\chi^2=1,857$, $df=2$; $p<0,001$), Yelkouan shearwater ($\chi^2=7,459$, $df=6$; $p<0,01$) and Yellow-legged gull ($\chi^2=0,331$, $df=2$; $p<0,1$).

A statistically significant difference was also found in relation to the recognition of dangers that threaten seabirds ($\chi^2=43,192$; $df=1$; $p<0,001$) and the respondents in the exit surveys stated different types of threats to birds to a greater extent.

The attitude about the need to protect seabirds in the Adriatic was extremely positive already in the entrance surveys and, although it is extremely high in the exit surveys as well, a statistically significant difference between them was confirmed ($\chi^2=6,249$; $df=2$; $p<0,01$) where the respondents of the exit surveys expressed this opinion to a statistically significant extent. However, when it comes to supporting a project aimed at protecting seabirds, the results are somewhat surprising. Namely, the respondents in the exit surveys show disinterest and unwillingness to support the project to a statistically significant extent compared to the respondents in the entrance surveys ($\chi^2=15,544$; $df=3$; $p<0,01$).

The last variable that was compared was aimed at examining the importance of nature conservation among the respondents. For this variable, a statistically significant difference was found between the entrance and exit surveys, and it can be argued that in the final phase of the project implementation the respondents claim that they strive to preserve nature through their actions and decisions in a more significant proportion ($\chi^2=4,028$; $df=3$; $p<0,1$).

By comparing the data collected by the entrance and exit surveys, we have tried to confirm the following hypotheses:

H1 After the implementation of most of the project activities the target groups on the island of Lastovo have better knowledge about seabirds;

H2 After the implementation of most of the project activities the target groups on the island of Lastovo have better knowledge about the dangers that threaten seabirds;

H3 After the implementation of most of the project activities the target groups on the island of Lastovo have a higher awareness of the importance of preserving seabirds.

H4 After the implementation of project activities target groups on the island of Lastovo have a greater willingness to support projects aimed at the protection and preservation of nature.

After comparing the data obtained from the entrance and exit survey questionnaires, the following can be stated:

1. After the implementation of most project activities, the target groups on the island of Lastovo have better knowledge about seabirds, which confirms the first research hypothesis H1.
2. After the implementation of most of the project activities, the target groups on the island of Lastovo have better knowledge about the dangers that threaten seabirds, which confirms the second hypothesis H2.
3. After the implementation of most of the project activities, the target groups on the island of Lastovo have a more developed awareness of the importance of preserving seabirds and preserving nature in general, which confirms the third hypothesis H3.
4. Disinterest and reduced willingness to support the project aimed at the conservation of seabirds among the local population at the end of the implementation of the project activities was found to a statistically significant extent, thereby rejecting the fourth hypothesis H4.

Based on the implementation of both rounds of research, the following general conclusions and recommendations can be drawn - the project activities had the greatest impact on individual members of the island of Lastovo target group who participated in the project activities. However, on a general level, it can be argued that the project, through various contents, raised the awareness of the local population about the importance of seabirds and their conservation, as well as nature conservation in general, and their knowledge about seabirds and the dangers that threaten them. As recommendations for future projects based on the obtained data, it should be pointed out that, in accordance with the "new paradigm", conservation projects should include the local community and build a strong presence and identity among the local population. Given the recorded decline in interest and level of support for the project, it would be advisable to present to the local community to a greater extent the positive effects of project activities related to protected species and nature, but also to the socio-economic well-being of the community in general. In this regard, it would be good to act more towards demographic groups that were not more actively involved in project content (men, older and younger age groups). Somewhat lost support for the project, which is supported by the comments of respondents who express fear that the issue of seabird protection will stop with the end of the project, could be regained by strengthening trust through the continuation of project activities in future similar projects.

