

SOCIOLOGICAL RESEARCH

Public attitudes and awareness regarding protected areas

with special emphasis on

Palud - Palu Special Ornithological Reserve

Istria County

FINAL REPORT

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Sample:	N = 400 respondents
Implementation period:	February - April 2026
Report date:	29 April 2026

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1. INTRODUCTION

In accordance with the signed contract "Service for amending the management document to adapt to the challenges of climate change - GREW Project, Group 1: Conducting sociological research on public attitudes and awareness in the area of Istria County regarding protected areas, with special emphasis on the area of the Palud - Palu Special Ornithological Reserve", record number: 18/2025/MV, under which the offer of the Contractor Sensum d.o.o., reference 25-225, dated 11 December 2025, was selected as the most economically advantageous, the Contract was concluded on 12 February 2026.

The subject of the service is sociological research conducted in Istria County with the aim of determining the level of knowledge, attitudes, and public awareness regarding protected natural areas, with special emphasis on the Palud - Palu Special Ornithological Reserve (SOR). This report presents a comprehensive analysis of the results of the sociological research conducted in February and March 2026 in Istria County. The research was carried out within the GREW project (Governance of Wetlands in Italy-Croatia Cross-border Region), financed through the Interreg Italy-Croatia 2021-2027 programme, with a total budget of EUR 2.6 million. The GREW project focuses on developing innovative management models for wetland ecosystems in the cross-border area of Italy and Croatia, with particular emphasis on adaptation to climate change.

The research was conducted on a representative sample of N=400 respondents older than 15 years across the whole of Istria County, with a specific subsample of N=81 respondents living in Rovinj or other settlements in the immediate vicinity (<15 km) of the Palud - Palu Special Ornithological Reserve (SOR). The combination of face-to-face and CATI methods ensured a high quality of the data collected.

1.1. Research objectives

In accordance with the project assignment, the research covered the following specific objectives:

1. Examine the level of knowledge of key terms: biodiversity, climate change, Natura 2000, protected areas
2. Determine citizens' awareness of protected natural areas in Istria County
3. Explore attitudes and the level of support for nature protection
4. Analyze the specific attitudes of residents living near SOR Palud
5. Examine willingness to participate actively in nature protection

2. METHODOLOGY

2.1. Research method, instrument, and data protection

The research was conducted using a survey method through a combination of two data collection techniques, in accordance with the project assignment:

- Personal interviewing (face-to-face) - the interviewer reads the questions to the respondent and records the answers; this is applied in public places and in the field.
- Telephone interviewing (CATI - Computer Assisted Telephone Interviewing), a structured telephone interview with respondents.

The research instrument is a structured survey questionnaire consisting of five thematic blocks of questions. The questionnaire includes closed-ended questions, questions with a Likert scale (1-5), assessment matrices, and multiple-choice questions.

The average time required to complete the questionnaire in the field was about 12 minutes, while by telephone it lasted about 14 minutes.

The research was conducted in accordance with the principles of the Code of Ethics for Public Opinion Research (ESOMAR, ICC/ESOMAR, 2016) and the General Data Protection Regulation (GDPR - Regulation (EU) 2016/679).

Participation in the research was voluntary and anonymous, and the collected data were processed exclusively for group (aggregate) purposes and are not published in a form that could identify an individual respondent.

2.2. Sample and Palud subsample

To make the sample representative of the population of Istria County, proportional stratification was applied according to three criteria, in accordance with methodological guidelines for social research:

- Geographic stratification - by towns and municipalities of Istria County (proportional to the number of inhabitants).
- Stratification by gender - male/female (according to the 2021 Census, CBS).
- Stratification by age - six age groups (15-24, 25-34, 35-44, 45-54, 55-64, 65+).

Total sample: N = 400 respondents

Palud subsample: N = 81 (20.2% of the total sample)

Confidence level: 95%, margin of error: +/-5%

The Palud subsample includes all residents of Rovinj (as the closest town to the reserve, <5 km) and residents of other settlements within a radius of <15 km who confirmed their proximity to SOR Palud.

This approach is based on geographic proximity, functional connection, and identity affiliation, ensuring the representativeness of the local community directly connected with the reserve.

2.3. Analytical techniques

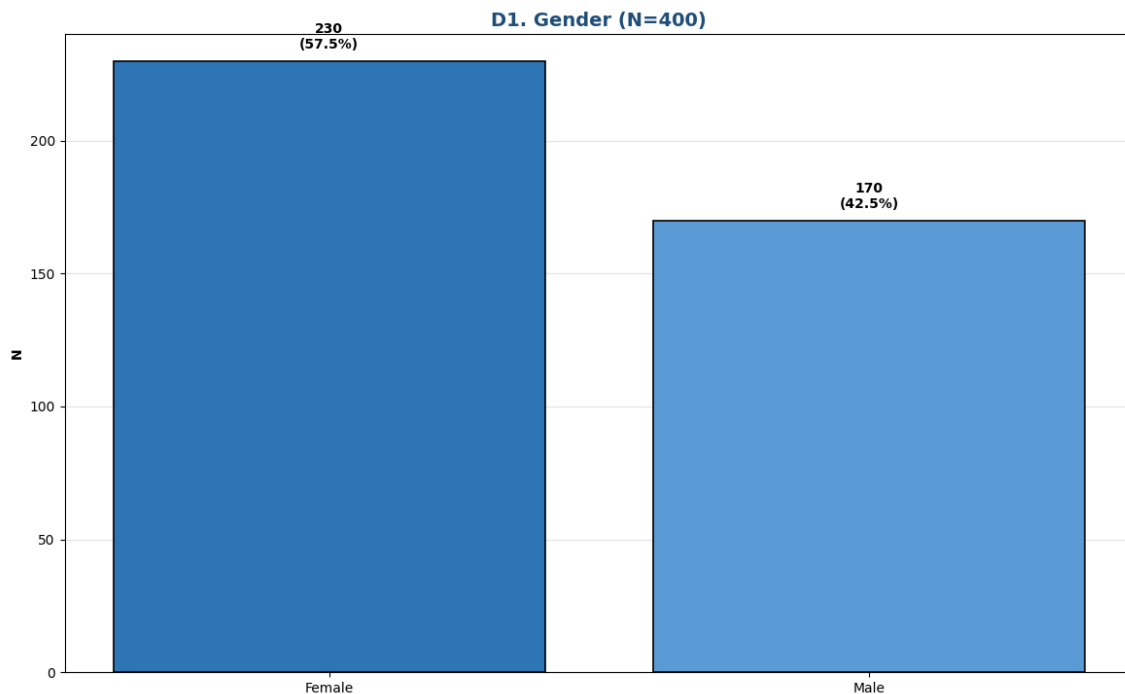
Data collected through the survey were entered into a database and processed using statistical methods. The following analytical techniques were applied:

- Descriptive statistics: frequency distribution, mean values, standard deviations.
- Comparative analysis: differences between respondents living near Palud - Palu SOR and the rest of the sample.

3. RESEARCH RESULTS

3.1. BLOCK D: DEMOGRAPHIC DATA

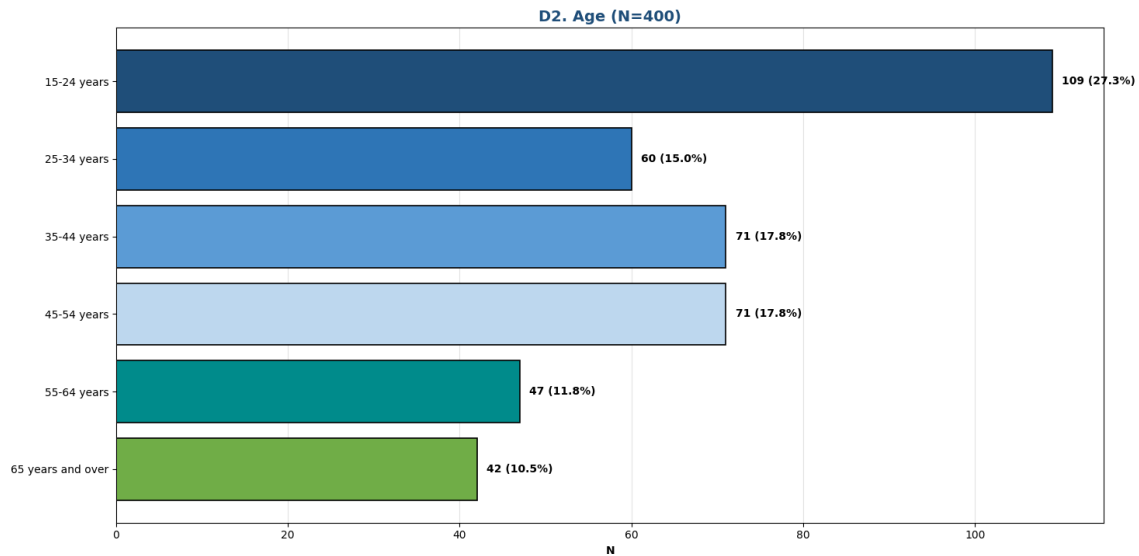
D1. Respondents' gender



The sample consists of 230 women (57.5%) and 170 men (42.5%), showing a slight predominance of female respondents. This gender distribution corresponds to the demographic structure of Istria County according to the 2021 census, where women make up the majority of the total population.

The slight overrepresentation of women in the sample may also reflect a greater willingness among women to participate in social research, which is consistent with the findings of similar studies in Croatia and the region.

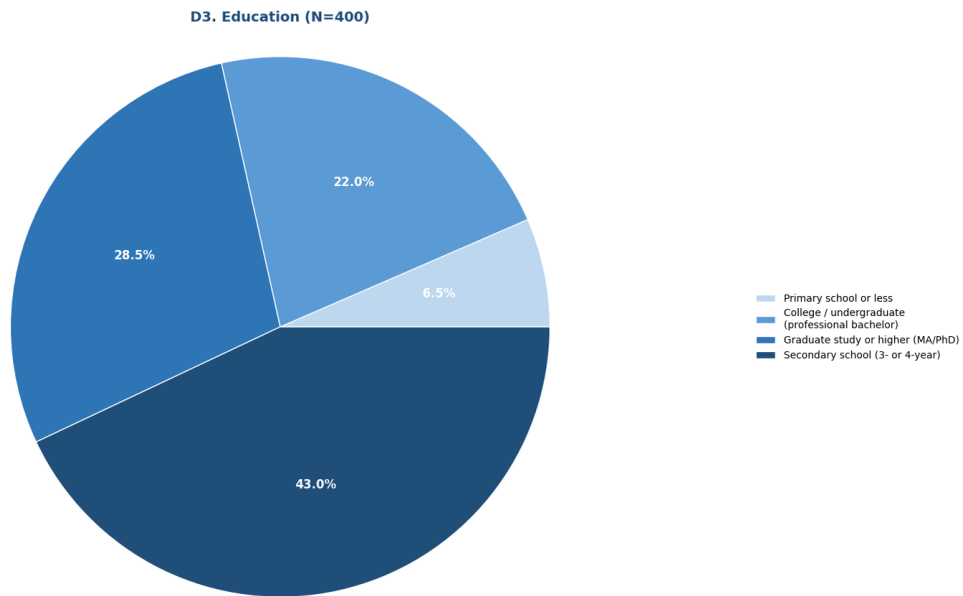
D2. Age structure of respondents



The most represented age group is young people aged 15-24 (109 respondents, 27.3%), while the smallest share is among citizens older than 65 (42, 10.5%). This age structure reflects the demographic reality of Istria County, with a relatively younger population compared with the Croatian average.

The high share of young respondents is particularly important for the topics of nature protection and climate change, because this population traditionally shows greater concern for environmental issues. The low representation of older persons may partly reflect methodological challenges as well (telephone interviewing is less accessible to older people).

