

PRIZMA
CENTAR ZA POSLOVNU INTELIGENCIJU

Improve river LIFE

Ministry of Environmental Protection and Green Transition

Prizma CPI

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REPUBLIC OF CROATIA
Ministry of Environmental Protection
and Green Transition





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Research objectives and methodology



Research objectives and methodology

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- **Research objectives – gaining insight into the following:**

Public and local community attitudes toward artificial barriers in watercourses and their knowledge of river systems

Awareness of the softmouth trout (*Salmo obtusirostris*), an endangered and endemic trout species found within the EU exclusively in Croatia

Topics related to biodiversity and Natura 2000 areas

- **Basic information about the research project:**

| | |
|-------------------------------|--|
| Methodology | <ul style="list-style-type: none">• Quantitative Research• Online panel (CAWI – Computer-Assisted Web Interviewing) |
| Sample | <ul style="list-style-type: none">• Nationally representative sample of citizens of the Republic of Croatia, aged 18+, n = 1.008• Representative sample of citizens of Split-Dalmatia County, n = 302• The samples are representative based on the following parameters: gender, age, education, region, and settlement size |
| Data collection period | <ul style="list-style-type: none">• From 21.05 until 14.06.2025. |



Summary

- **High awareness of biodiversity, but limited functional knowledge**

- 97% of Croatian citizens have heard of the term biodiversity, but only 58% are able to explain it.
- The perception of the seriousness of species, habitat, and ecosystem decline, or extinction increases with the scale of the observed environment – the issue is least recognized at the local level (57%) and most at the global level (89%).
- All selected environmental issues are considered important, but soil, air, and water pollution, species extinction, and habitat loss stand out in particular. At the national level, the use of biological resources is also emphasized, while at the county level, climate change and extreme weather events are highlighted.

- **Low level of awareness about the Natura 2000 network**

- 47% of citizens have heard of the network, but only 11% know what it is.
- Protected areas are generally recognized as important. When it comes to the trade-off between economic growth and its potential negative impact on protected areas, citizens are divided – some believe that the negative impact is acceptable if the damage is fully compensated (51%), while others believe such activities should be banned because protected areas are of the highest importance (43%).

- **Clear awareness of the term endemic and a relatively limited knowledge of the softmouth trout**

- 82% know what endemic species are; 63% can name at least one endemic species in Croatia – most often Velebit degenia and the olm.
- 54% have heard of the softmouth trout, but only 18% know where it lives. A majority (71%) can distinguish the softmouth trout from the rainbow trout.

- **Low awareness and engagement regarding artificial barriers in watercourses**

- 75% of citizens have not noticed artificial barriers in their surroundings. 46% are unable to estimate the number of barriers in Croatia.
- 76% support removing barriers only when necessary for species protection (an additional 14% believe they should always be removed).
- Low awareness of participatory tools (e.g., Barrier Tracker) – only 9% are familiar with the app, while 38% show potential willingness to use it.



Recommendations

Communicate the importance and function of the Natura 2000 network in a targeted manner.

Increase the visibility of the softmouth trout through educational and local campaigns.

Strengthen public awareness and participation in monitoring artificial barriers in watercourses.

Introduce locally focused information campaigns to boost engagement.

Leverage positive attitudes toward nature conservation to support future projects.



Sample structure



Sample structure

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| | | CRO TOTAL | |
|--|----------------------------------|-----------|------|
| | | n | col% |
| Total | | 1008 | 100% |
| Gender | Male | 495 | 47% |
| | Female | 513 | 53% |
| Age | 18 to 24 years | 57 | 7% |
| | 25 to 34 years | 173 | 15% |
| | 35 to 44 years | 209 | 17% |
| | 45 to 54 years | 211 | 18% |
| | 55 to 64 years | 213 | 19% |
| | Over 64 years | 145 | 24% |
| Education | Lower and secondary | 551 | 68% |
| | Higher and university | 457 | 32% |
| Selected sectors (employed personally or through family members) | Agriculture | 60 | 7% |
| | Forestry | 24 | 2% |
| | Fishing and aquaculture | 10 | 2% |
| | Nature conservation institutions | 10 | 1% |
| | Tourism | 139 | 14% |
| | None of the above | 765 | 74% |
| Statistical regions (NUTS 2 level) | City of Zagreb | 219 | 20% |
| | Northern Croatia | 170 | 21% |
| | Pannonian Croatia | 289 | 26% |
| | Adriatic Croatia | 330 | 34% |
| Settlement size | Up to 2.000 inhabitants | 195 | 31% |
| | 2.001 to 4.000 inhabitants | 67 | 9% |
| | 4.001 to 10.000 inhabitants | 99 | 9% |
| | 10.001 to 40.000 inhabitants | 188 | 14% |
| | 40.001 to 100.000 inhabitants | 140 | 11% |
| | Over 100.000 inhabitants | 319 | 26% |

| | | Split-Dalm. County | |
|--|----------------------------------|--------------------|------|
| | | n | col% |
| Total | | 302 | 100% |
| Gender | Male | 148 | 48% |
| | Female | 154 | 52% |
| Age | 18 to 24 years | 27 | 9% |
| | 25 to 34 years | 46 | 14% |
| | 35 to 44 years | 62 | 17% |
| | 45 to 54 years | 76 | 20% |
| | 55 to 64 years | 47 | 15% |
| | Over 64 years | 44 | 25% |
| Education | Lower and secondary | 161 | 64% |
| | Higher and university | 141 | 36% |
| Selected sectors (employed personally or through family members) | Agriculture | 13 | 6% |
| | Forestry | 4 | 2% |
| | Fishing and aquaculture | 5 | 2% |
| | Nature conservation institutions | 2 | 0% |
| | Tourism | 87 | 28% |
| | None of the above | 191 | 62% |
| Statistical regions (NUTS 2 level) | City of Zagreb | 203 | 47% |
| | Northern Croatia | 58 | 29% |
| | Pannonian Croatia | 24 | 15% |
| | Adriatic Croatia | 17 | 10% |
| Settlement size | Up to 2.000 inhabitants | 46 | 27% |
| | 2.001 to 4.000 inhabitants | 16 | 8% |
| | 4.001 to 10.000 inhabitants | 19 | 9% |
| | 10.001 to 40.000 inhabitants | 32 | 13% |
| | 40.001 to 100.000 inhabitants | 0 | 0% |
| | Over 100.000 inhabitants | 189 | 43% |



Overview of research results

In the following overview, results are presented in parallel for Croatia Overall (nationally representative sample) and for Split-Dalmatia County (representative sample for the county).

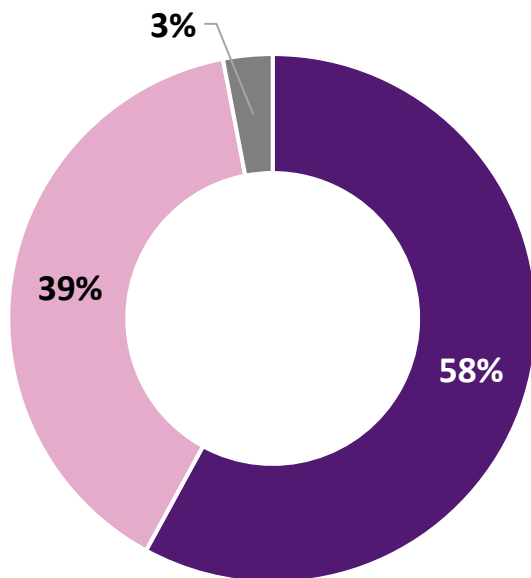


Most citizens are familiar with the term biodiversity.

At the national level, as many as 97% of citizens have heard of the term, and 58% are able to explain it. In Split-Dalmatia County, 94% of citizens have heard of the term, with 65% understanding and being able to define it.

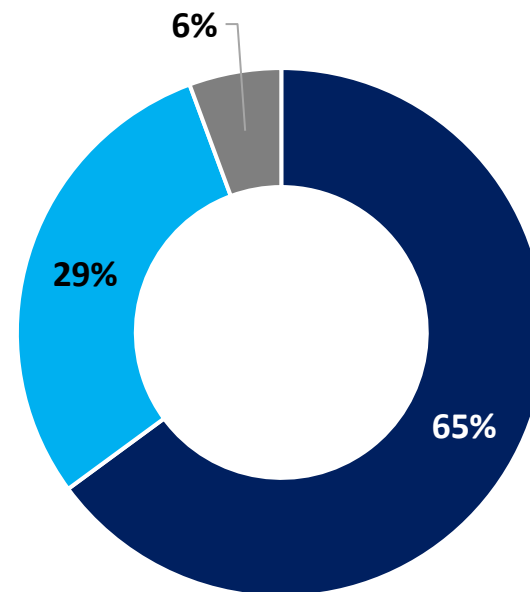
Familiarity with the term biological diversity or biodiversity (in %)

CROATIA OVERALL



- They've heard about it and know what it is
- They've heard about it but don't know what it is
- They haven't heard about it and don't know what it is