2. Survey of school-aged children from the islands of Lastovo, Vis and Korčula

Entry survey

Research on the attitudes of school children from the islands of Lastovo, Vis and Korčula, as one of the target groups, was conducted before and after the implementation of the project activities, i.e. among children who did not participate in project workshops and among children who did. The purpose was to survey the perception and attitudes of school children about the project topic before the project activities and after the implementation of specific project activities (children workshop).

The workshops that were held with children as part of the LIFE Artina project had the goal of educating children who live in the islands, that are habitats of endangered bird species (Yelkouan shearwater, Scopoli's shearwater and Audouin's gull) or are in their immediate vicinity, about these bird species and the dangers that threaten them. By participating in the workshops, pupils were able to learn about different species of seabirds, observe the impact of humans on these endangered species, and become aware of their own behaviour and practices within their family or community that directly or indirectly affect seabirds. In this way, the pupils' awareness of the problems of waste management and disposal and the need to take certain measures to protect biodiversity as well as of various other ways in which we can prevent the impact of man and his activities on seabirds was raised.

Entrance surveys were completed by pupils at the first workshop within the program, and exit surveys were completed after their participation in the last workshop from a set of workshops. Entrance surveys among elementary school children were conducted with pupils at the first educational workshop in a series, in the period from October 2020 to April 2021. A total of 99 entrance surveys were collected.

The following basic conclusions were drawn from the analysis of the collected data:

1. Most of the pupils were familiar with the existence of different types of birds;

2. Almost two-thirds of pupils do not know what dangers threaten seabirds;
3. The majority of pupils express their willingness to support activities aimed at the preservation of seabirds and awareness of the need to preserve nature.

Exit surveys

Exit surveys among school children from Lastovo, Vis and Korčula were conducted in the period from June 2021 to July 2021 among students who participated in the last workshops of the program, which included a trip. 85 respondents were included in the exit survey questionnaires.

The data obtained through the implementation of exit surveys indicate that:

1. The majority of pupils, slightly more than 75%, claim that they liked the workshops they participated in;
2. The majority of pupils answered that they learned what types of seabirds there are, and 41.2% of them can name three types of seabirds, 7.0% can name four types, and 15.3% can name one or two types of birds;
3. Pupils show more precise knowledge about the types of threats to seabirds since they state specific problems about which they were informed at the workshops;
4. The majority of pupils express their support for the project and project activities.

Comparison of data obtained from entrance and exit surveys of school children

The subsequent comparison of the entrance and exit survey questionnaires according to certain variables was aimed at determining whether and in what way the pupils' knowledge about seabirds (their species) and the dangers that threaten them has changed, as well as whether and in what way the general attitude has changed respondents about a project aimed at protecting seabirds.

It has been found that there is a statistically significant difference between the entrance and exit surveys regarding the knowledge of seabird species ($\chi^2=10.364$; $df=2$; $p<0.05$). In other words, the pupils who participated in the workshops as part of the LIFE Artina project know how to recognize seabird species to a statistically significant extent. This is confirmed by the fact that the vast majority of pupils, after participating in the workshops, knew how to name at least one type of seabird, and the largest share of them knew how to name three types.

A statistically significant difference was also found in relation to the recognition of dangers that threaten seabirds ($\chi^2=44.862$; $df=2$; $p<0.01$). A significantly larger number of pupils who participated in the workshops can name the dangers that threaten seabirds. This is also confirmed by the fact that in the exit survey the pupils knew how to specify phenomena that threaten seabirds more precisely (light pollution, noise, plastic, etc.), while in the entrance surveys they mostly had some general ideas about it (waste, garbage, etc.).

In general, pupils' attitude towards projects dealing with the protection of seabirds was extremely positive already in the entrance surveys. Nevertheless, a statistically significant difference was found between the pupils who participated in the workshops and those who did not (Fisher's exact test $p=0.04$), and it can be concluded that the pupils who participated in the workshops have a more positive attitude towards the project.