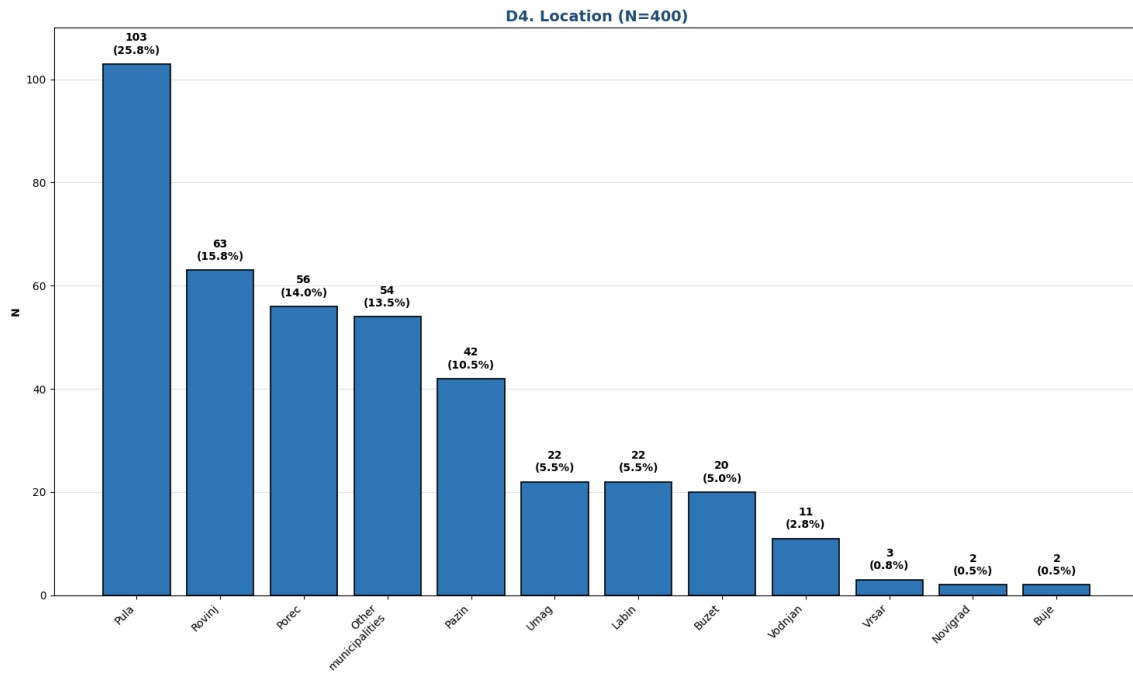
D3. Level of education



Most respondents have secondary education (43.0%), while 28.5% of the sample have higher education. In total, more than 50% of the sample have university or college-level education, indicating a HIGH level of education in the population.

This is an important finding because level of education correlates with environmental literacy and understanding of complex nature protection issues. A highly educated population represents potential for the successful implementation of more demanding approaches to the protection and management of protected areas.

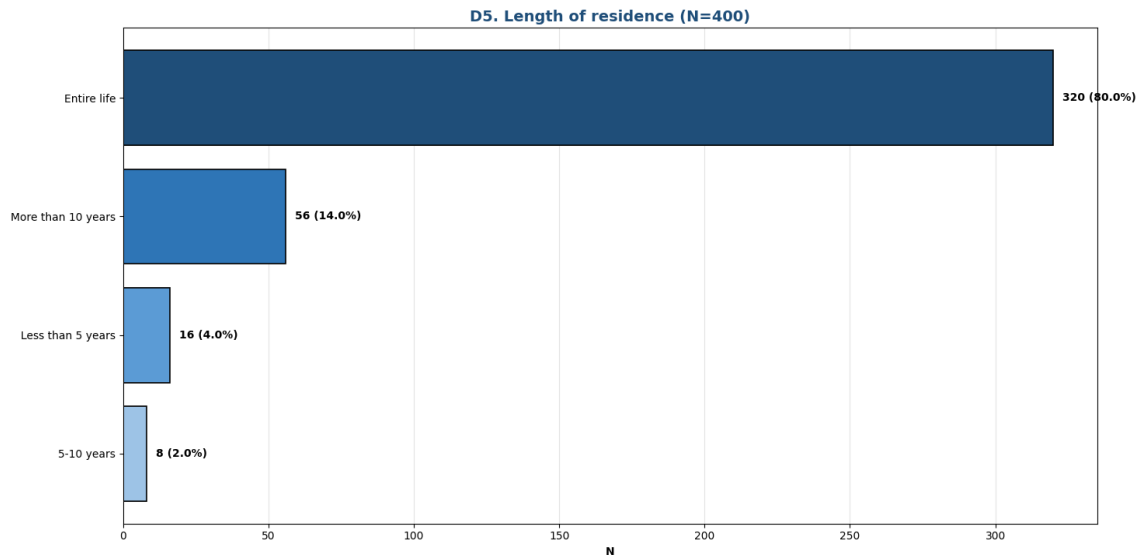
D4. Geographic distribution of the sample



Geographically, the largest share of respondents comes from Pula (103 respondents, 25.8%), followed by Rovinj (63, 15.8%) and other towns. The distribution reflects proportional sampling according to the number of inhabitants in the towns and municipalities of Istria County.

The high representation of Rovinj (63 respondents) is especially important because they form the core of the Palud subsample, enabling a robust analysis of the attitudes of the local community directly connected with SOR Palud. This geographic diversity ensures that the results reflect the perspectives of different parts of Istria.

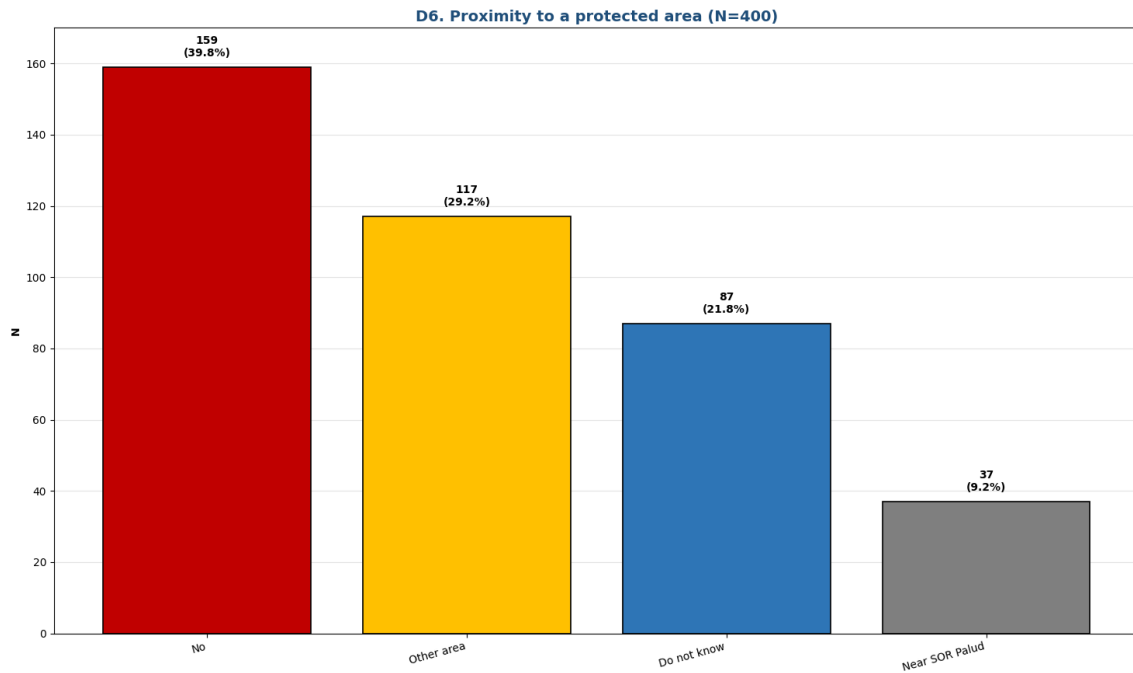
D5. Period of residence in Istria County



The vast majority of respondents (80.0%) have lived in Istria their entire lives, indicating a strong sense of local belonging. This long-term connection with the region has important implications: residents with long experience of living in Istria have developed an emotional relationship with the area, are familiar with local ecological values, and have witnessed long-term environmental changes.

Their attitudes toward nature protection are therefore not abstract but based on many years of experience. The relatively low share of newcomers may also reflect the demographic stability of Istria, unlike more tourism-intensive areas of Croatia.

D6. Proximity to a protected natural area



The results show that 81 respondents (20.2%) live near SOR Palud, which represents the key subsample for analyzing the relationship of the local community toward the reserve. An additional 29.3% live near other protected areas, while 39.8% do not live in the immediate vicinity of any protected area.

Interestingly, as many as 21.8% of citizens do not know whether they live near a protected area or not, which indicates a low level of awareness of the existence of protected zones in their surroundings. This lack of awareness represents a communication challenge: how can citizens be involved in protection if they do not know that protected areas exist near them at all?

CONCLUSION FOR BLOCK D (DEMOGRAPHICS):

The demographic profile of the sample shows a representative population of Istria County with several key characteristics. First, the sample is relatively young, with a predominance of the 15-24 age group, which is favorable for the topics of climate change and long-term nature protection.

Second, the high level of education (more than 50% have university/college education) provides a good basis for understanding complex ecological issues and enables more sophisticated communication about protection.

Third, long-term rootedness in the region (80% have lived their whole lives in Istria) means that attitudes are not abstract but based on long-standing experience.

Fourth, the Palud subsample of 81 respondents (20.3% of the total sample) exceeds minimum statistical requirements and enables a robust analysis of the local community.

Fifth, the geographic diversity of the sample (from Pula to smaller municipalities) ensures perspectives from different parts of Istria.

Sixth, the fact that 21.8% do not know whether they live near a protected area is emphasized, indicating a fundamental problem of visibility and communication regarding protected zones.

Seventh, the high representation of Rovinj (63 respondents) enables an in-depth analysis of the town most directly connected with SOR Palud.

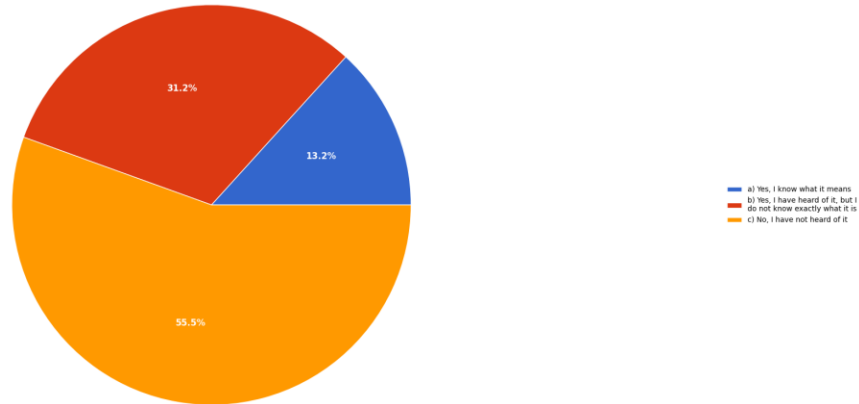
Overall, the demographic profile represents an ideal population for researching attitudes toward nature protection: young, educated, locally rooted, with a clear subgroup directly connected with SOR Palud.

3.2. BLOCK A: AWARENESS OF NATURE PROTECTION

A1. Awareness of the term "Natura 2000"

A1. Have you heard of the term "Natura 2000"?

400 responses

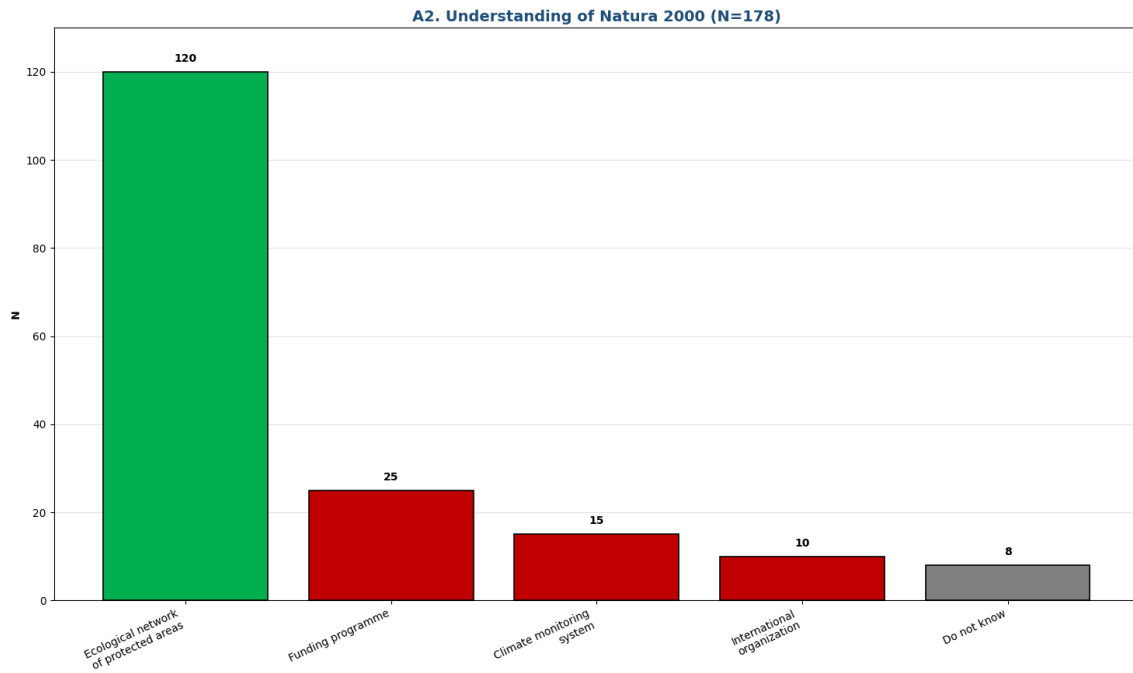


The results show a very low level of awareness of Natura 2000: as many as 222 respondents (55.5%) have never heard of the term, while an additional 125 (31.3%) have heard of it but do not know what it means. Only 53 respondents (13.3%) claim to know what Natura 2000 is.

This represents a fundamental problem in communication about the European nature protection system, especially given that the Republic of Croatia has participated in the Natura 2000 network since joining the EU in 2013. After 13 years, as much as 86.7% of the population still does not know what it is.