Split-Dalmatia County



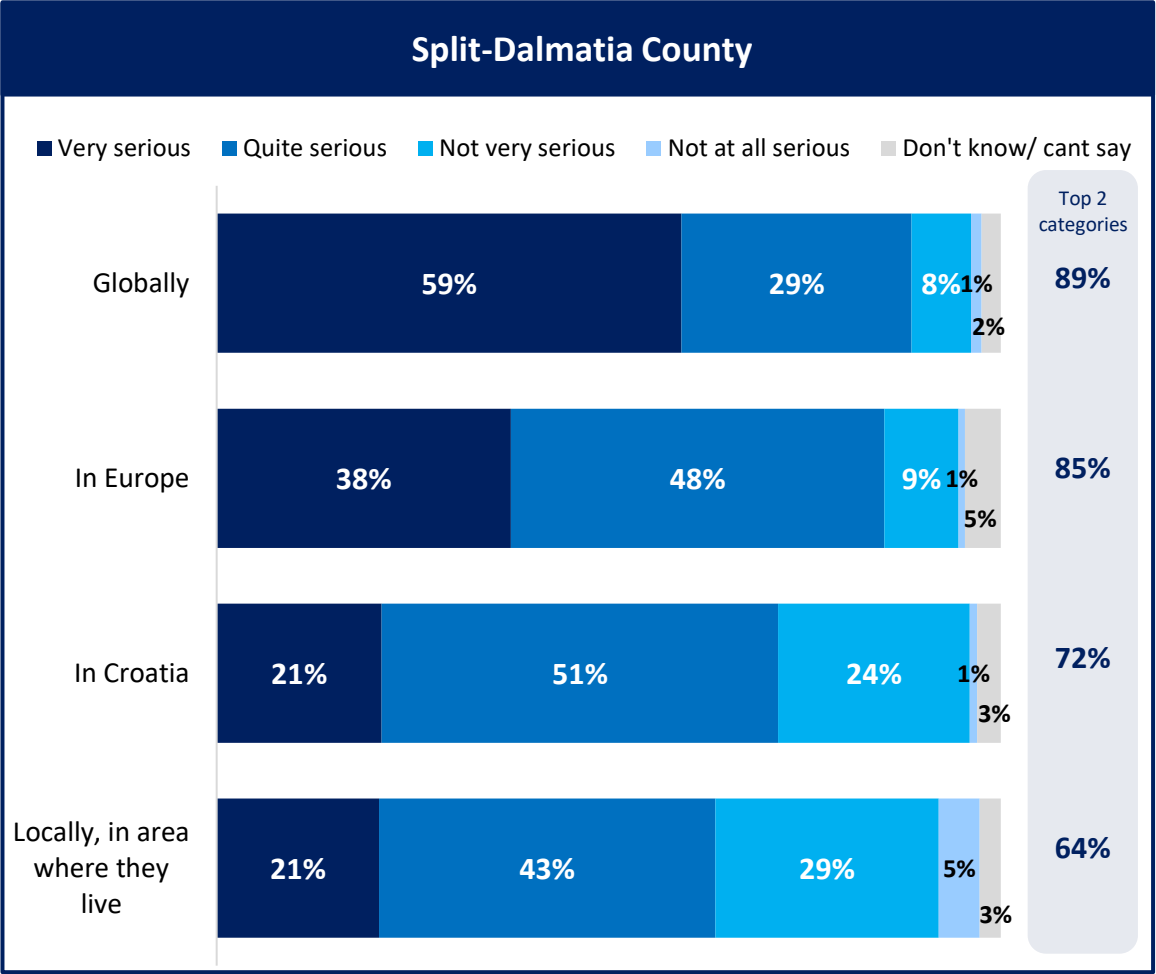
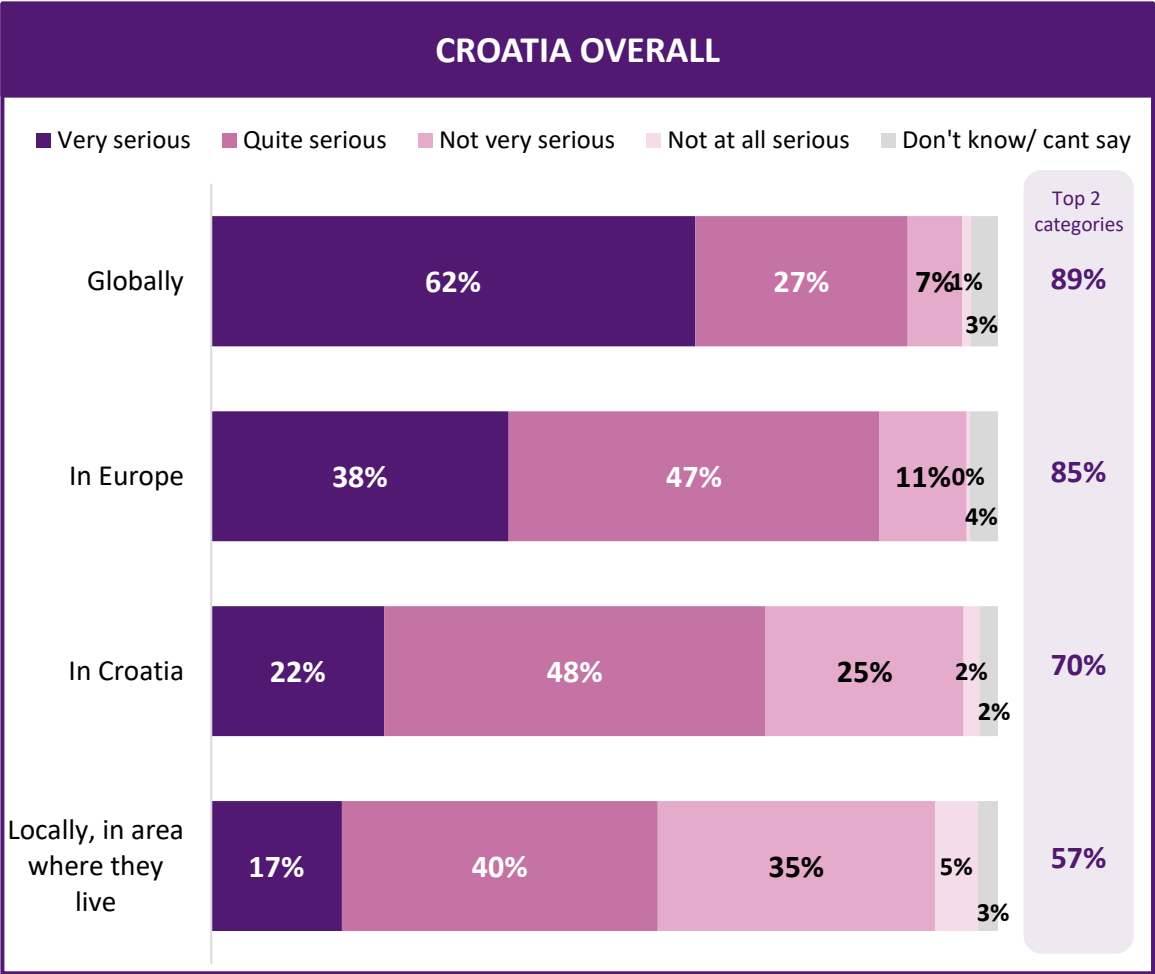
- They've heard about it and know what it is
- They've heard about it but don't know what it is
- They haven't heard about it and don't know what it is

Q1 Have you heard of the term biological diversity or biodiversity?

Base: Total, n = 1.008 → Split-Dalmatia County, n = 302

The broader the environment considered, the more citizens perceive the decline and potential extinction of species, habitats, and ecosystems as a serious issue – least at the local level, and most at the global level.

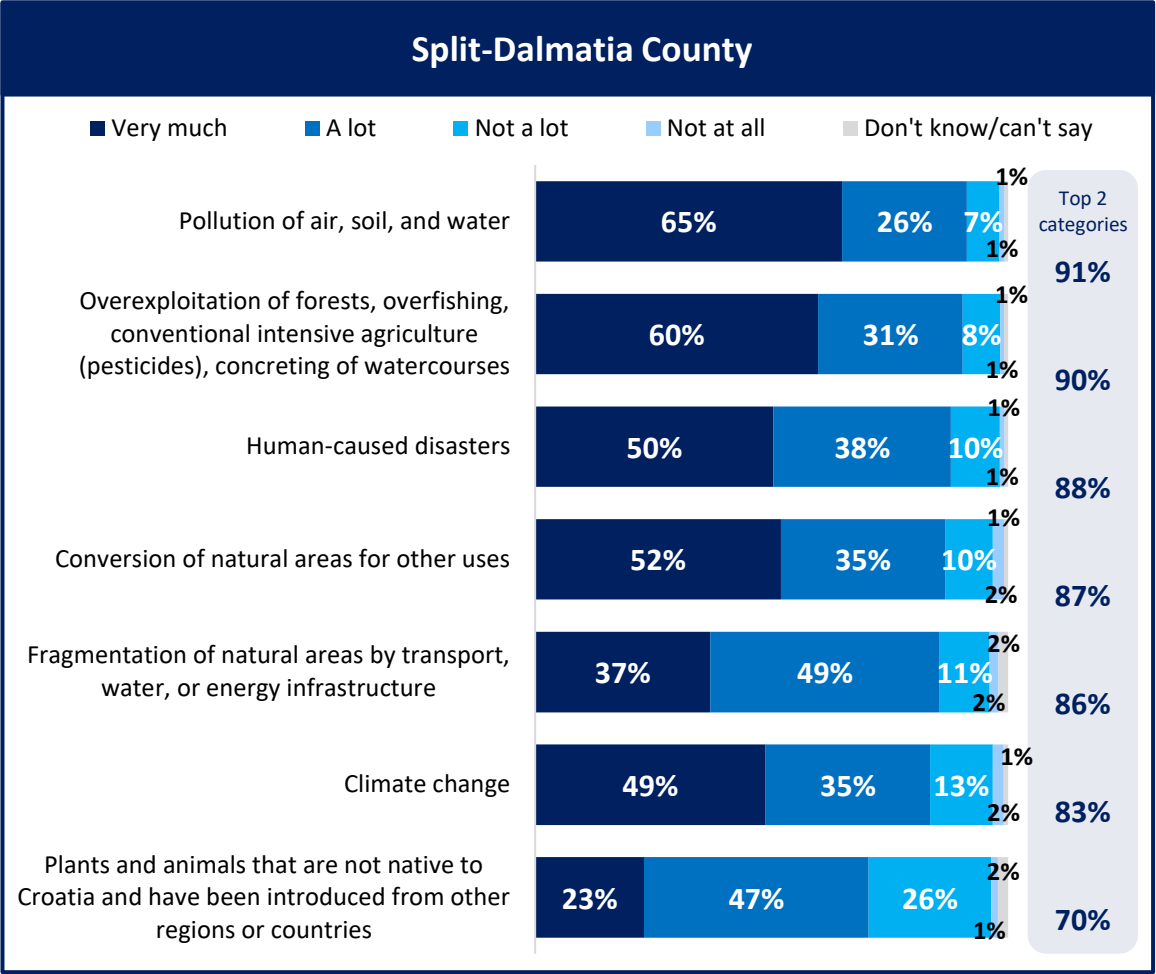
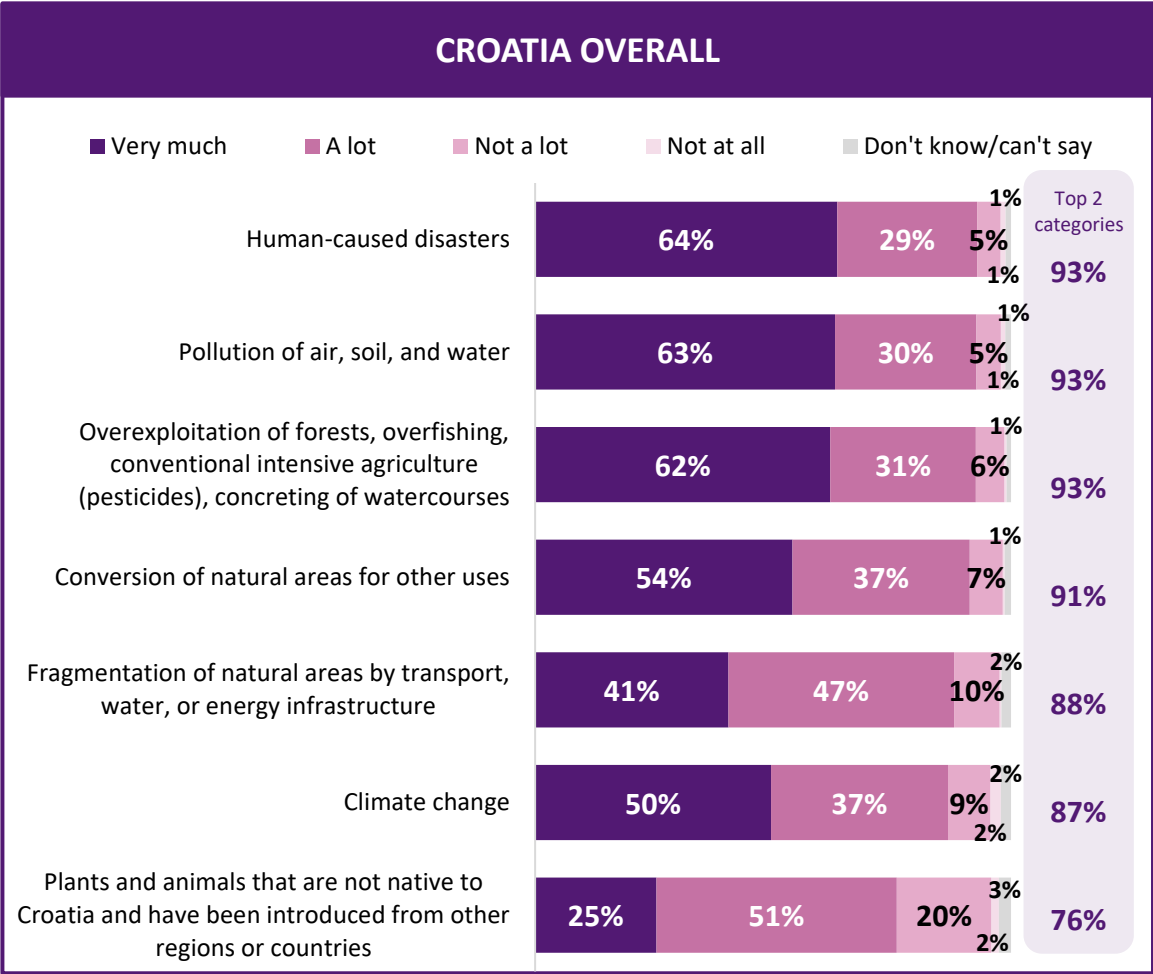
Perception of the issue of potential species extinction and habitat loss in selected environments (in %; sorted by the sum of top-2-categories)



Q2 Biodiversity is a term that refers to all the variety of living organisms on Earth. In your opinion, how serious is the problem of the decline and potential extinction of animal and plant species, natural habitats, and ecosystems in each of the following environments? /Scale: 1 = not at all serious to 4 = very serious. Top-2-categories = sum of the ratings in the categories quite serious + very serious.
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

All selected aspects are perceived as relatively equally (and notably) threatening to biodiversity. However, the impact of non-native or imported plant and animal species is seen as somewhat less threatening compared to the others.