By comparing the data collected through the entrance and exit surveys, we have tried to compare the following hypotheses:

H1 Elementary school children have better knowledge about seabirds after participating in project activities (workshops);

H2 After participating in project activities (workshops), elementary school children have better knowledge about the dangers that threaten seabirds;

H3 After participating in project activities (workshops) elementary school children perceive the project aimed at protection and preservation of seabirds more positively.

After the conducted surveys, it can be claimed that according to all compared variables, a statistically significant difference has found between the pupils who participated in the workshops and those who did not. Accordingly, all three hypotheses have been confirmed:

1. After participating in project activities (workshops), elementary school children have better knowledge about seabirds, which confirms the first hypothesis H1;
2. After participating in project activities (workshops), elementary school children have better knowledge about the dangers that threaten seabirds, which confirms the second hypothesis H2;
3. After participating in project activities (workshops), elementary school children perceive the project aimed at the protection and preservation of seabirds more positively, thus confirming the third hypothesis H3.

Considering the great potential that this way of implementing project activities with children can have for the future of seabird conservation, but also in other projects aimed at preserving the environment and biodiversity, it is important to emphasize that it is necessary to encourage the inclusion of children (especially those who live in areas in which project activities are taking place) as a key element of future projects. Since workshops in a natural environment, as can be seen from the obtained data, have considerable educational potential, it is necessary to encourage their implementation as a form of learning, and special attention should be directed at designing different types of activities for younger and older pupils. Whenever possible, it is necessary to ensure the experience of connecting children with the issue discussed in the immediate, natural environment, because this creates cognitively stronger attitudes. Bearing in mind all the positive aspects of this manner of work with pupils, it should be encouraged (within schools, as well as NGOs and their mutual cooperation) and possibly extended to high school students. Finally, as a general conclusion, the need to promote environmental awareness from the earliest kindergarten age onwards, in the way appropriate for a certain age group, should be highlighted, in order to raise future generations who will be capable of participating in issues important for the protection of the environment and biodiversity.

3. Research among tourists and visitors to the island of Lastovo

Entrance surveys

The implementation of entrance surveys among tourists and visitors to the island of Lastovo was planned for the tourist season of 2020, but it was postponed to 2021 (July - September) due to extraordinary pandemic circumstances that greatly affected the tourist season in 2020. 113 respondents have been included in the entrance surveys.

After analysing the data obtained from the entrance surveys, the following conclusions can be highlighted:

1. The respondents showed modest knowledge about seabirds and their species in the Adriatic;
2. Respondents showed modest knowledge about potential dangers and specific types of threats that threaten seabirds in the Adriatic;
3. Respondents expressed a high level of awareness of the need to preserve seabirds in the Adriatic, as well as the need to preserve biodiversity in general, and therefore a high level of agreement and support for project activities aimed at this.

Exit surveys

Exit surveys among tourists and visitors to Lastovo were conducted in the period from June to August 2023. 131 respondents were included in the exit surveys.

The data obtained through exit surveys among tourists and visitors to Lastovo indicate the following conclusions:

1. The majority of respondents recognize the Audouin's gull and the Yellow legged gull, while the other two offered species, Yelkouan shearwater and Scopoli's shearwater were

recognized by a smaller percentage (less than a third of the respondents recognized them):

2. When it comes to identifying specific factors that are dangerous for seabirds, surveyed tourists state mainly general ecological problems on a global level;
3. The majority of tourists express interest in participating in various (future) project activities;
4. The surveyed tourists on Lastovo express their nearly full support for the project that deals with the preservation of seabirds in the Adriatic (96.2%), they think that it is important to protect seabirds (98.5%) and claim that on their personal level, protection of nature is extremely important or mostly important (98.5%);
5. A relatively modest proportion of tourists and visitors to Lastovo were familiar with the LIFE Artina project before or after arriving at the destination.