The low level of familiarity shows that existing communication campaigns do not reach the general population, even though Natura 2000 directly affects the management of protected areas in Istria.

A2. Understanding of the term Natura 2000

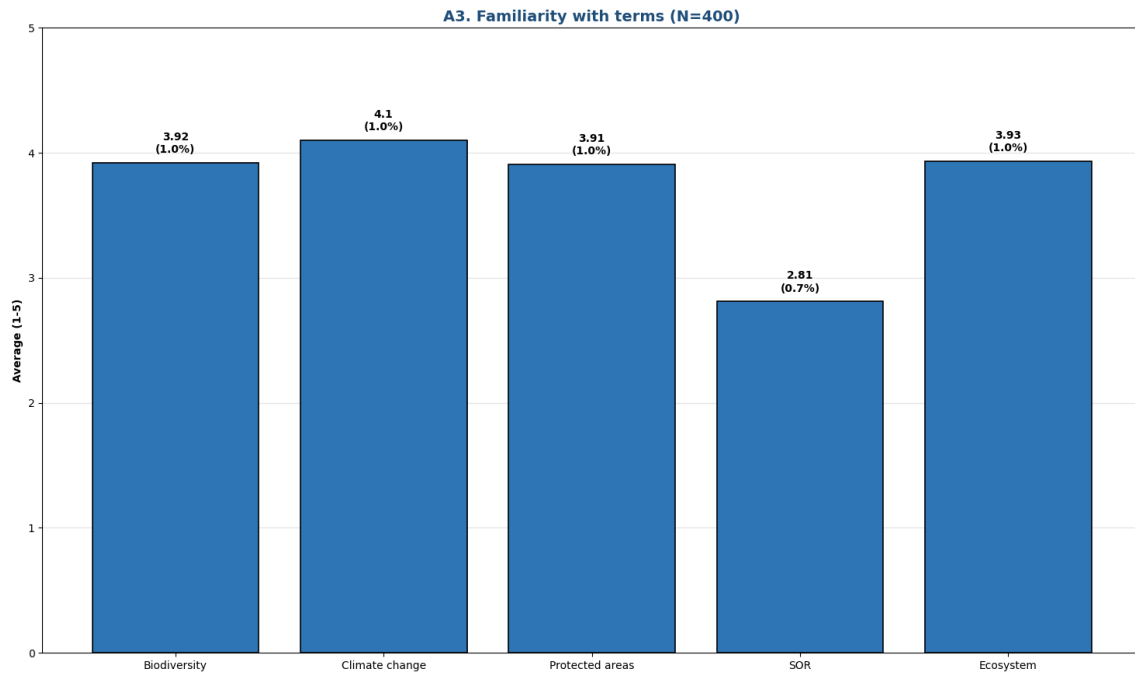


Of the 178 respondents who had at least heard of Natura 2000, 120 (67.4%) correctly recognize that it is an ecological network of protected areas.

Others give incorrect answers (funding programme, climate monitoring system, international organization) or do not know. Even among those who have at least "heard" the term, only two thirds have a correct understanding, which further emphasizes the depth of the awareness problem.

This finding suggests that even when communication succeeds in reaching citizens (they have "heard" of it), they often receive fragmented or incorrect information that does not allow a proper understanding of the concept.

A3. Familiarity with key ecological terms

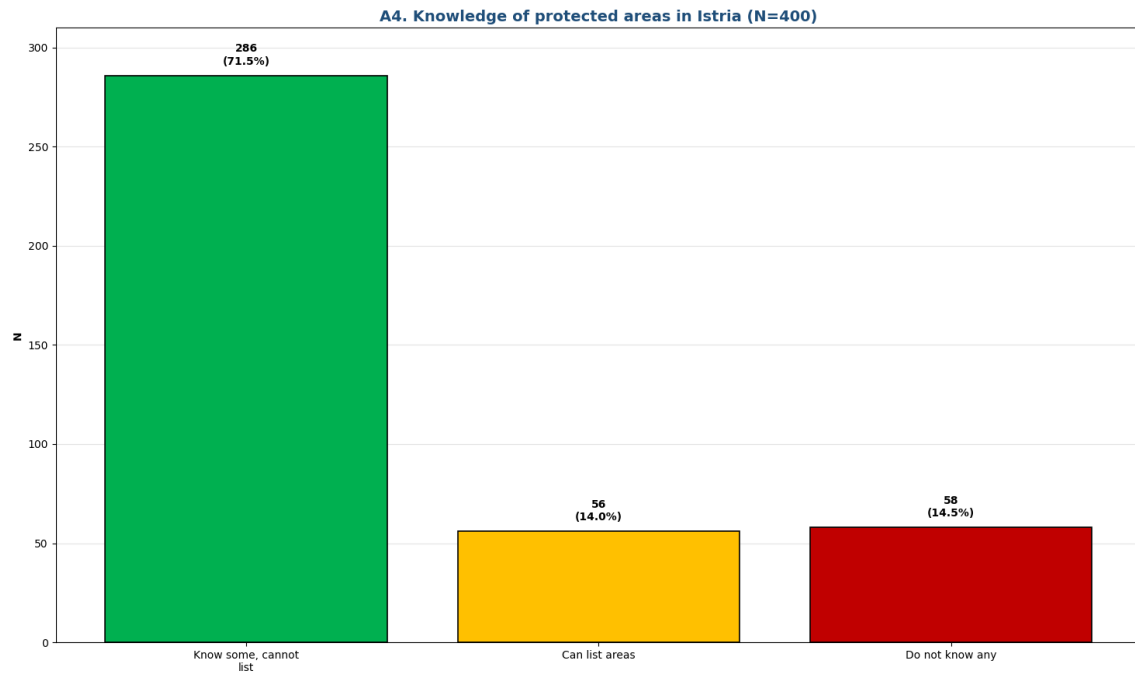


Knowledge of the terms shows an interesting pattern: citizens are very familiar with climate change (M=4.10), and are well familiar with biodiversity (M=3.92), ecosystem (M=3.93), and protected areas (M=3.91), but are significantly less familiar with SOR (M=2.81).

The difference between general terms (high) and a specific Croatian category of protection (low) points to a gap between the global and the local: the media successfully communicate general ecological topics, but there is a failure regarding concrete mechanisms applied in Croatia.

Citizens understand "biodiversity" as an abstract concept, but do not know what SOR (Special Ornithological Reserve) is, even though this category is used to manage protected areas in their county.

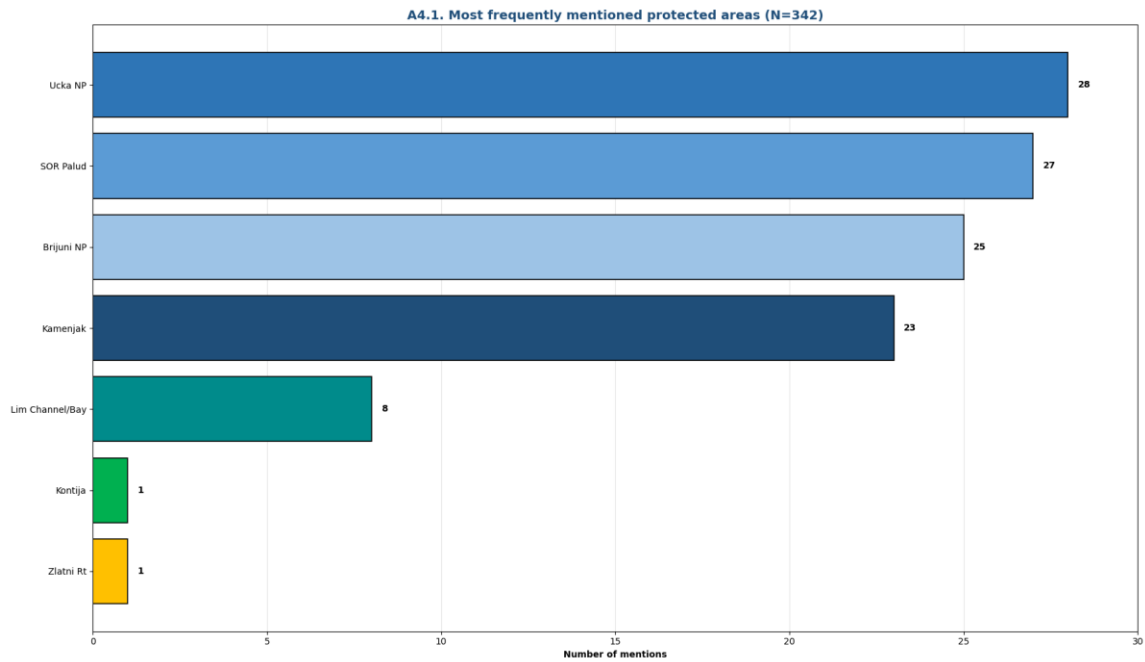
A4. Knowledge of protected areas in Istria



The results show a mixed picture of knowledge of protected areas: only 56 respondents (14.0%) can list specific protected areas, while the majority (286, 71.5%) know of some but cannot name all of them. An additional 58 (14.5%) do not know of any specific protected areas at all.

This distribution reflects partial knowledge: citizens are aware that protected areas exist, but lack precise knowledge about which areas they are. Most of the population is in a "gray zone" - not completely uninformed, but not sufficiently informed to name specific areas. This is a classic indicator of superficial awareness: people "know that something exists" without deeper understanding.

A4.1. Which protected areas do you know?



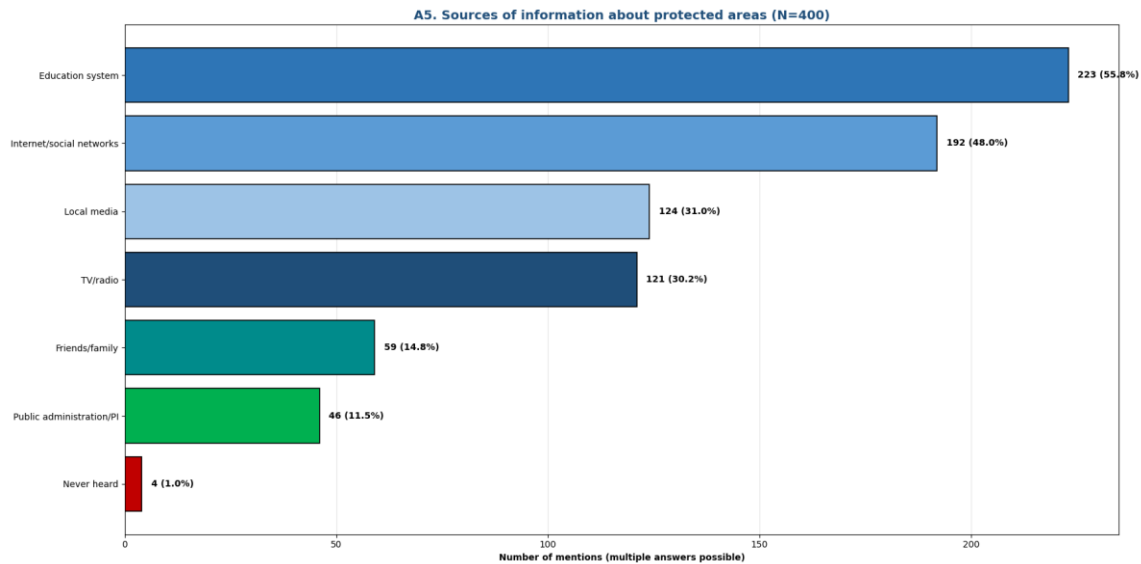
Among those who could name specific areas (N=342), the most frequently mentioned are: Ucka Nature Park, SOR Palud (thanks to local visibility in Rovinj and the surrounding area), Brijuni National Park (as the best-known and most promoted area in Istria), Kamenjak, and the Lim Channel/Bay (because of tourism recognition).

This distribution shows a correlation between tourism visibility and familiarity: areas that are developed for tourism (Brijuni, Lim Channel) are better known than those whose primary purpose is protection (SOR Palud).

It is interesting that Palud is mentioned relatively often despite being a strictly protected area with limited access, which indicates the success of local communication in Rovinj and the surrounding area.

However, the fragmentation of answers (49 unique combinations) shows the absence of shared knowledge about protected areas in Istria: everyone knows something different, which makes it harder to create a coherent picture of protected nature in Istria.

A5. Sources of information about protected areas



The education system (school/university, mentioned by about 55% of respondents) dominates as a source of information, followed by the internet and social networks (about 35%), local media (about 31%), and TV/radio (about 30%). The share of those who received information from public administration or PI Natura Histrica is very low (about 11%), confirming the previous finding of low institutional visibility. At the same time, it should be noted that local media receive information that they then pass on to the public from public administration, so this indicator should be interpreted with some caution.

The high share of the education system (55%) is a positive finding and indicates that formal education successfully transfers information about nature protection. At the same time, only 4 respondents had never heard such information, which shows that information availability is high, but the quality and coherence of that information are questionable (as shown by fragmented knowledge of specific areas).