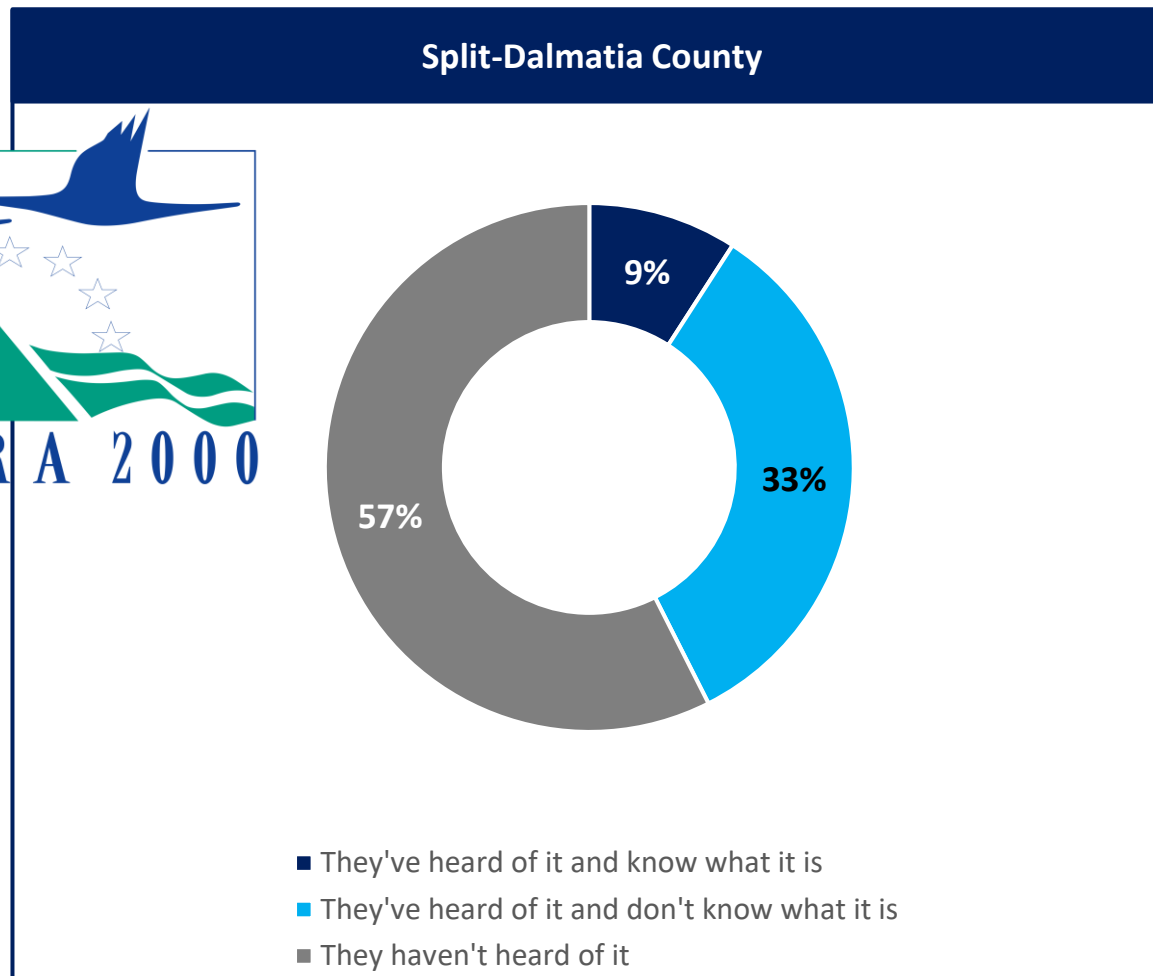
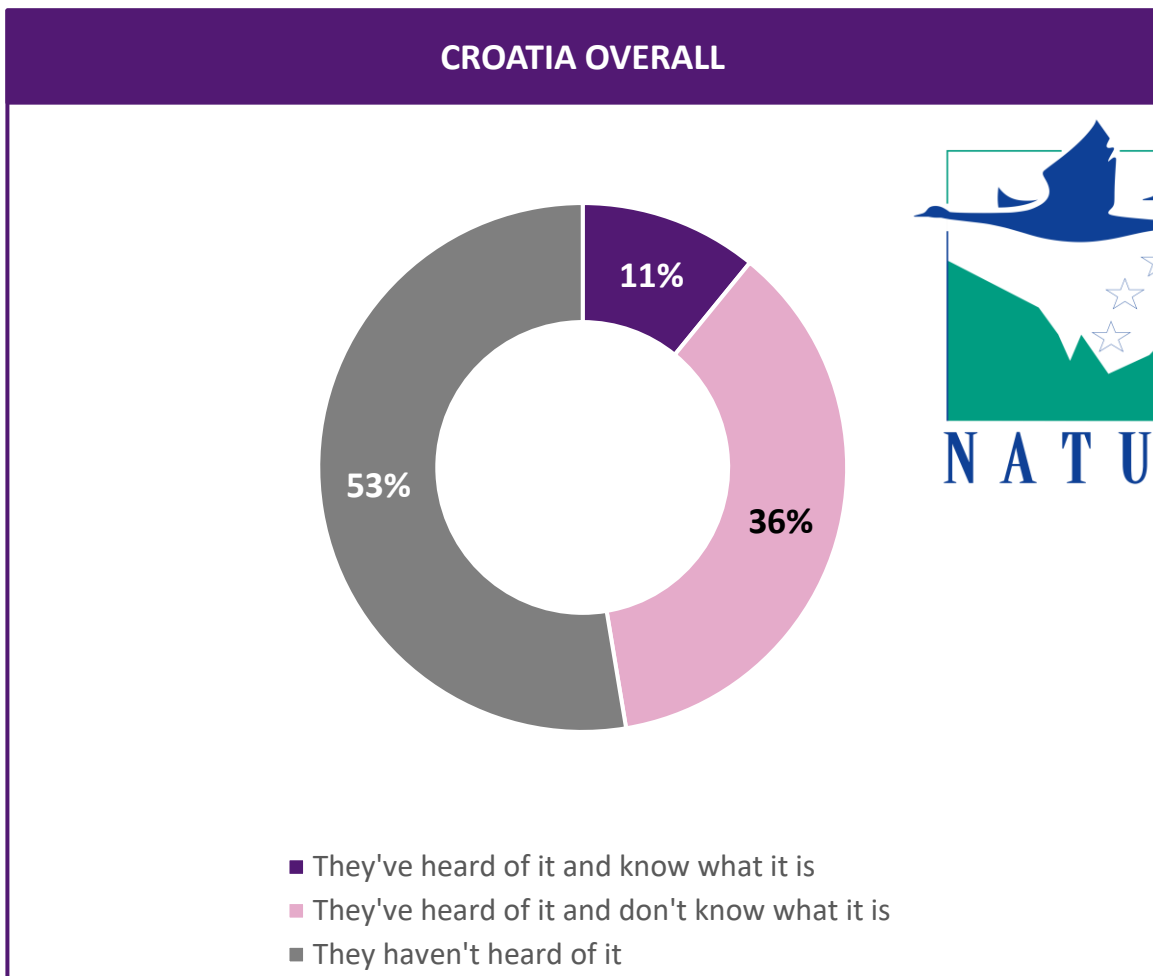
Perceived extent to which selected aspects threaten biodiversity (in %; sorted by the sum of the top-2-categories)



Q3 In your opinion, to what extent does each of the following threaten biodiversity?
Scale: 1 = not at all to 4 = very much. Top-2-categories = sum of responses in the quite a lot + very much categories.
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

47% of citizens in Croatia and 43% in Split-Dalmatia County have heard of the Natura 2000 ecological network. However, the share of those who also understand what it is about is relatively low – only 11% at the national level and 9% at the county level.

Awareness of the Natura 2000 ecological network (in %)