Comparison of data obtained from entrance and exit surveys of tourists and visitors to Lastovo

The subsequent comparison of the entrance and exit surveys according to certain variables aims to determine whether and in what way the knowledge of tourists and visitors to Lastovo about seabirds (their species) and the dangers that threaten them has changed, as well as whether and in what way the general attitude of respondents about the project aimed at the protection of seabirds has changed. The survey questionnaires were compared according to five variables: recognition of seabird species, identification of dangers that threaten birds, awareness of the importance of protecting endangered bird species, support for the LIFE Artina project, i.e. projects aimed at the protection and preservation of nature.

By comparing the data collected in the entrance and exit questionnaires, it can be concluded that tourists recognize only the Audouin's gull to a statistically significant extent ($\chi^2=16.042$,

df=2; $p < 0.001$), while for other bird species no statistically significant difference was found among the respondents at the beginning and the end of project activities.

A statistically significant difference was also found in relation to the recognition of dangers that threaten seabirds ($\chi^2 = 38.255$; df=1; $p < 0.001$). Although tourists remained mostly within the framework of general environmental problems in the exit polls, a greater diversification in identifying threats to seabirds is still visible.

The attitude towards the need to protect seabirds in the Adriatic was extremely positive in the entrance surveys, and was recorded as such in the outgoing ones as well. Considering this, no statistically significant difference was found between the entrance and exit surveys.

There was no statistically significant measure between the entrance and exit surveys, considering the respondents' familiarity with the existence of the LIFE Artina project, as well as the support for the project aimed at protecting seabirds in the Adriatic, which was recorded in a high percentage among the respondents in both rounds of research.

By comparing the data collected via the entrance and exit surveys, we have tried to confirm the following hypotheses:

H1 After the implementation of most of the project activities tourists and visitors to the island of Lastovo have better knowledge about seabirds;

H2 After the implementation of most project activities tourists and visitors to the island of Lastovo have better knowledge about the dangers that threaten seabirds;

H3 After the implementation of most project activities tourists and visitors to the island of Lastovo have a more developed awareness of the importance of preserving seabirds;

H4 After the implementation of project activities tourists and visitors to the island of Lastovo are more willing to support projects aimed at the protection and preservation of nature.

Although the impact on tourists and visitors of Lastovo was not one of the immediate goals of the LIFE Artina project, they are included in this research as one of the target groups that can have a direct or indirect effect on the natural environment. Since it is important in a general

sense to raise awareness of seabirds and the need for their protection and conservation among all target groups related to Lastovo, including tourists, we tried to examine how much the LIFE Artina project has influenced the knowledge about seabirds among this group. Bearing this in mind, after comparing the data obtained from the entrance and exit questionnaires, the following can be stated:

1. After the implementation of most of the project activities, tourists and visitors to the island of Lastovo have partially better knowledge about sea birds, i.e. a statistically significant difference was found in the recognition of only one type of bird - the Audouin's gull, which partially confirms the first survey hypothesis H1;
2. After the implementation of most of the project activities tourists and visitors to the island of Lastovo have better knowledge about the dangers that threaten seabirds, which confirms the second hypothesis H2;
3. After the implementation of most of the project activities it has not been found that tourists and visitors to the island of Lastovo have a more developed awareness of the importance of preserving seabirds, therefore we have not confirmed the third hypothesis H3;
4. After the implementation of project activities it has not been found that tourists and visitors to the island of Lastovo have a greater willingness to support projects aimed at the protection and preservation of nature, therefore the fourth hypothesis H4 has not been confirmed.

Although the third and fourth hypotheses have not been confirmed, it should be noted that the awareness of the need to preserve seabirds in the Adriatic and the willingness to support a project that deals with it is present to a high degree in both rounds of the survey. A high willingness to participate in project activities was found among surveyed tourists, too. As a general conclusion, it can therefore be pointed out that tourists and visitors can be an added value in future projects of nature protection and preservation. In other words, their openness and willingness to participate, as well as the "green" approach to the tourist destination can

contribute not only to the goals of the project, but also to building the identity of the tourist destination in accordance with the ideas of sustainable development, and therefore it is recommended that future nature protection projects in tourist areas act more towards the tourist population, by trying to involve and engage it more.