The fact that the internet is the leading source indicates a change in the media landscape, where traditional media (TV, newspapers) are losing importance while digital channels are becoming primary. However, public administration is not present in the digital space as much as it should be, because only 11% received information from the institution, showing a fundamental lack of direct communication.

CONCLUSION FOR BLOCK A (AWARENESS):

The awareness block reveals a multilayered paradox that characterizes citizens' relationship toward nature protection. The first layer of the paradox: there is high awareness of general ecological topics (climate change $M=4.10$, biodiversity $M=3.92$), but a very low level of knowledge of concrete protection mechanisms (86.7% do not know Natura 2000, 63.2% do not know who manages the areas). The second layer: the majority (71.5%) know that protected areas exist in Istria, but cannot name which areas they are - they "know that something exists" without precisely understanding what exists. The third layer: information is available (96% have heard information from some source), but it is fragmented and incoherent (49 different answer combinations for A4.1) - everyone knows "something", but no one knows "everything".

The analysis of information sources (A5) reveals the key problem: the internet and the education system successfully convey general information about protection, but public administration and PI Natura Histrica are not sufficiently present in the information ecosystem (only 10% received information from the institution). Citizens learn about nature protection from indirect sources (media, internet, school), without direct communication with the institution that manages these areas. This results in superficial, fragmented awareness without an institutional "anchor" that would provide a coherent framework of understanding.

Knowledge of specific areas (A4.1) shows a correlation between tourism visibility and familiarity: Brijuni and the Lim Channel (tourism-developed areas) are far better known than areas whose primary purpose is protection. This indicates that tourism, not protection, drives awareness because people know the areas they visit, not necessarily those that are most important for biodiversity. SOR Palud is mentioned relatively often, but almost exclusively by the local subsample, confirming that geographic proximity dramatically increases awareness.

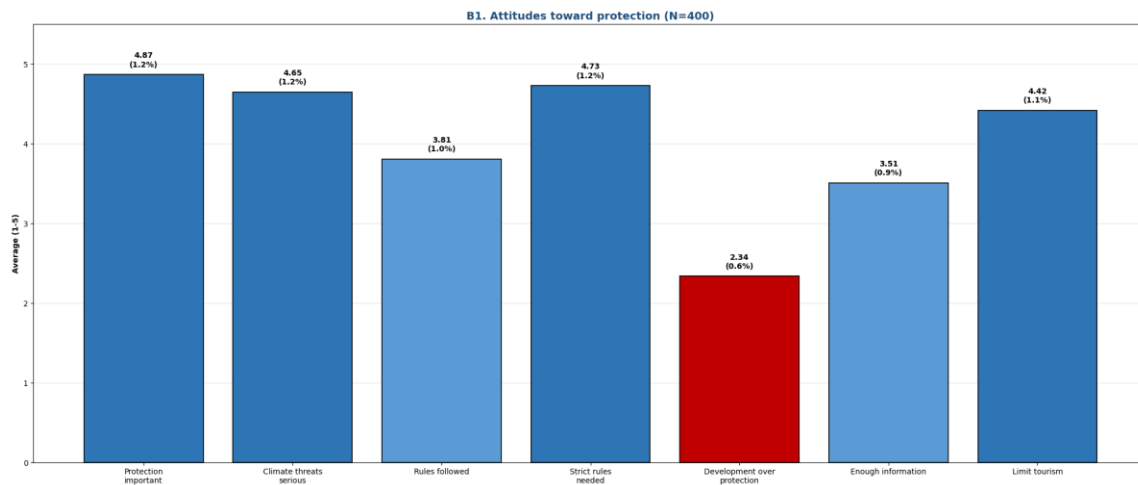
The main challenge is not the lack of information (it is available from many sources), but its fragmentation and the lack of an institutional framework. Citizens have "particular" information (I know about Brijuni, I have heard of Palud, I saw something on Facebook), but they lack a coherent picture of protected nature in Istria.

The recommendation is that PI Natura Histrica urgently take a central place in the information ecosystem through the following activities: develop a strong digital presence (the internet and social networks are the leading source), partner with the education system (the second most important source), and create a central "knowledge portal" that will provide a coherent picture of all protected areas in Istria.

The absence of these and similar activities will allow fragmented awareness to continue, making it harder to mobilize citizens for concrete protection.

3.3. BLOCK B: ATTITUDES TOWARD NATURE PROTECTION

B1. Attitudes toward nature protection (7 statements)

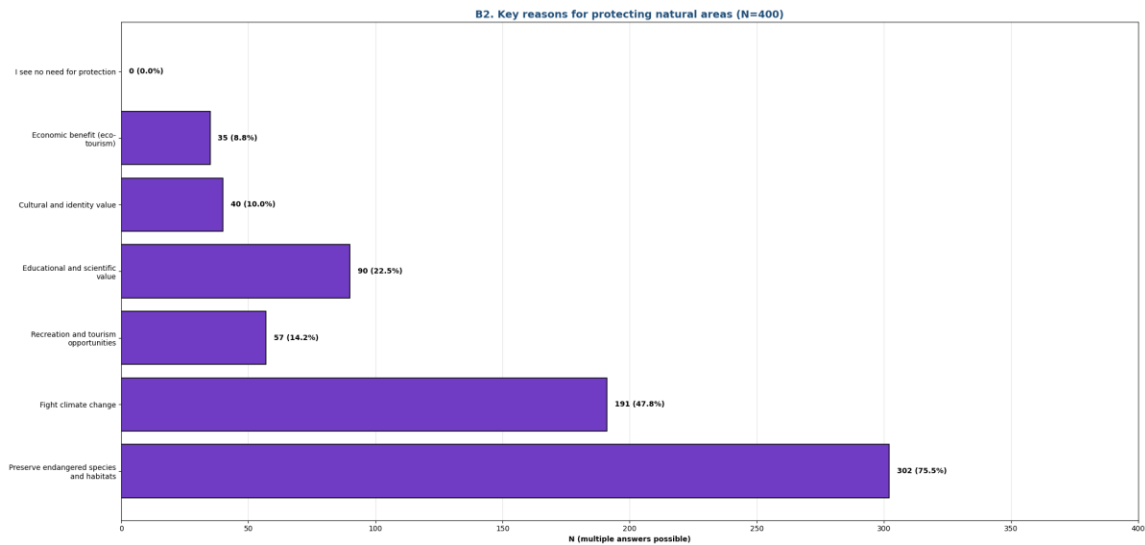


The attitude profile shows extremely high and consistent support for nature protection. The importance of protection is rated at $M=4.87/5.00$, which is almost the maximum score and represents a "universal consensus".

Citizens also rate highly the need for strict rules ($M=4.73$), perceive climate threats as serious ($M=4.65$), and support limiting tourism ($M=4.42$). The key point is the rejection of the thesis that "development is more important than protection" ($M=2.34$); low agreement shows that citizens DO NOT ACCEPT the false dilemma between economy and environment.

This distribution of attitudes represents an ideal context for implementing protection measures, where there is social readiness to accept even restrictive policies if they are justified by nature protection.

B2. The most important reasons for protecting natural areas

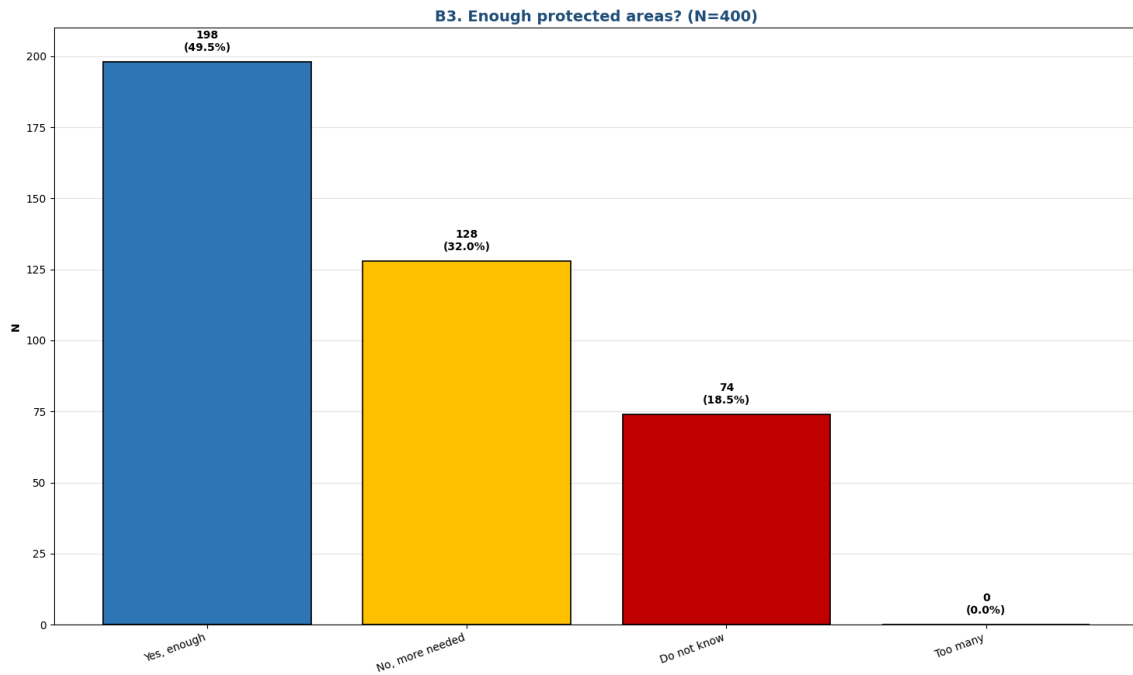


As the most important reason for protection, citizens most often cite the preservation of endangered species and habitats, which indicates the importance of valuing nature (protection for nature's own sake), and not only instrumentally (protection for human benefits).

This hierarchy of values shows the maturity of ecological awareness, where citizens do not justify protection only through economic or recreational benefits but recognize the inherent value of biodiversity.

However, the diversity of answers (from climate change to educational values) shows that different segments of the population have different motivations, which requires a multidimensional communication approach that "speaks" to different groups through their specific values.

B3. Are there enough protected areas in Istria?

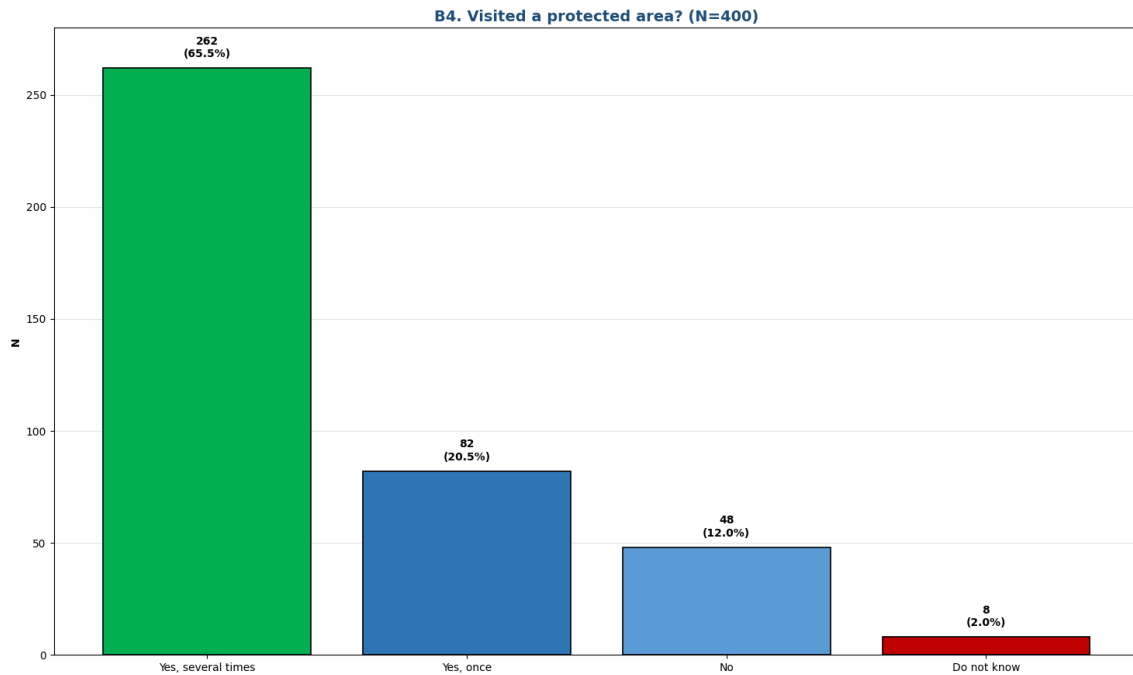


Attitudes about the number of protected areas show divergent perspectives: a significant share believes the number is sufficient, but there is also a group that believes Istria needs more protected areas.

A high percentage of "do not know" answers (if protected areas exist) indicates a lack of information about which areas are protected at all and how many there are. This finding is connected with previous findings on low awareness: how can citizens judge whether the number is sufficient if they do not know which parts of Istria are protected?

It is first necessary to raise awareness of existing protected areas, and only then discuss the need for new ones.