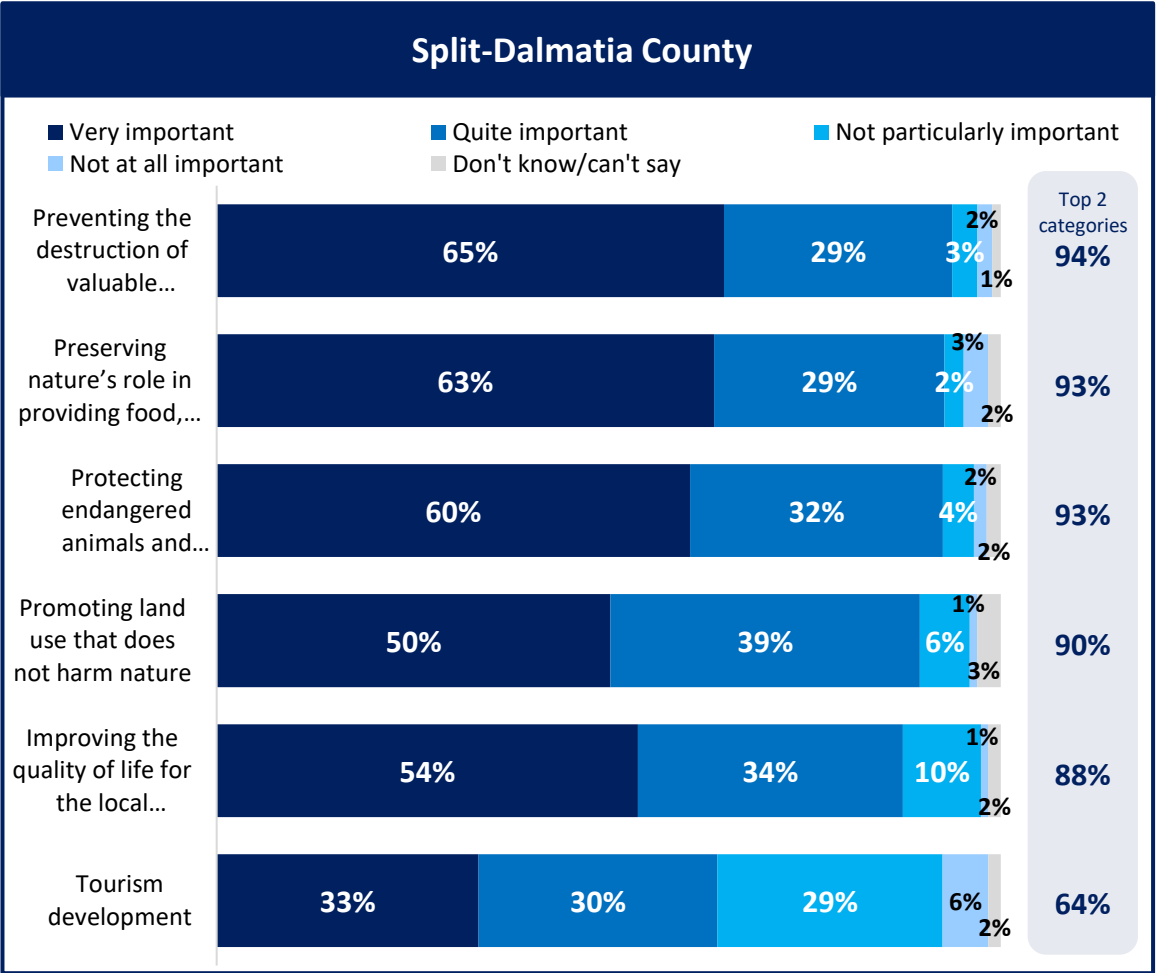
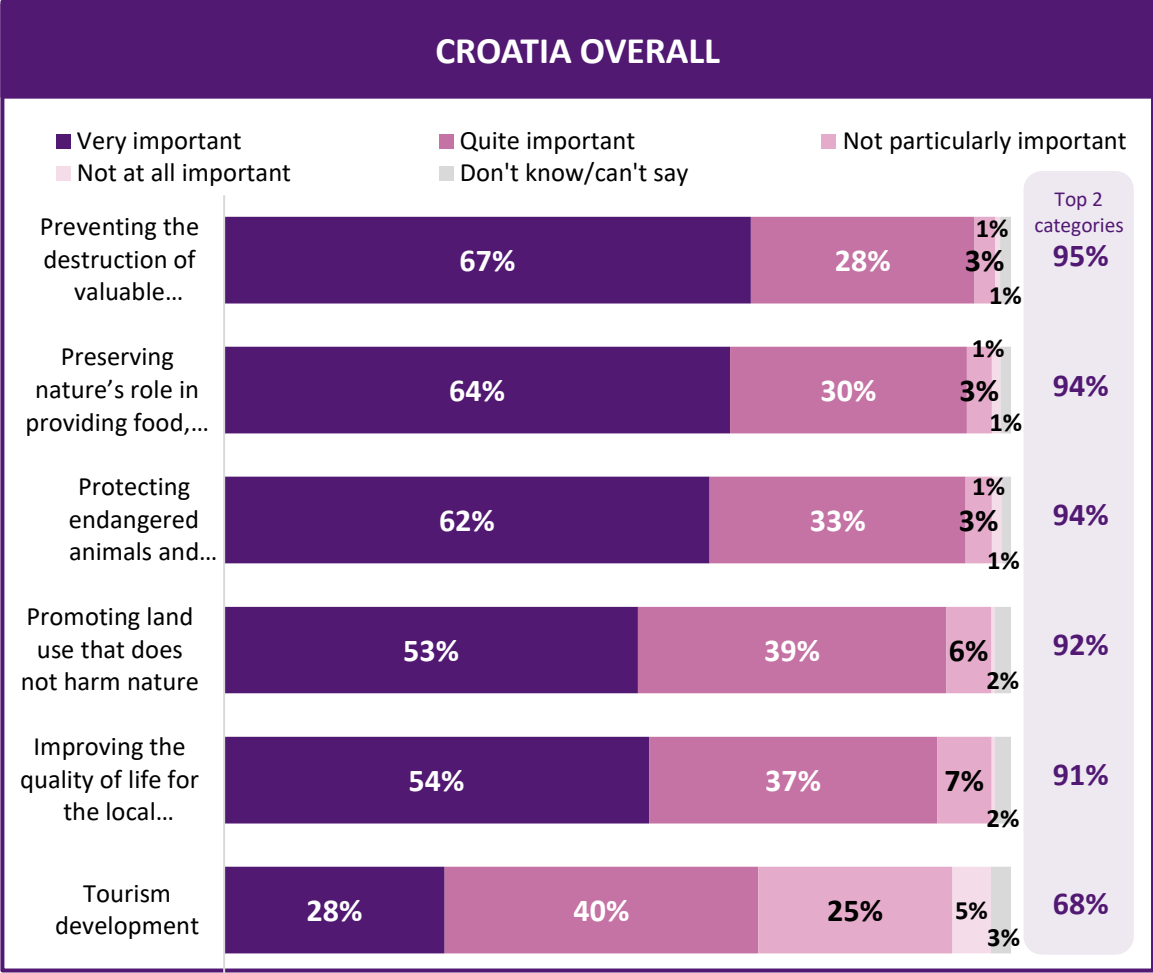


Q4 Have you heard of the Natura 2000 ecological network?

Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

Protected natural areas are perceived as equally (and quite) important across all selected aspects. The only aspect for which the perceived importance of protected areas is lower compared to others is tourism development.

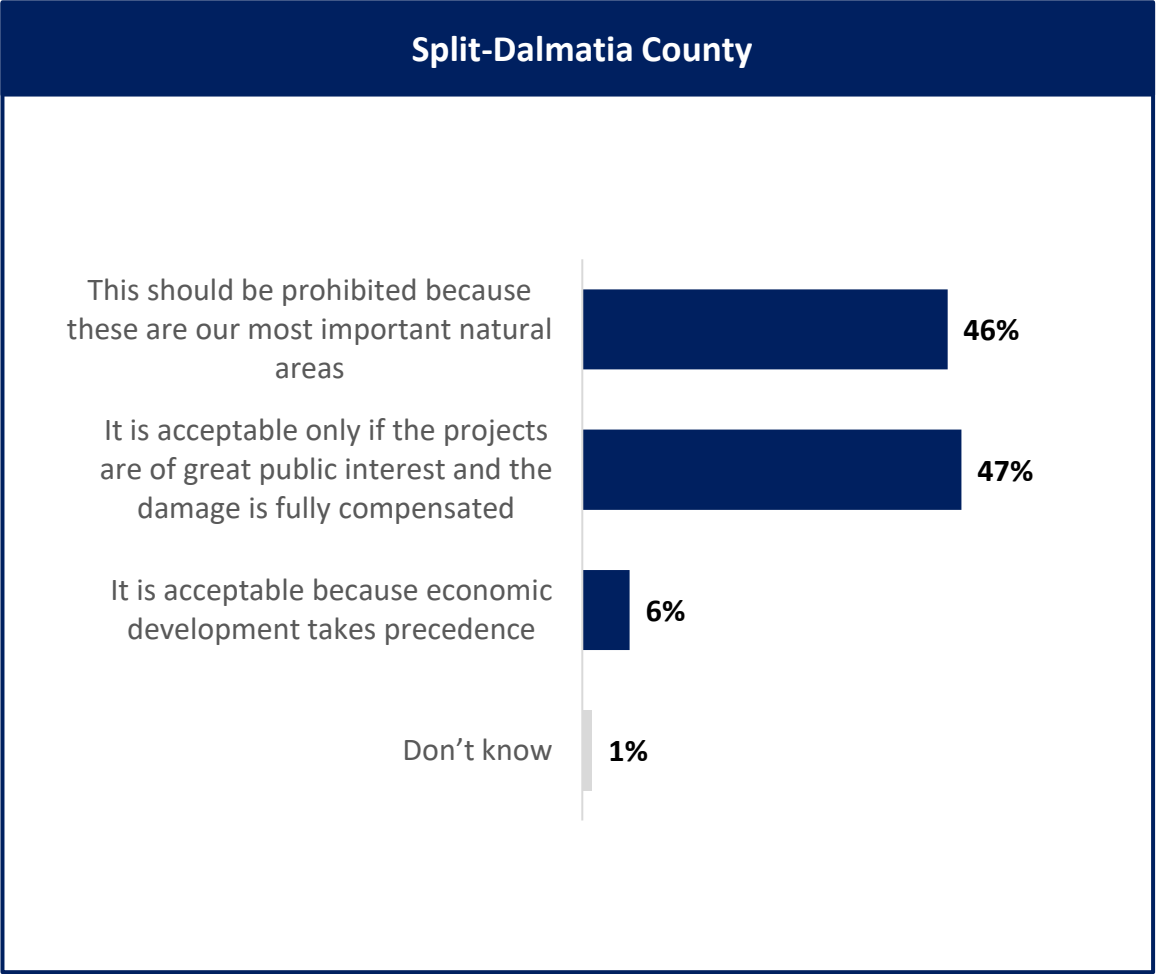
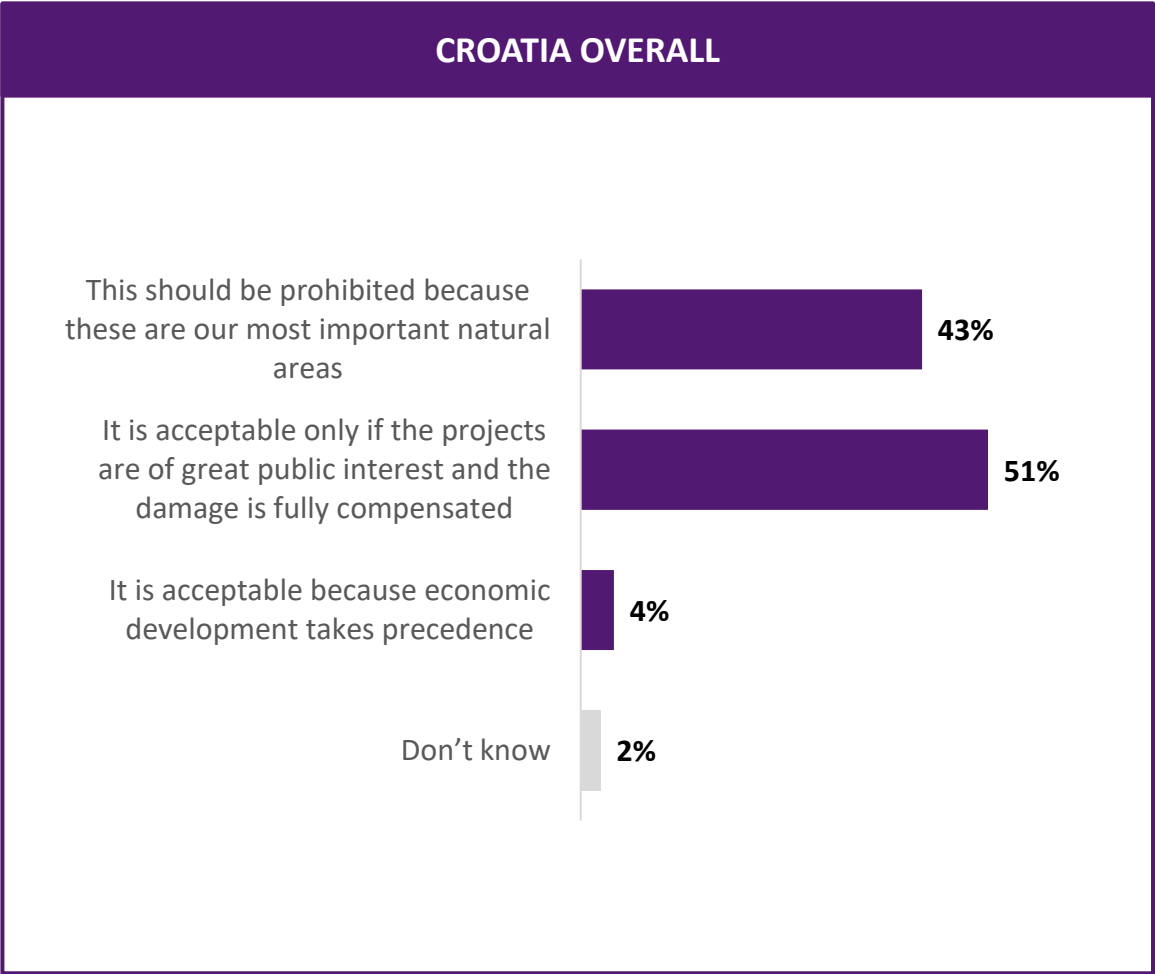
Perceived importance of protected natural areas for the following aspects (in %; sorted by the sum of the top-2-categories)



Q5 Natura 2000 is a network of areas dedicated to the conservation of endangered species and habitats. It includes more than 27.000 protected natural areas across the EU, of which over 780 are in Croatia. How important do you think such protected natural areas are for the following? / Scale: 1 = not at all important to 4 = very important. Top-2-categories = sum of ratings in the quite important + very important categories. / Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

At both observed levels, citizens are divided between two positions – some believe that the negative impact of economic development is acceptable if the resulting damage is fully compensated, while others think such activities should be prohibited because protected areas are of the highest importance.