B4. Visit to a protected natural area



Experience of visiting a protected area shows that a significant share of citizens has direct experience with these places, which is an important finding because direct experience usually strengthens support for protection. Those who have visited can better understand the concept of protection, not as an abstract idea, but through a concrete memory of a place, images, and feelings.

However, part of the population has never visited a protected area despite living in Istria, which represents a missed opportunity. Direct experience is a powerful educational tool that could further strengthen the already high support for protection.

CONCLUSION FOR BLOCK B (ATTITUDES):

The attitudes block reveals a strong and stable social consensus on the importance of nature protection ($M=4.87/5$), which represents a golden opportunity for protection institutions. This is not merely declarative support, because citizens support concrete restrictive measures such as strict rules ($M=4.73$) and limiting tourism ($M=4.42$), showing an understanding that protection sometimes requires a broader agreement.

Especially significant is the rejection of the myth of an inevitable conflict between development and protection ($M=2.34$), where citizens understand the complementarity of the economy and the environment. The inherent valuation of nature (protection of species as the top reason) shows the maturity of ecological awareness beyond instrumental rationality.

However, there is a critical gap between positive attitudes and activation: despite high support, part of the population has never visited protected areas, does not know which areas are protected, and does not know the institutions that manage them. The main challenge is therefore not to change attitudes (which are already positive), but to channel existing support through concrete mechanisms of participation.

There is "latent energy", i.e. high motivation waiting to be activated through volunteer programmes, educational visits, and participatory management. Protection institutions have a unique opportunity to act in an environment of mass support, but they must bridge the gap between positive attitudes and concrete action.

3.4. BLOCK C: KNOWLEDGE OF RULES OF CONDUCT

C1. Acceptability of behavior in protected areas



58.8% of respondents consider feeding birds with bread unacceptable, while 29.0% consider it acceptable in some cases. This shows a good understanding of the problem because feeding bread can harm birds (inappropriate diet) and disrupt natural food chains.

However, almost 30% still see this activity as "sometimes acceptable", which indicates the need for additional education about the harmful effects of "well-intentioned" activities.

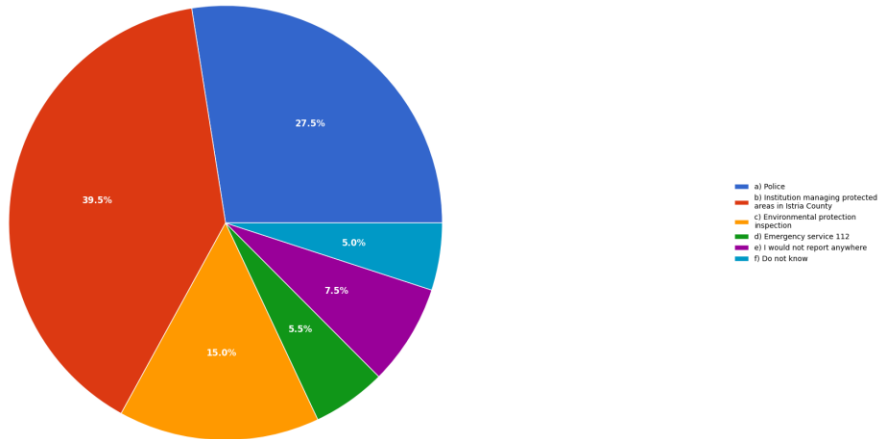
As many as 82.8% consider drone filming unacceptable without permission, showing a high awareness of the regulatory aspects of protection. Drones can disturb birds, disrupt nesting, and violate privacy.

Such a high percentage of non-acceptance indicates that citizens understand the need to regulate modern technology in protected areas, which is a positive finding given the relatively new nature of this issue.

C2. Knowledge of the managing institution

C3. Where would you report illegal activity in a protected area?

400 responses



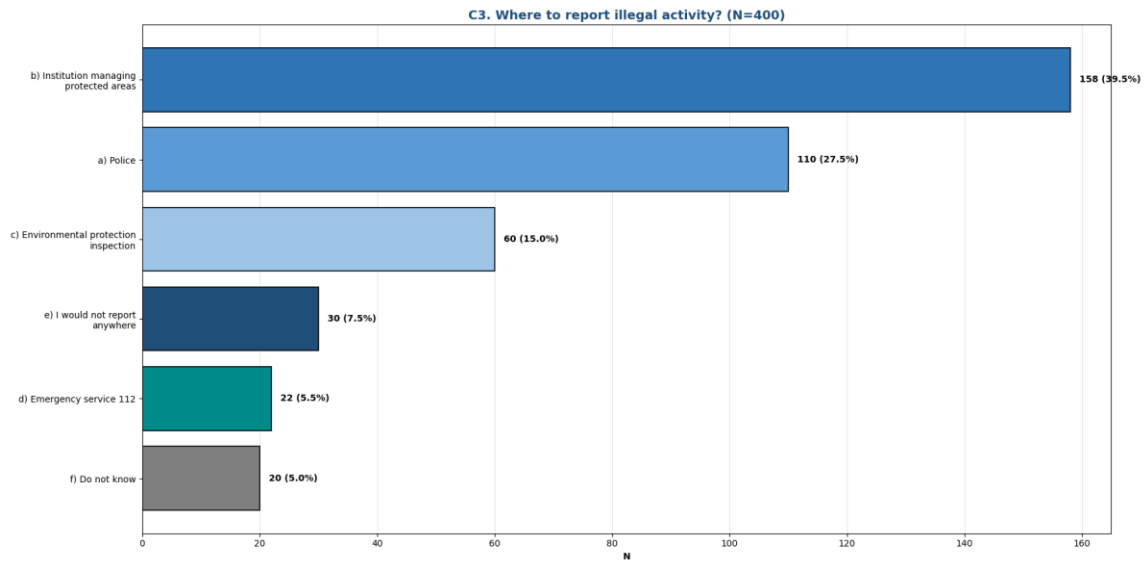
Only 147 respondents (36.8%) correctly identify the institution managing protected areas in Istria County as the manager to whom they should turn. The majority (63.2%) give incorrect answers (Ministry, local government, Green Istria) or do not know.

This represents a problem of institutional visibility: how can citizens participate in management, provide feedback, or use the institution's services if they do not know whom they should contact?

The comparison with Block A shows a paradox: citizens know that rules exist and understand what is allowed/prohibited, but they do not know who sets and enforces those rules.

Therefore, the institution managing protected areas in Istria County must urgently work on strengthening its institutional identity and visibility in the public sphere.

C3. Whom to report illegal activity to?



Citizens show different understandings of where to report illegal activities in protected areas. Some would contact the police, some local government, and some the institution managing the protected area.

This diversity of answers indicates a lack of clear procedures or insufficient communication of them. A simple and clear reporting mechanism accessible to all citizens needs to be developed (e.g. a central telephone line, mobile application).

CONCLUSION FOR BLOCK C (RULES):

The rules block reveals an interesting paradox: citizens show a good understanding of the content of the rules (what is allowed/prohibited in protected areas), but have poor knowledge of the institutions that set and enforce those rules.

More than 80% recognize that drone filming is unacceptable, and more than 60% know that a dog without a leash is problematic, indicating successful internalization of behavioral norms. However, 63.2% do not know that the institution managing protected areas in Istria County manages those protected areas.

Citizens "know the rules" but do not know "who sets the rules". This discrepancy suggests that rules circulate through informal channels (local culture, informal signs in the field) without a clear connection to an institutional source.

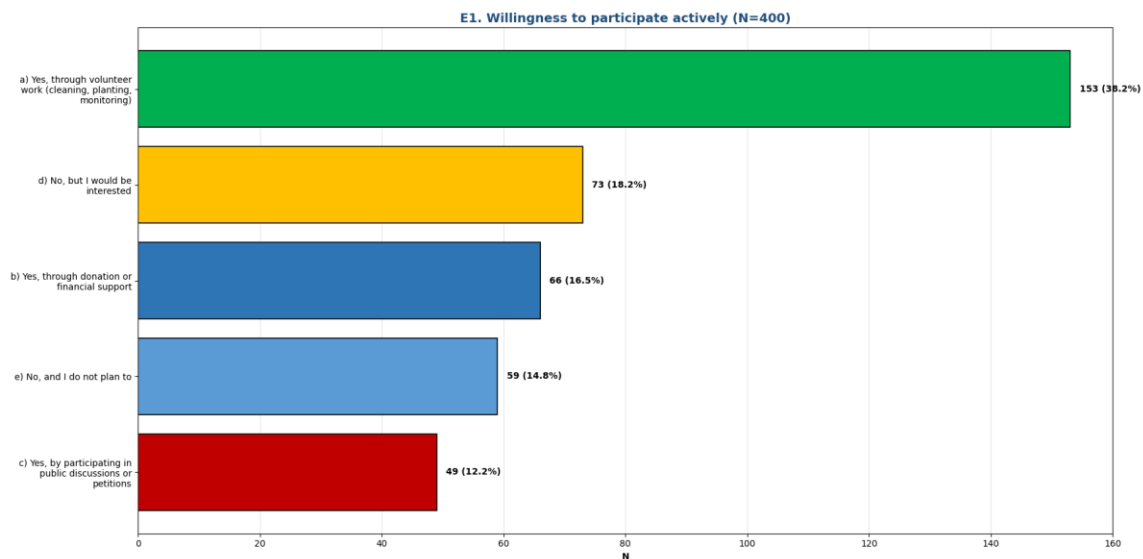
The challenge is not acceptance of the rules (citizens support them), but institutional visibility. PI Natura Histrica must find ways to achieve recognizability alongside the rules it establishes. When citizens see a "prohibited" sign, they should immediately associate it with PI Natura Histrica as the authority.

Without this connection, the institution remains "weakly visible", making it harder to build long-term support, civic oversight, and participation in management.

The diversity of answers regarding the reporting procedure also shows the need for a centralized and accessible mechanism for reporting illegal activities.

3.5. BLOCK E: ENGAGEMENT AND WILLINGNESS TO PARTICIPATE

E1. Willingness to participate actively



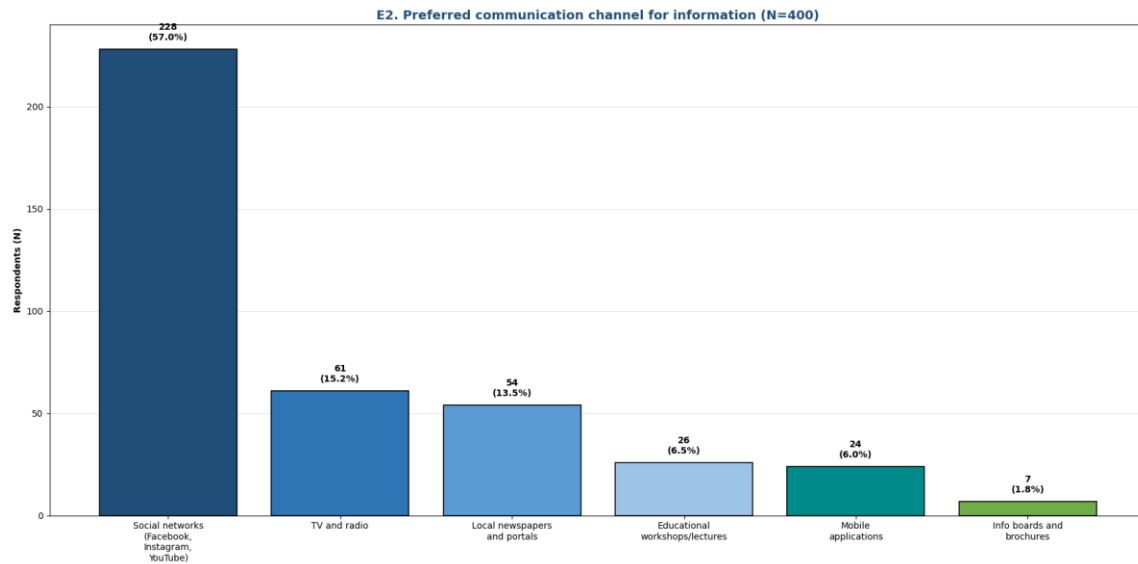
153 respondents (38.2%) are willing to volunteer in nature protection activities (cleaning, planting, monitoring). An additional about 16% are willing to donate, and about 12% to participate in public discussions.

In total, more than 65% show willingness for some form of engagement!

This is an exceptionally high percentage showing that the support is not merely declarative, because almost 40% willing to volunteer represents enormous social capital that is currently not being used sufficiently.

The main challenge is not to motivate citizens (they are already motivated), but to organize their enthusiasm through structured programmes that enable easy participation.

E2. Preferred communication channels



The results show a pronounced dominance of digital channels: 228 respondents (57.0%) prefer social networks (Facebook, Instagram, YouTube) as the primary channel of communication about protected areas.