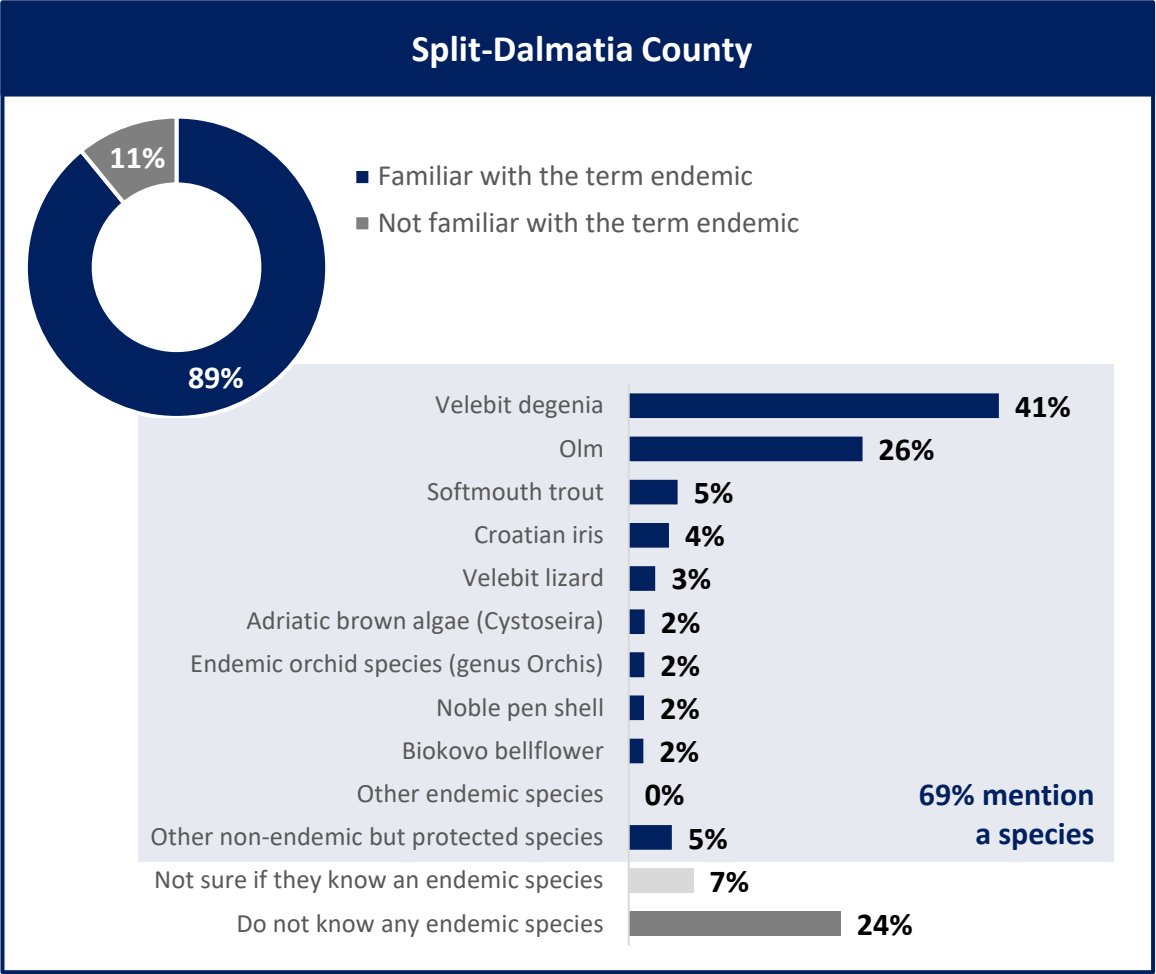
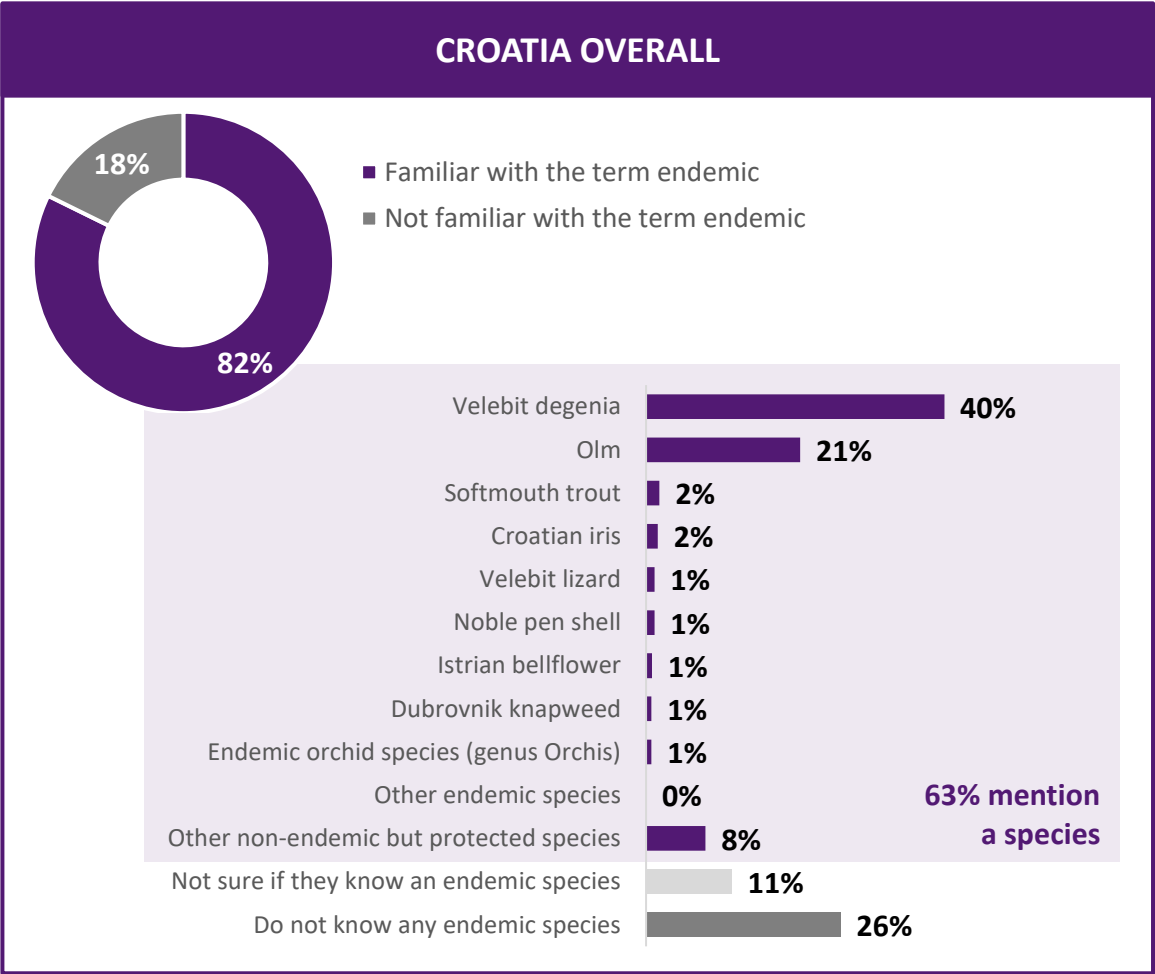
Attitudes toward the impact of economic development on protected natural areas (in %)



Q6 Sometimes economic development leads to damage or destruction of nature in protected areas such as those included in the Natura 2000 network. Which of the following statements is closest to your opinion?
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

High level of awareness of the term endemic species, both at the national level (82%) and in the county (89%). The most frequently mentioned endemic species found in Croatia are the Velebit degenia and the olm.