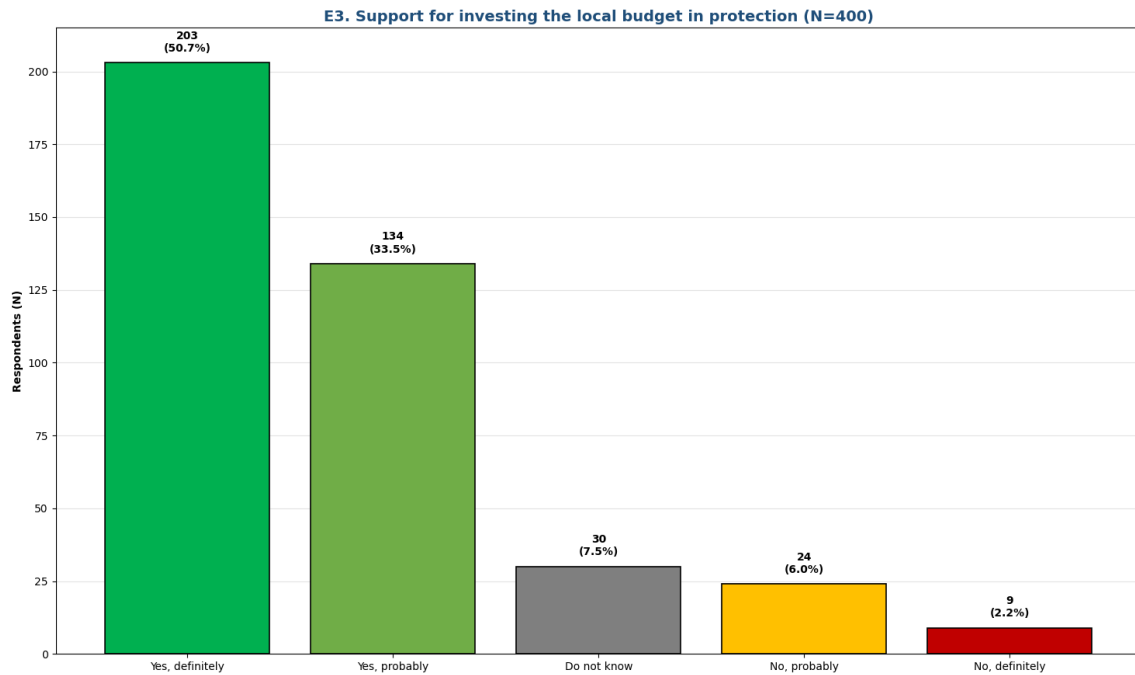
This is far ahead of all other channels. TV and radio are in second place with 61 respondents (15.3%), local newspapers with 54 (13.5%), while traditional media (TV, radio, newspapers) together make up only 28.8%, half as much as social networks.

Educational workshops and mobile applications together account for around 12.5%, showing a segment of the population that prefers interactive forms of communication. Information boards and brochures in the field have the lowest priority (1.8%), indicating that static, physical communication is no longer the dominant medium.

This finding has key implications for the communication strategy of PI Natura Histrica: the institution must be actively present on social networks, create visually attractive and regular content, use video format (YouTube was specifically mentioned), and develop two-way communication with followers.

Traditional forms of communication (TV, brochures) should not be abandoned, but they must be secondary to digital presence.

E3. Support for investing the local budget in protection



Support for investing public funds (the local budget) in protection is extremely high: 203 respondents (50.8%) definitely support it, and an additional 134 (33.5%) probably support it.

A total of 337 respondents (84.3%) are willing for part of their tax funds to be used for the protection of natural areas! This is a key finding because it shows that support for protection is not only abstract, and that people are willing to accept their money (through taxes and the local budget) being spent on protection. Only 33 respondents (8.3%) do not support budget investment, which is a marginal percentage.

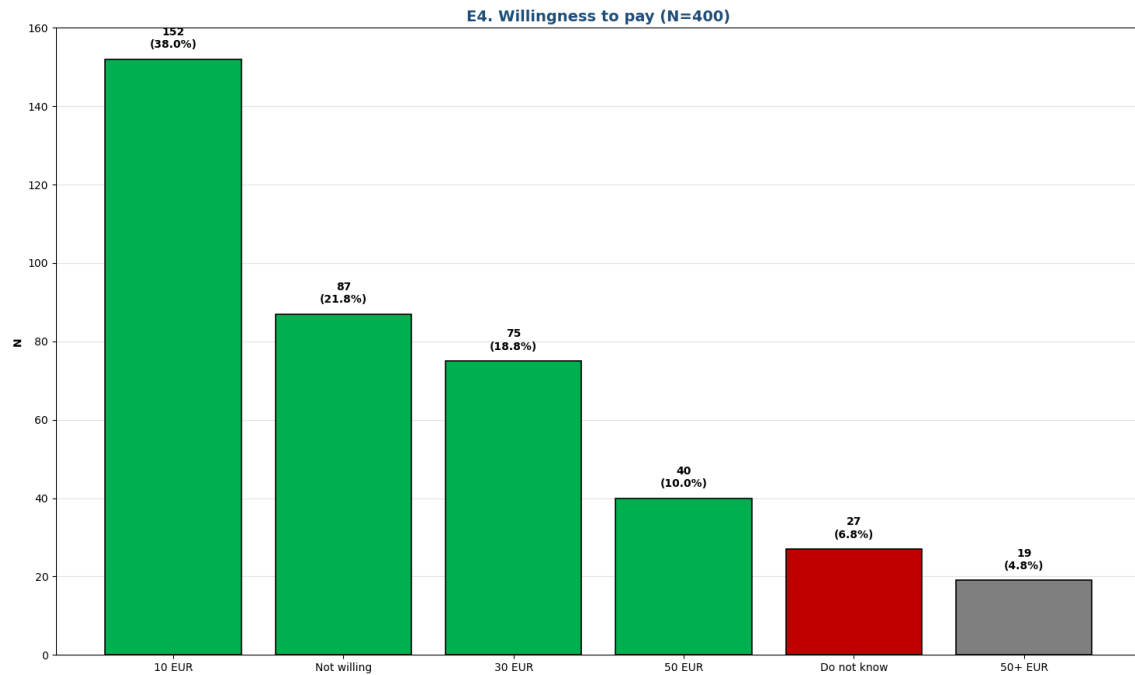
The comparison of E3 (support for budget investment 84.3%) with E4 (willingness to pay directly 71.5%) shows an interesting pattern: a higher percentage are willing to pay "indirectly" (through the budget) than "directly" (personal contribution).

The difference (12.8 percentage points) suggests that some citizens prefer collective financing through public institutions over individual contributions.

This has important implications: institutions can legitimately request increased budgetary funds for protection by referring to the massive support of citizens (84.3%).

Support from E3 also legitimizes the existence of protection institutions - if 84.3% support budget investment, this means that they support the existence of public bodies that manage those funds.

E4. Willingness to pay an annual contribution



Key finding: 286 respondents (71.5%) are willing to contribute financially to nature protection (from EUR 10 to 50+ per year)!

This is extremely important because willingness to pay shows very tangible, not only verbalized, support. The 71.5% of respondents willing to pay represents enormous support that opens the possibility of developing innovative models of participatory financing.

However, the key condition is transparency: citizens are willing to pay if they see that the funds go directly to concrete protection projects.

A model of crowdfunding projects (e.g. "Help restore nests", "Finance bird monitoring", etc.) could be extremely successful.

CONCLUSION FOR BLOCK E (ENGAGEMENT):

The engagement block, supplemented by questions on communication channels (E2) and support for budget investment (E3), provides a complete picture of citizens' willingness to participate and reveals concrete pathways for activating that willingness.

The first key finding is that there is multi-layered willingness to contribute: 38.2% are willing to volunteer (E1), 71.5% are willing to pay a direct contribution (E4), and 84.3% support budget investment (E3). This pyramid shows that willingness to participate is universal, but it manifests itself through different forms depending on citizens' preferences.

The second key finding: social networks are the dominant communication channel (57.0%), which is critical for all communication strategies. PI Natura Histrica is currently not sufficiently present on social networks, i.e. not as much as it should be (as A5 shows: only 10% received information from the institution). There is a fundamental mismatch between the channels citizens prefer (social networks 57%) and the channels through which the institution communicates. This explains why institutional communication does not reach citizens - the institution "speaks" through traditional channels (brochures, boards) while citizens "listen" on social networks. The obvious solution is an urgent change in communication: strengthening presence on Facebook, Instagram, and YouTube with regular, visually attractive content.

The third key finding: the difference between willingness to pay directly (71.5%) and support for budget investment (84.3%) of 12.8 percentage points indicates the existence of a segment that prefers collective over individual financing. Some citizens may not want or may not be able to set aside EUR 10-50 per year directly, but they support their tax contribution (through the budget) being used for protection. This means that the optimal financing model would combine both approaches: (1) strengthening budget financing (which has massive support of 84.3%); (2) developing participatory financing for those who want to contribute directly (71.5%). These two models are not competing but complementary.

The fourth key finding: high support for budget investment (84.3%) legitimizes the existence and strengthening of protection institutions. When 84.3% of citizens support the investment of public funds in protection, this automatically supports the existence of public institutions that manage those funds. This provides political support for advocating increased budgetary funds for protection, and local authorities can see that there is mass citizen support for such investment. PI Natura Histrica should publicly communicate this finding to decision makers: "84.3% of citizens support budget investment in the protection of natural areas."

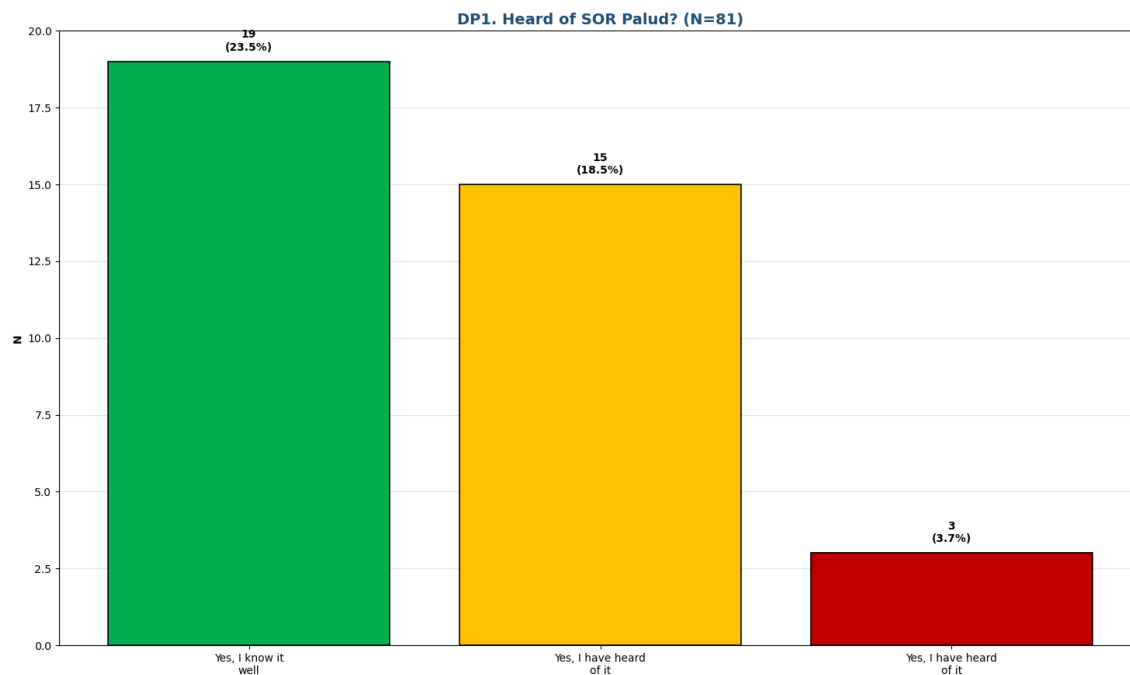
3.6. BLOCK DP: PALUD SUBSAMPLE (N=81)

The Palud subsample is defined as the group of all respondents who live in Rovinj or in settlements within a radius of <15 km from SOR Palud and who confirmed that they live near a protected natural area. The final sample of N=81 respondents (20.3% of the total sample) significantly EXCEEDS the minimum statistical requirements for subsample analysis.

This definition is based on the following methodological reasons:

1. GEOGRAPHIC PROXIMITY: Rovinj is located <5 km from the reserve and represents the main urban center in the immediate vicinity. Most residents of Rovinj "see" the reserve every day, pass by it, or visit it.
2. FUNCTIONAL CONNECTION: Residents of Rovinj and the surrounding area are functionally connected with the reserve through daily activities (walks, recreation, tourism), which makes them a relevant "local community".
3. IDENTITY AFFILIATION: The analysis shows that residents of Rovinj consider the reserve part of "their" space and identity (DP1: 91.9% know about the reserve, DP3: M=4.76-4.84 support for protection).
4. STATISTICAL VALIDITY: N=81 exceeds the minimum N≈50 for subsample analysis; the margin of error of +/-10.9% is acceptable for research purposes.
5. METHODOLOGICAL CONSISTENCY: This approach follows standard practice in sociological research, where the "local community" is defined by a combination of geographic proximity, functional connection, and identity affiliation, and not only by administrative boundaries.
6. COMPARATIVE ANALYSIS: The subsample enables ROBUST comparisons with the rest of the population (N=319), providing insight into the specific features of the local community versus the general population.