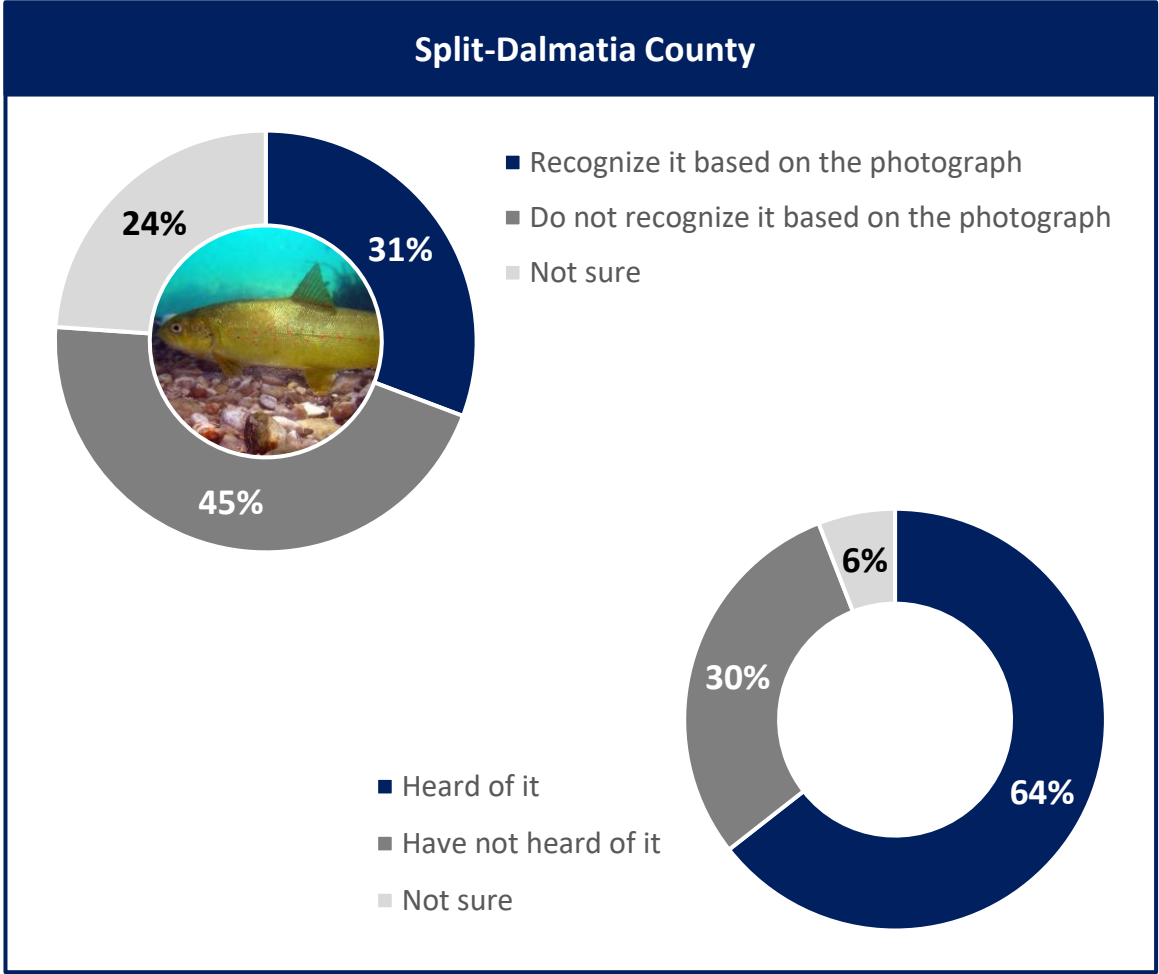
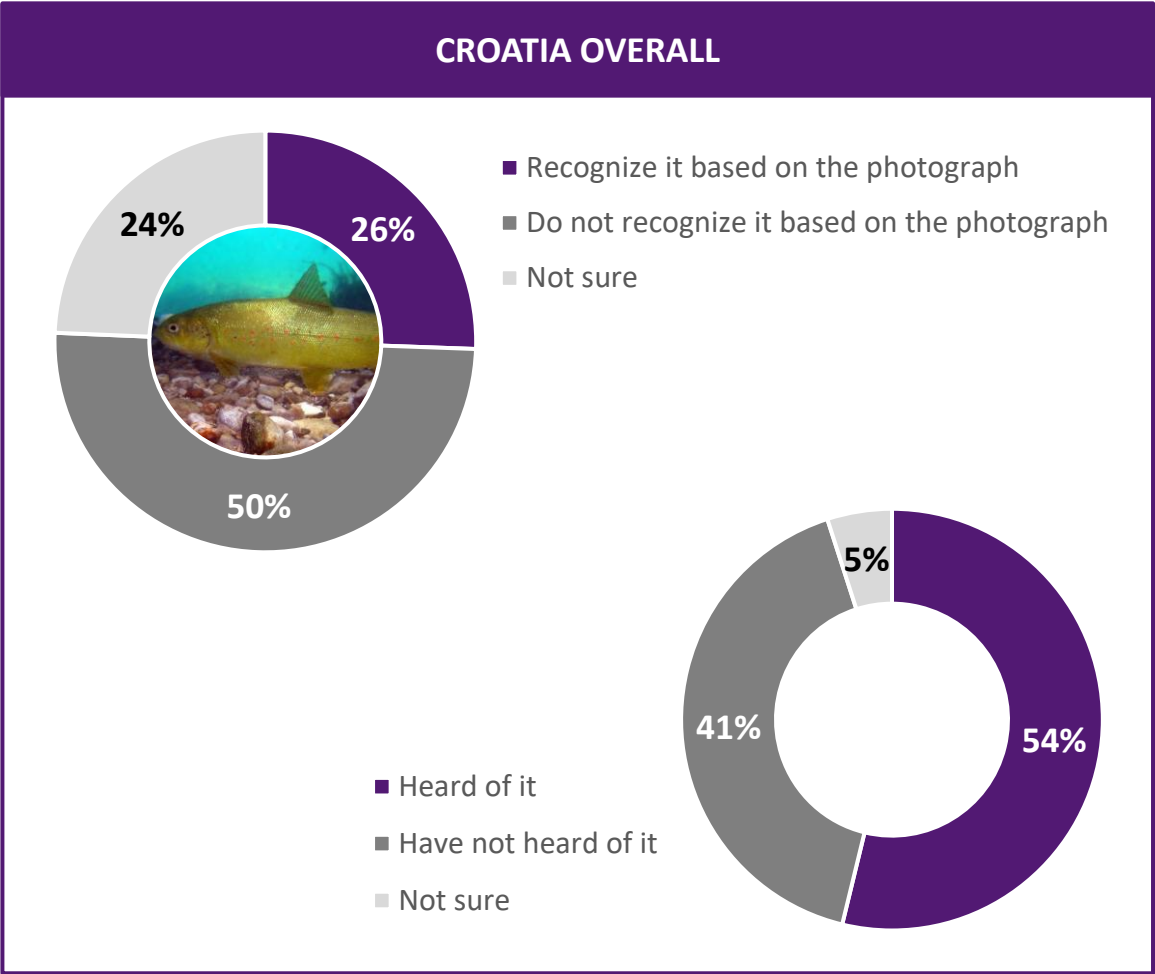
Awareness of the term endemic and known endemic species (in %)



Q7 Are you familiar with the term endemic? / **Q8** An endemic species is one that occurs in a very limited geographic area, for example, on an island, a mountain peak, or in a specific river. Do you know any endemic species that live in Croatia? + **Q9** Which endemic species do you know? Questions **Q8+Q9** allowed for multiple answers, so the sum of percentages in that chart may be > 100%.
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

Based on the photograph, 26% of citizens in Croatia and 31% in Split-Dalmatia County recognize the softmouth trout. In addition, awareness of this species is present among 54% of citizens at the national level and 64% at the county level.

Softmouth trout: Recognition based on photograph and awareness of the species (in %)



Q10 Can you identify the species shown in this photograph? / **Q11** The photograph shows the softmouth trout—an endemic species known for its distinctive soft upper lip, from which it gets its name. It is endangered due to the introduction of invasive fish species, as well as human activities that alter its natural habitats. Have you heard of it?

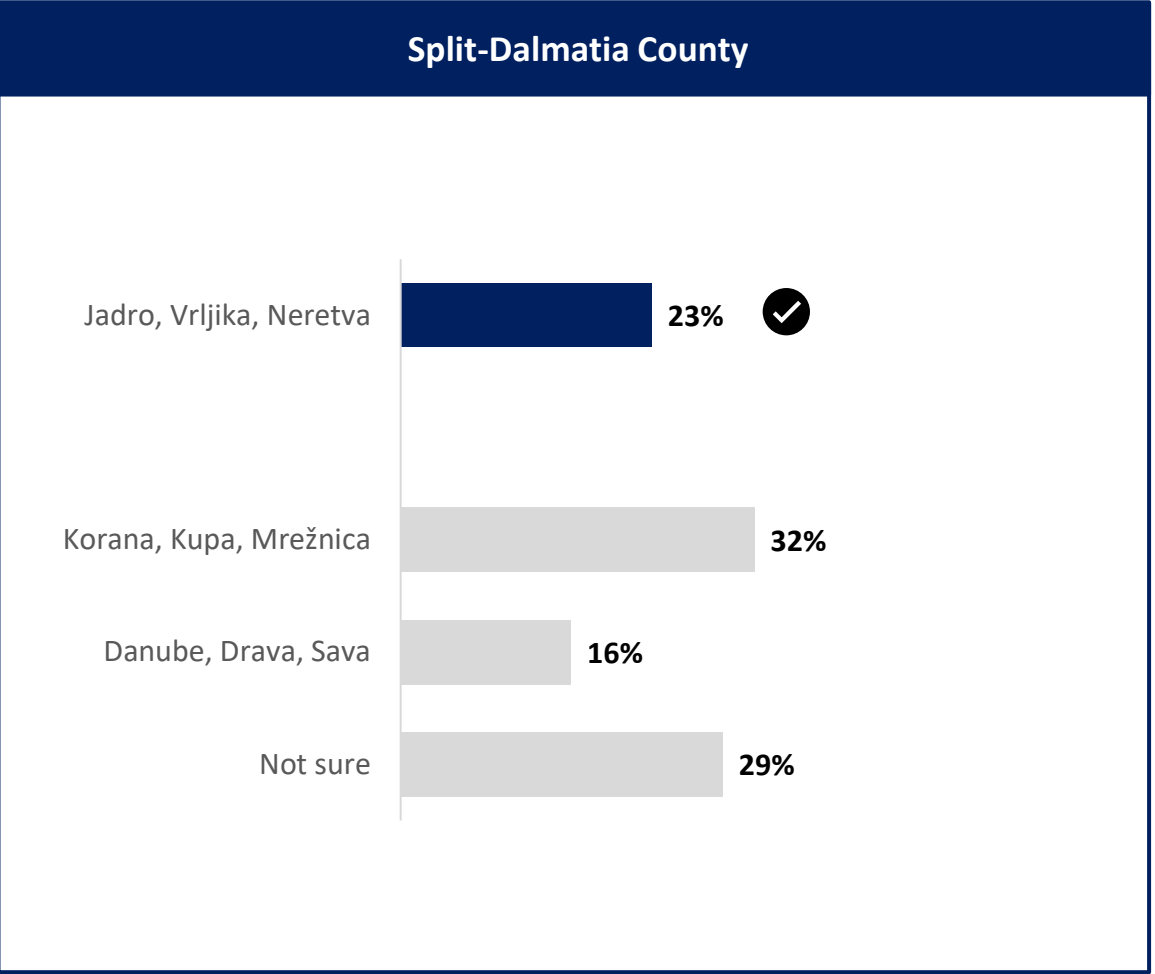
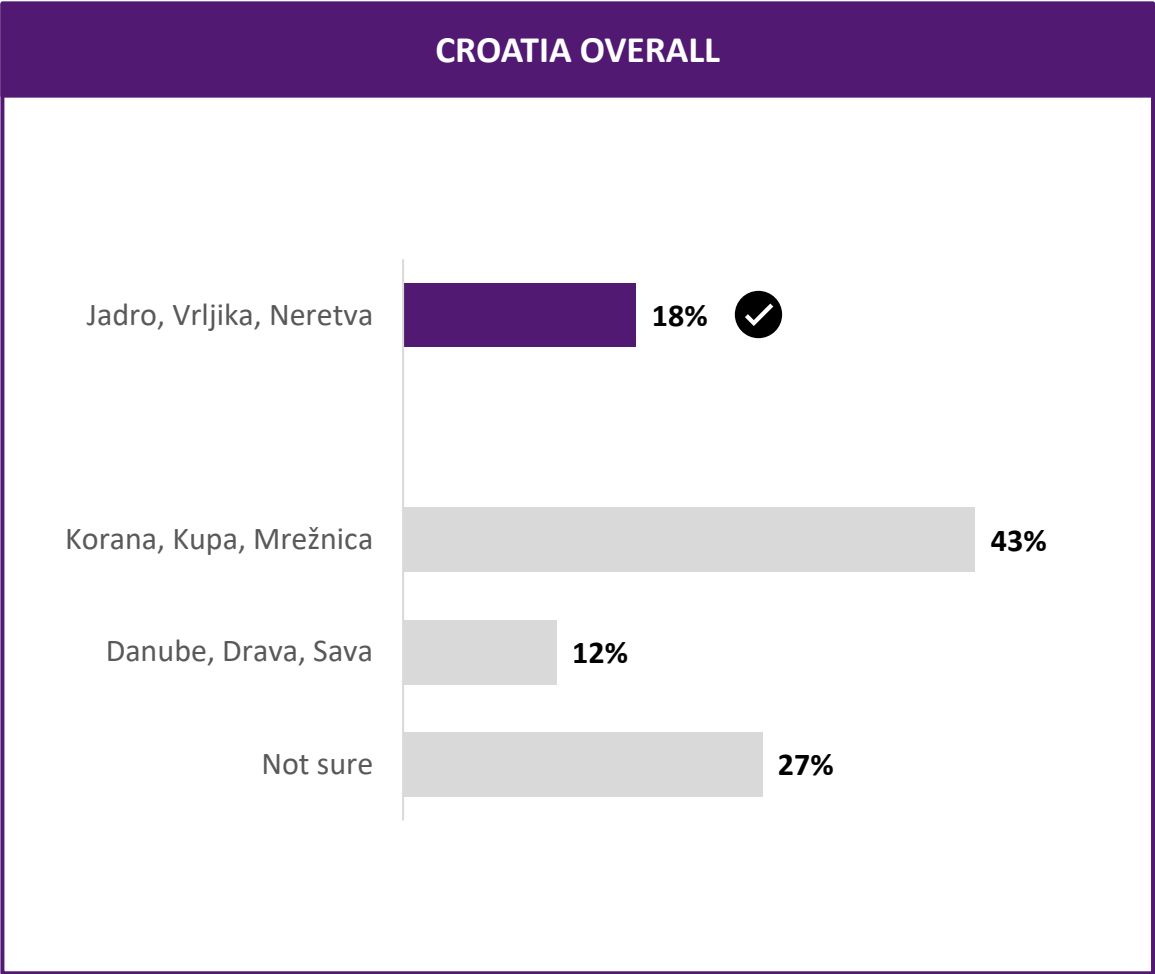
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.