DP1. Awareness of SOR Palud

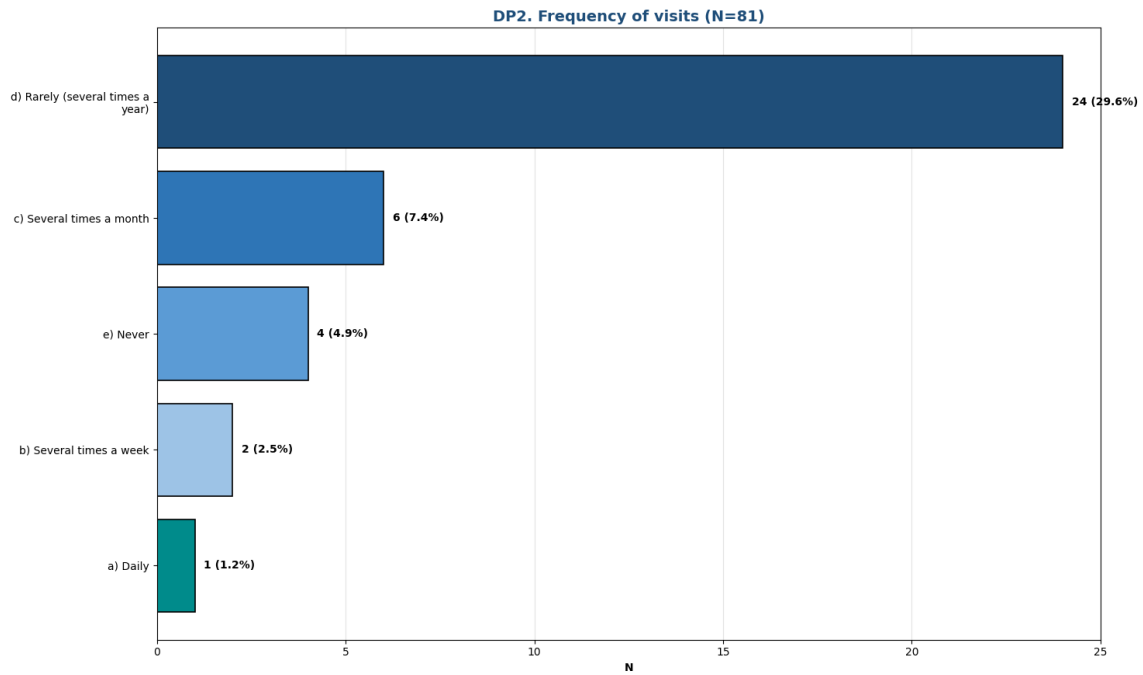


The local community shows a dramatically higher level of familiarity: 34 respondents (42.0%) have heard of SOR Palud, which is in complete contrast with the general population, where only 13.3% know about Natura 2000.

Geographic proximity and everyday connection with the area significantly increase awareness. Rovinj and the surrounding area do not perceive the reserve as "someone else's", but as part of their own space and identity.

This finding refutes the myth that the local community "does not know" or "is not interested" - on the contrary, they are the best informed!

DP2. Frequency of visits to the reserve

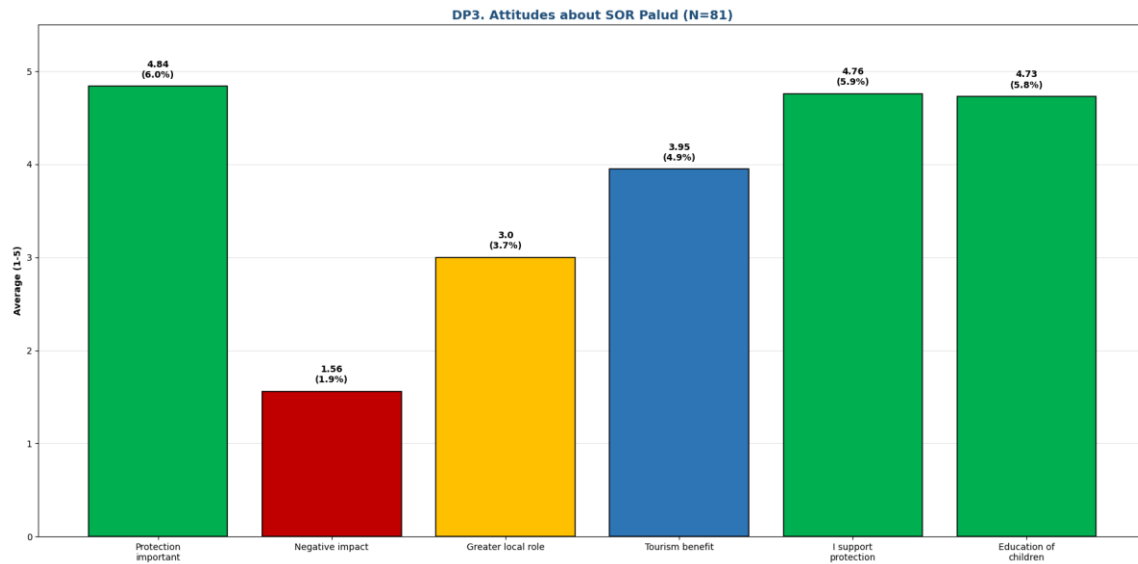


The majority (64.9%) rarely visit the reserve (several times a year), while 16.2% pass through monthly. This indicates that the local community knows the reserve, but does not use it intensively in everyday life.

The reserve is part of Rovinj's "living space" even when it is not used physically very often.

The low frequency of daily visits may also reflect the fact that the reserve is a protected area where certain activities are not allowed, which the local community respects.

DP3. Local community attitudes toward SOR Palud

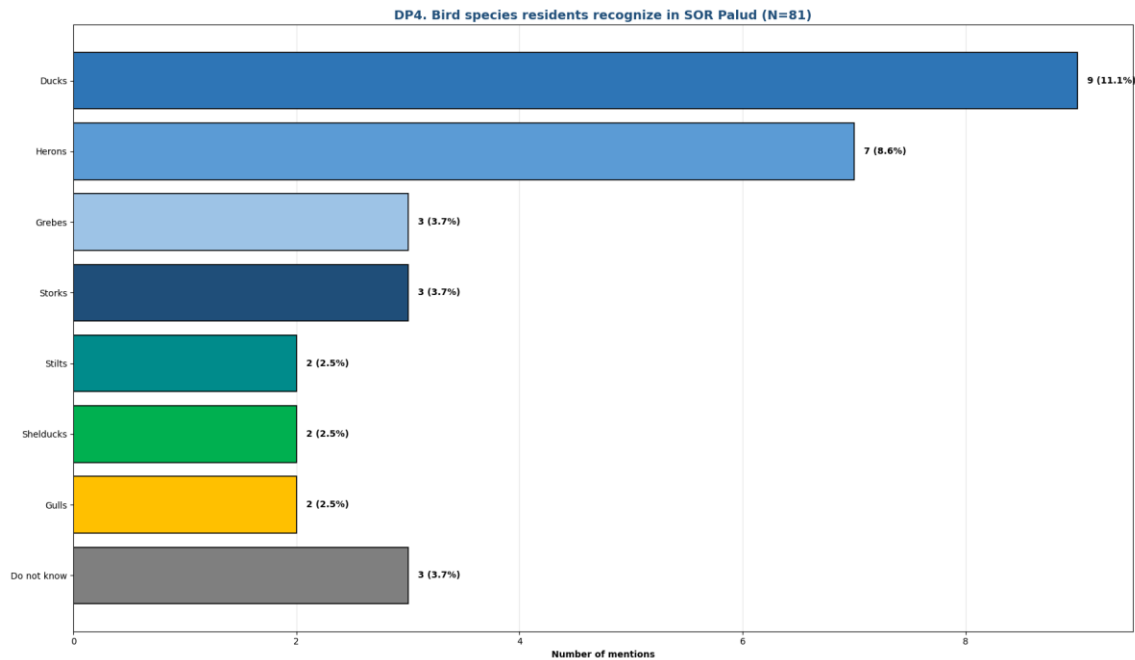


The local community strongly supports protection. The view that protection is important is extremely high ($m=4.84/5$). Support for protection is also high ($m=4.76$), as is education for children ($m=4.73$).

Agreement with the statement that the reserve has a negative impact on life is critically low ($m=1.56$), and the local community does not perceive the reserve as a "burden" or "restriction", but as a value.

They see the tourism benefit as moderate ($m=3.95$), which is a realistic assessment. Thus, this profile shows a mature perspective: support for protection is not naive, but based on understanding and long-term benefits.

DP4. Knowledge of bird species in SOR Palud



The analysis of knowledge of bird species reveals a mixed picture of ecological literacy in the local community. The most frequently mentioned species are ducks (known to everyone), herons (easily recognizable and visible), storks (large birds), and stilts (very present seasonally).

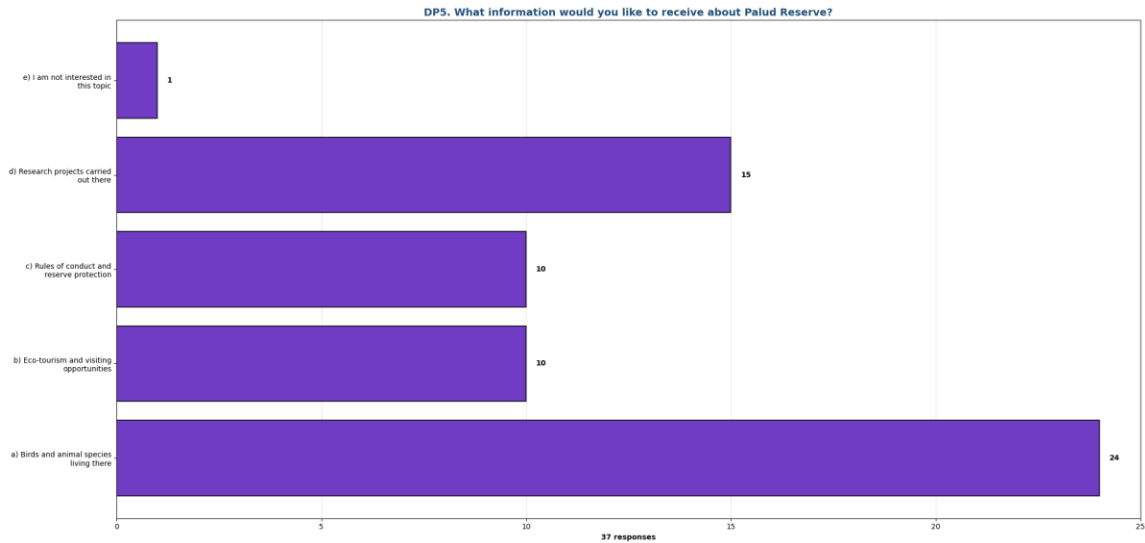
More specific species such as shelducks, grebes, terns, and sandpipers are also mentioned, indicating the existence of a smaller segment of the local community with deeper knowledge of the reserve's ornithological diversity.

However, the large number of "I don't know" answers shows that a significant part of the local community, despite knowing about the reserve and supporting its protection, does not have detailed knowledge of the specific biodiversity that is the reason for protection.

This is an important finding: support for protection is not necessarily linked to detailed knowledge of species, and people in Istria County support protection "in principle" without knowing the specific species being protected.

Nevertheless, the mention of specific species (more than 200 recorded responses, such as shelduck and common tern) by some respondents shows the existence of local enthusiasts who could be key resources for educational programmes and scientific projects.

DP5. Desired information about SOR Palud



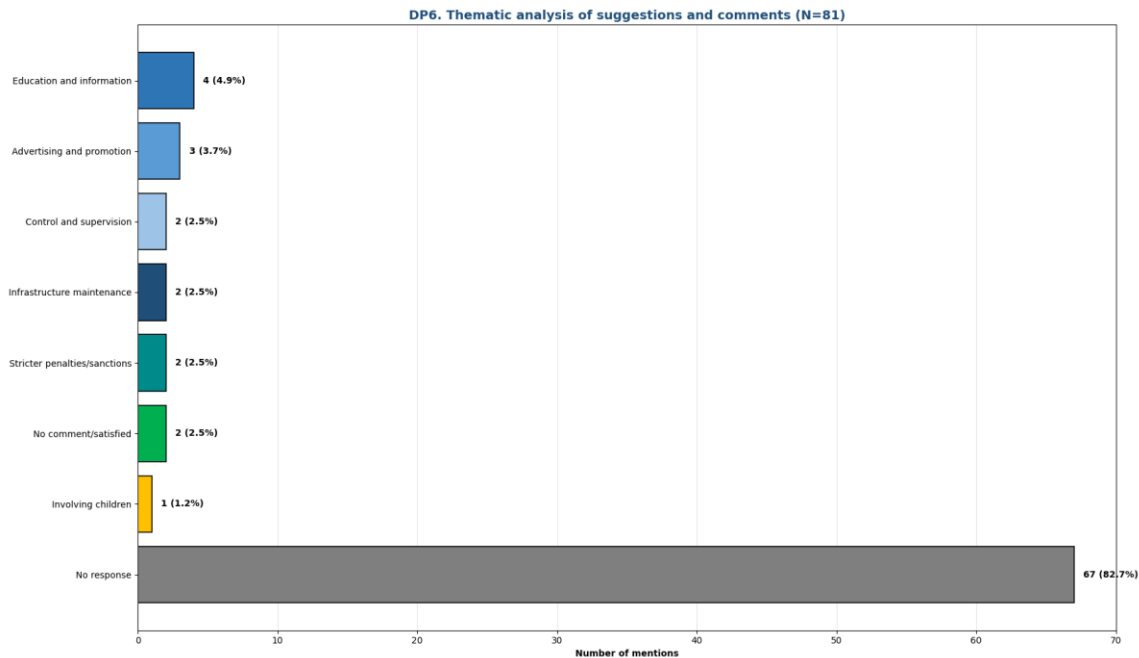
The analysis of the communication needs of the local community shows a clear prioritization of topics. Most respondents (almost 65%) want information about the birds and animals living in the reserve, which reflects an intrinsic curiosity about nature and a desire to understand "what protection is for".

Research projects are in second place (over 40%), showing interest in the scientific dimension of protection - people want to know "what is being researched there" and what the results are. Eco-tourism and visiting opportunities interest about 27%, indicating a balanced approach because the local community wants to be informed and educated, not only to "use" the reserve for tourism. Rules of conduct interest about 27%, which is lower than expected, and it is possible that the local community already knows the basic rules through everyday presence.

The key point is that only 1 respondent answered "I am not interested", which is an extremely low percentage confirming the high interest of the local community in the reserve.

This distribution of communication needs provides a clear guide for developing a communication strategy: the priority should be educational information about species and research, not only tourism promotion or regulatory communication.

DP6. Suggestions and comments from the local community



Of the 81 respondents from the Palud subsample, 14 (17.3%) gave concrete suggestions or comments, while the majority (82.7%) did not offer specific suggestions. This low response rate to an open-ended question is not a sign of lack of interest (as previous findings on high support show), but reflects a general tendency in surveys where open-ended questions have lower response rates than closed-ended ones.

However, the suggestions given by the 17.3% are extremely valuable because they reflect spontaneous, unsolicited needs and concerns of the local community. The thematic analysis of answers reveals a clear priority: education and information (4 mentions) and advertising/promotion (3 mentions) together make up half of all suggestions.

This confirms the findings from DP5, where more than 70% requested information about species and research, showing that the local community articulates the need for better communication. The second cluster of suggestions relates to operational management: control and supervision (2), maintenance of infrastructure (2), and stricter penalties (2).

These suggestions show that the local community is not only passively interested in information, but actively observes what is happening in the field and notices shortcomings (an unmaintained meadow, the need for better control). The specific suggestion to involve children ("to introduce children there and inform them, they are our future") shows the long-term perspective of part of the local community.

CONCLUSION FOR BLOCK DP

The analysis of the Palud subsample (N=81) in the Rovinj area provides a more complete picture of the local community's relationship with the reserve, going beyond previous findings. The first key finding: support for protection (M=4.76-4.84) does not depend on detailed knowledge of bird species, because respondents support protection in principle without necessarily knowing the specific biodiversity. This represents a challenge because, on the one hand, it shows that support is not conditioned by complex knowledge (which is good), but on the other hand, it reveals a lack of deep understanding of why protection is important. The local community knows that the reserve "protects birds", but most do not know which birds, making it more difficult to argue in cases of conflict of interest.

The second key finding: there is a clear and articulated demand for educational information. More than 70% of respondents want to learn something about species, while only 1.2% answered "I am not interested", which is statistically irrelevant and shows universal interest. The challenge is not a lack of interest, but a lack of supply of quality information. PI Natura Histrica has a ready audience that actively seeks information, but currently does not receive that information (as the answer to question A5 shows: only 10% received information from the institution).

The third key finding: the existence of a smaller segment of "local enthusiasts" who know specific species (shelducks, terns, sandpipers, etc.) represents an unused resource. These people can be "ambassadors" of the reserve, guides, educators, and citizen-science volunteers. A model of "expert volunteers", where local enthusiasts are formally included in educational and monitoring programmes, could simultaneously: (a) increase PI capacity for education and monitoring; (b) strengthen the sense of belonging of the local community; (c) create a peer-to-peer communication channel that is often more effective than formal institutional communication.

The fourth key finding: the distribution of desired information shows that the local community wants scientific and educational communication, not only tourism promotion. High interest in research projects (50%) shows that people want to understand the reserve as a scientific object, not only as a "beautiful place". This opens the possibility for innovative forms of communication: public lectures on research results, "open day" events at laboratories/observation points, involvement of the local community in monitoring projects, and transparent reporting on scientific findings.

The fifth key finding, which synthesizes all the previous ones: the model of participatory management is not only a normative ideal but an empirically supported finding of this research. The local community (N=81): (1) knows the reserve well (91.9% have heard of it); (2) strongly supports protection (M=4.76-4.84); (3) does not perceive the reserve as a burden (M=1.56); (4) actively seeks information (98.8% interested); (5) includes segments with deep knowledge that can contribute. A model in which the local community is a passive recipient of management decisions is not optimal. A model in which it is an active partner that receives information, provides feedback, participates in monitoring and education, and thereby brings better protection

results, is more appropriate. Residents of Rovinj and the surrounding area are not a "problem" or a "threat" to the reserve; they are a key resource for its long-term protection.

The Palud subsample (N=81) shows systematically higher levels of knowledge for all terms. Proximity to a protected area not only increases knowledge of the reserve, but has a broader educational effect and encourages general ecological literacy. Protected areas function as a "living classroom" that raises the level of awareness in the local community. A model of local engagement in which citizens are not only "users" but active participants may be the key to successful protection.

4. CONCLUSION AND RECOMMENDATIONS

4.1. Synthesis of key findings

This research provides a comprehensive insight into the relationship of citizens of Istria County toward nature protection and reveals a complex picture that goes beyond simple generalizations. The results show that in Istria County there is a strong social consensus on the importance of nature protection, reflected in the exceptionally high average rating of the importance of protection ($M=4.87/5.00$) and almost universal agreement, which is rarely found in social research.

However, this consensus is characterized by a fundamental paradox: while citizens show high awareness of general ecological topics such as climate change ($M=4.10$), biodiversity ($M=3.92$), and ecosystems ($M=3.93$), they simultaneously show an extremely low level of knowledge of concrete protection mechanisms and institutions. More than half of the population (55.5%) has never heard of Natura 2000, the fundamental nature protection system in the European Union, while as many as 63.2% do not know that the Public Institution Natura Histrica manages protected areas in Istria. This mismatch between general and specific knowledge points to a fundamental communication gap: citizens "know" that protection is important and understand abstract ecological concepts, but do not know the real instruments, institutions, and legal frameworks that enable that protection.

The research reveals that proximity to a protected area is not an obstacle but a catalyst for support for protection. The Palud subsample, which includes residents of Rovinj and the surrounding area ($N=81$, including all residents of Rovinj as the closest town to the reserve), shows a dramatically higher level of familiarity with the reserve (91.9% have heard of it) and stronger support for its protection ($M=4.76-4.84$) compared with the general population. This finding refutes the common myth that local communities "suffer" protected areas or that geographic proximity results in conflicts of interest. On the contrary, the data show that proximity encourages awareness, builds identity connection with the area, and results in higher support for protection. Residents of Rovinj do not perceive the reserve as a "burden" ($M=1.56$ negative impact), but as part of their identity and quality of life.

Particularly significant is the exceptionally high willingness of citizens to take concrete action: 38.2% are willing to volunteer in nature protection activities (cleaning, planting, monitoring), while as many as 71.5% are willing to contribute financially to the protection of natural areas (from EUR 10 to 50+ per year). This does not represent only declarative support; willingness to pay shows very real, not merely verbal, support.

The existence of such a large percentage of citizens willing to contribute financially opens the possibility of developing innovative models of participatory financing for nature protection, which can complement traditional financing mechanisms. Citizens are willing to pay if they see that the funds go directly to concrete projects; for example, crowdfunding projects such as "Help restore nests" and "Finance bird monitoring" could be extremely successful. In total, more than 65% of

respondents show willingness for some form of engagement, representing enormous social capital that currently remains unused.

The research also shows that citizens do not accept the false dilemma between economic development and nature protection. The low level of agreement with the statement "economic development is more important than nature protection" (M=2.34) indicates that there is an understanding of the complementarity between economy and environment.

Citizens support strict rules in protected areas (M=4.73) and are willing to accept limitations on tourism in sensitive areas (M=4.42), showing a realistic perception of the need for balance between use and protection. The intrinsic valuation of nature - the preservation of endangered species is cited as the most important reason for protection, not economic benefits - shows the maturity of ecological awareness beyond instrumental rationality. However, there is also a paradox in understanding rules: citizens know the CONTENT, i.e. the rules (what is allowed/prohibited), but do not know the INSTITUTIONS that set and enforce those rules. In other words, they know the "rules" but not "who sets the rules".

This research also identifies important challenges. Lack of knowledge of the term Natura 2000 (86.7% do not know what it is) and of PI Natura Histrica (63.2% do not know that it manages protected areas) represents a strong challenge that makes it harder to create long-term support for concrete protection policies.

Citizens support protection "in principle", but do not know the real institutions and mechanisms that implement that protection, which may result in weak participation in public discussions, lack of civic oversight, and an inability of citizens to actively participate in decision-making processes on the management of protected areas.

There is also a significant difference between knowledge of general terms (high) and knowledge of specific categories of protection such as the Special Ornithological Reserve - SOR (M=2.81, the lowest of all terms). The model of the Palud subsample - where the local community shows high awareness and strong support - suggests that participatory management can be the key to success: when citizens are involved, informed, and treated as partners (and not as a "problem"), the result is stronger protection with less need for formal supervision. Finally, the research shows that there is enormous "latent energy" - high motivation and willingness to participate waiting to be channeled through concrete programmes.

The main challenge, therefore, is not to convince citizens of the importance of protection (they are already convinced) nor to create support (it already exists), but to activate existing support through concrete programmes, participation mechanisms, and transparent communication about how their contribution (whether volunteer work or financial resources) directly contributes to nature protection.

4.2. Recommendations for further management and communication

Based on all of the above, the following recommendations are given for further management and communication regarding protected areas in Istria County.

1. Intensify the communication campaign about Natura 2000 and PI Natura Histrica [Priority: HIGH]

Develop an educational campaign that connects abstract concepts (which citizens already know) with concrete examples from Istria County. Use local examples (SOR Palud, Brijuni, Lim Channel) as "entry points" for explaining the Natura 2000 system. The campaign must be continuous, multichannel (with emphasis on social networks and the internet, but also TV, radio, and field workshops), and focused on specific examples rather than abstract definitions.

2. Develop structured volunteer engagement programmes [Priority: HIGH]

As many as 38.2% of respondents expressed willingness to volunteer, which represents an enormous resource that should be organized through structured programmes such as: regular clean-up actions (once a month during the season), monitoring of birds and other species (citizen-science projects), guided educational tours, habitat restoration, and planting of native vegetation. It is crucial to reduce barriers to participation and make it easy, accessible, and visibly useful through an online platform for registration and tracking contributions.

3. Explore and pilot a participatory financing model [Priority: MEDIUM]

As many as 71.5% of respondents are willing to pay an annual contribution of EUR 10 to 50+, which represents a potentially significant source of revenue (estimate: EUR 50,000 to 70,000 per year if only 50% of interested citizens are activated). It is necessary to develop a transparent mechanism in which citizens see a direct link between their contribution and concrete projects, such as crowdfunding models "Finance a nest" and "Buy monitoring equipment", with public reporting on progress.

4. Strengthen participatory management with a focus on the local community of Rovinj and the surrounding area [Priority: HIGH]

The Palud subsample model (N=81) shows that involving the local community as equal partners in management results in stronger support and better protection outcomes. Establish a Local Community Advisory Body for SOR Palud with representatives of Rovinj, Kanfanar, Bale, and other settlements that form the subsample. Hold regular public discussions, include local residents in monitoring, and enable feedback on management decisions.

5. Organize regular education linking the global and the local [Priority: MEDIUM]

Bridge the gap between knowledge of general terms (high) and specific mechanisms (low) through programmes that explain how global ecological topics (climate change, biodiversity) affect local

areas (SOR Palud, Lim Channel). School field-visit programmes, information points in the field, and interpretive signs that connect the local with the global should be developed.

6. Strengthen the institutional identity and visibility of PI Natura Histrica [Priority: HIGH]

As many as 63.2% of citizens do not know who manages protected areas. It is therefore important to start building a recognizable institutional brand through: (1) consistent visual communication (logo, colors, design on all materials and field signs); (2) a stronger presence on social networks with regular content; (3) visible projects with clear identification of the implementing body; (4) information centers and educational points at key locations; (5) annual reports available to the public.