A smaller share of citizens is familiar with the habitats of the softmouth trout – only 18% of citizens in Croatia and 23% in Split-Dalmatia County gave the correct answer.

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Knowledge of rivers where the softmouth trout lives (in %)

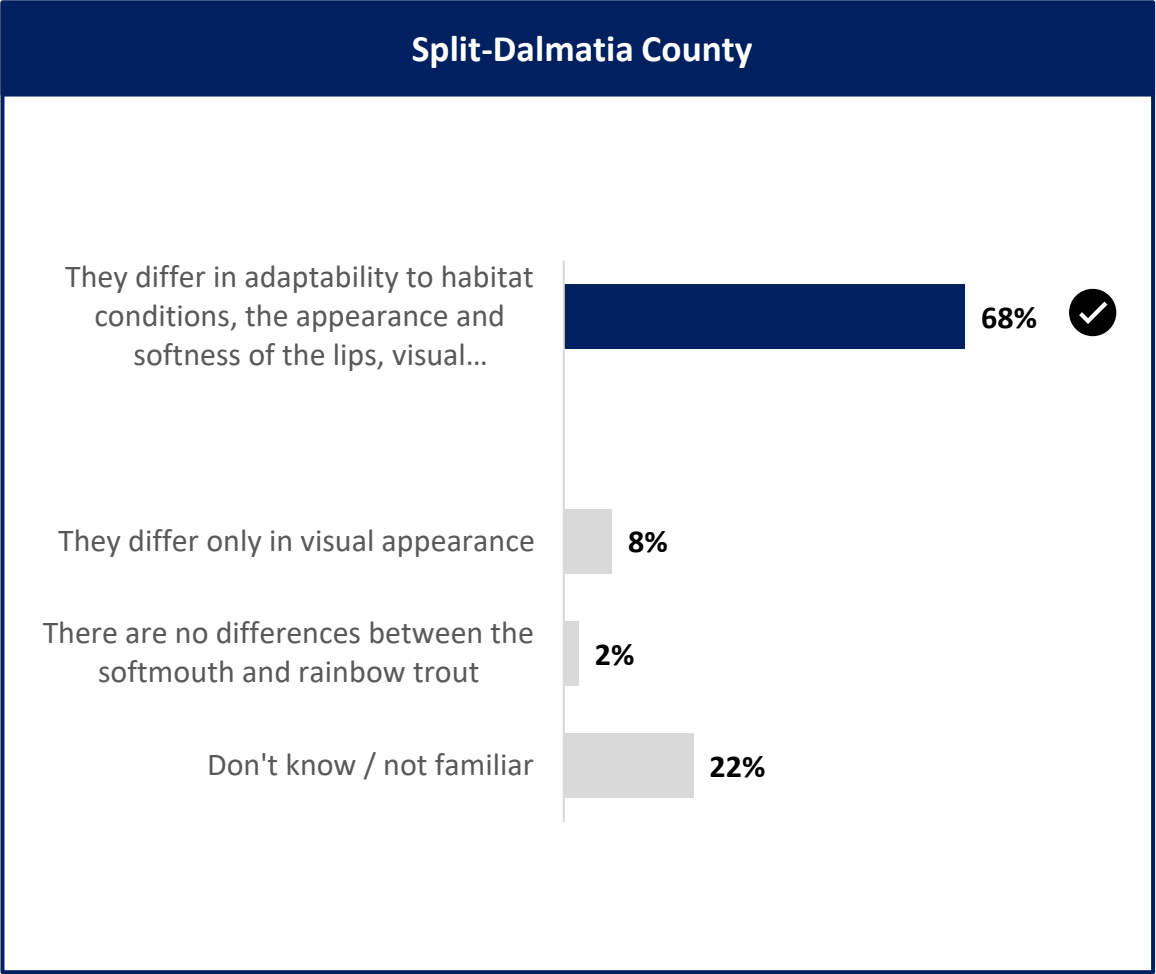
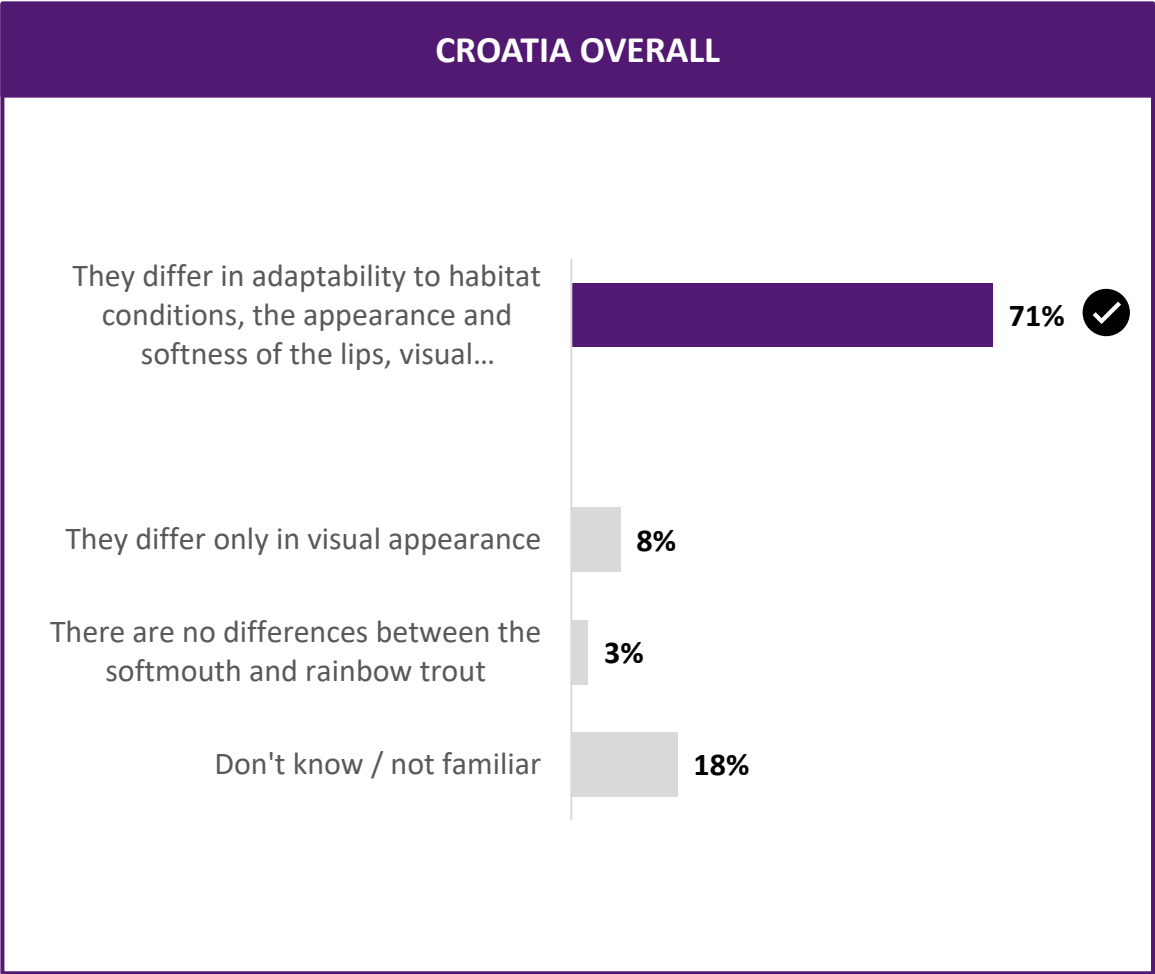


Q12 Do you know which rivers this species can be found in? ✓ Correct answer: Jadro, Vrljika, Neretva

Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

On the other hand, most citizens recognize the correct differences between the softmouth and rainbow trout – 71% at the national level and 68% in Split-Dalmatia County.

Perceived differences between softmouth and rainbow trout (in %)

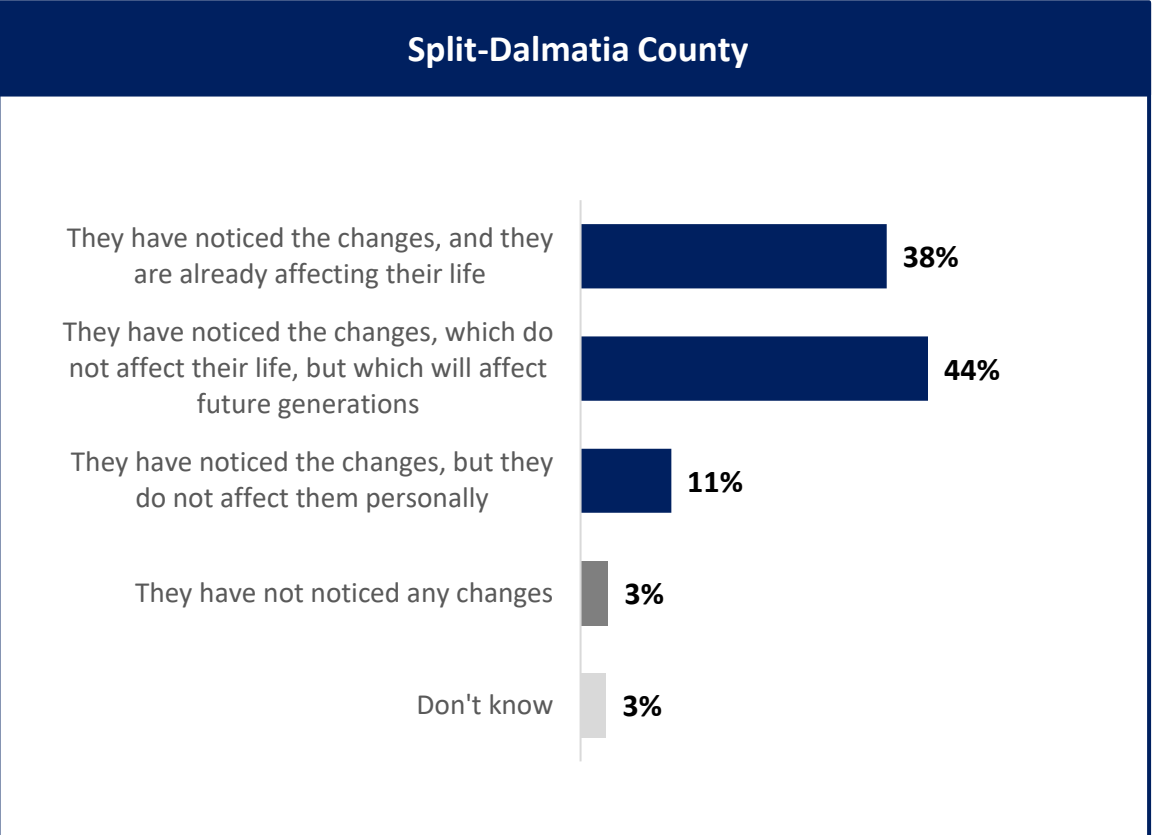
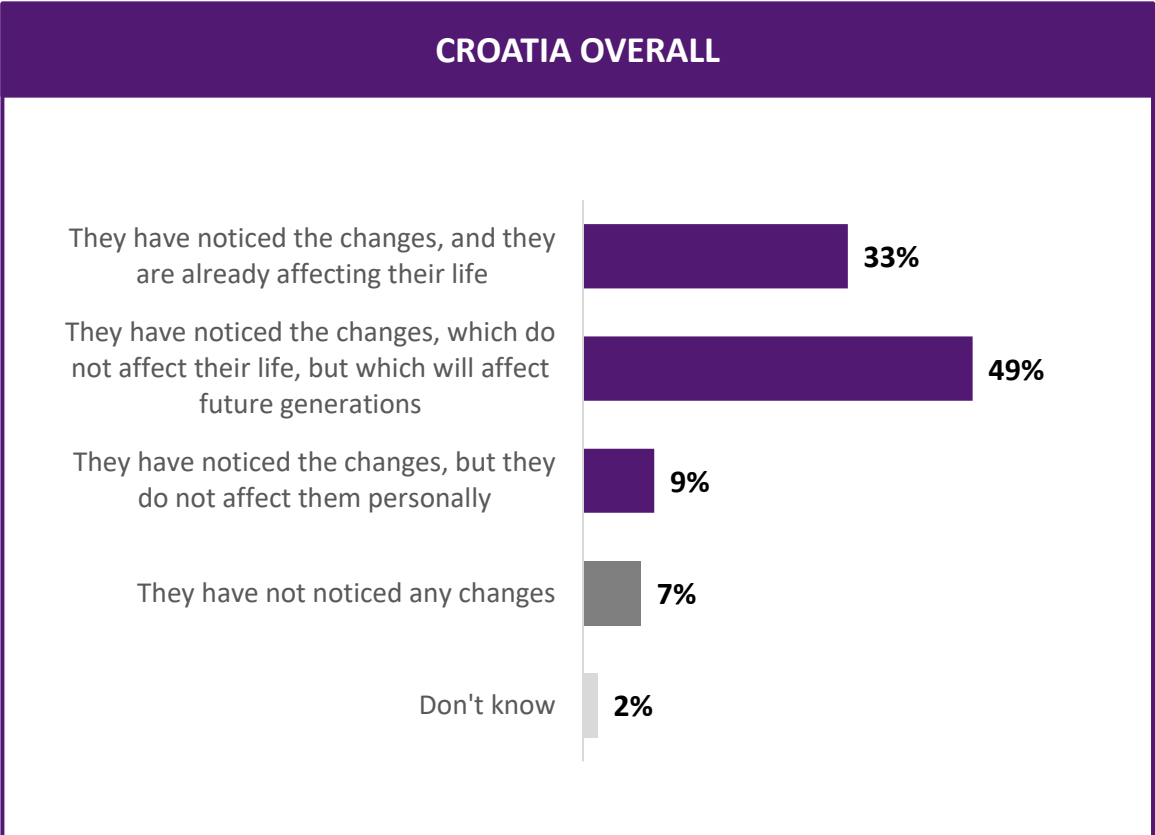


Q13 When comparing the endemic softmouth trout and the rainbow trout, which of the following statements do you think is correct?
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

Correct answer: They differ in many aspects—adaptability to habitat conditions, the appearance and softness of the lips, visual appearance—the shape and distribution of spots on the body, etc.

Most citizens have a clear awareness of ecological changes (91% at the national level and 93% in the county have noticed changes).

Perception of ecological changes and their impact on life (in %)

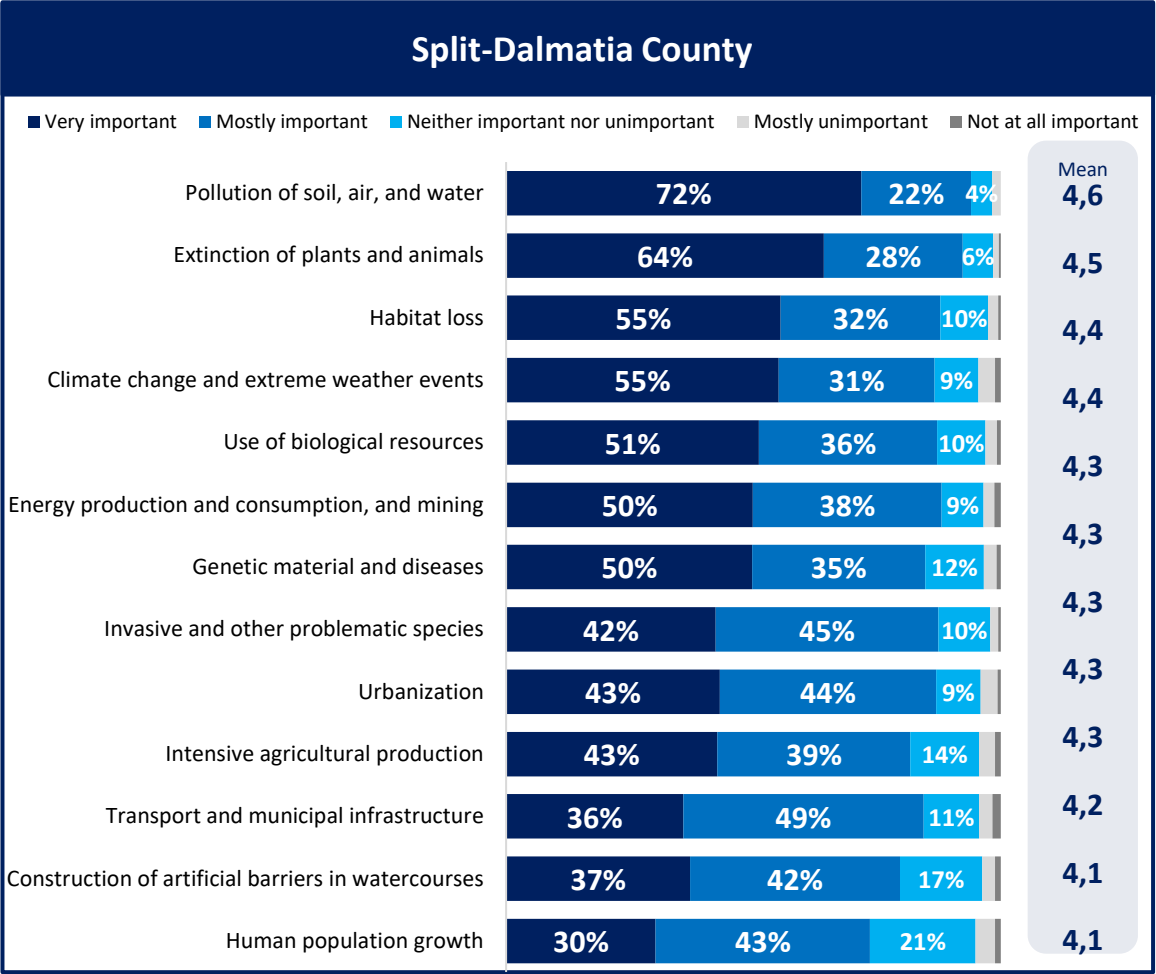
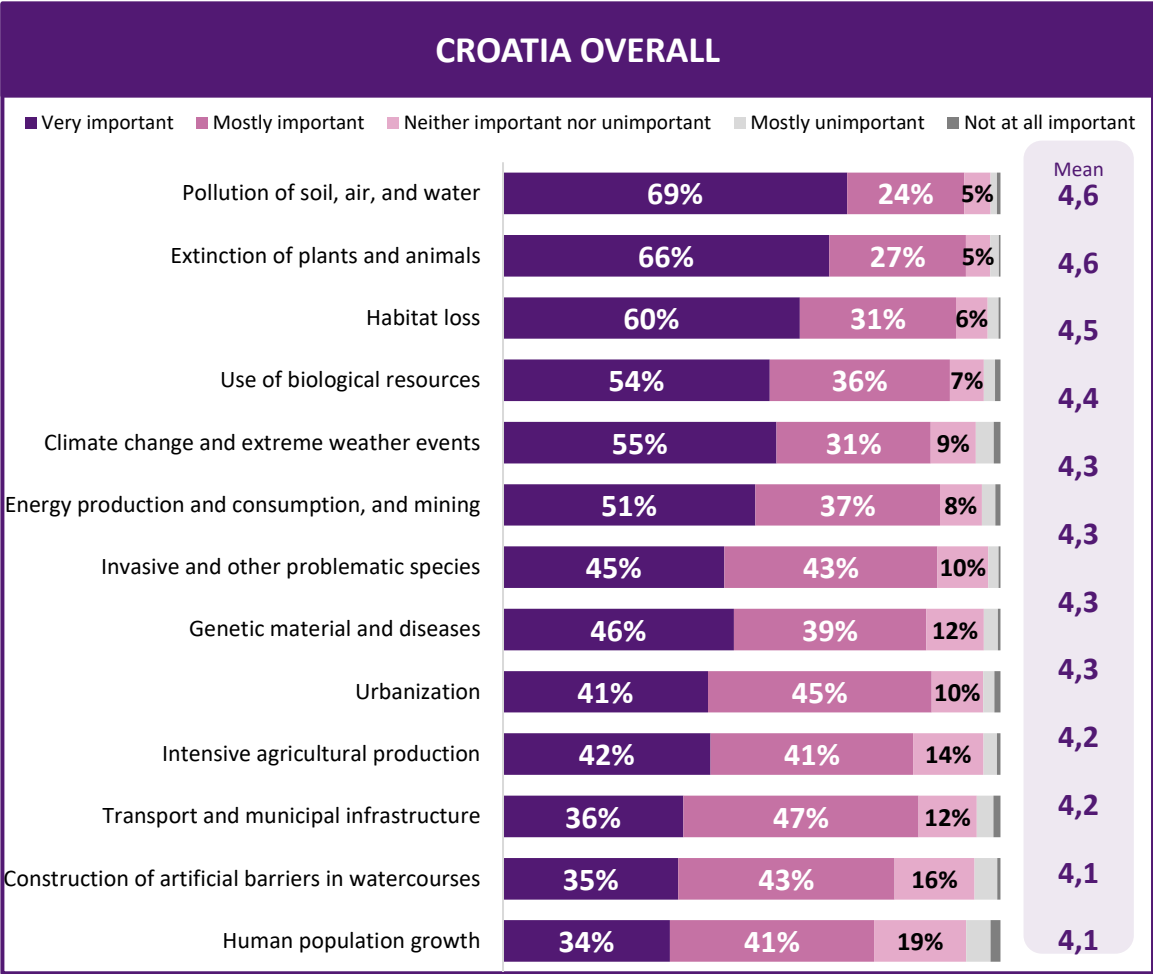


While 33% of citizens in Croatia and 38% in the county already feel the effects of these changes in their own lives, as many as 49% nationally and 44% at the county level believe the consequences will be more significant for future generations. **This highlights the need for discussion about long-term ecological strategies.**

Q14 During your lifetime, have you noticed changes related to nature (such as the decline and possible extinction of animal and plant species, significant climate changes, etc.) and if so, do you think these changes will affect you personally?
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

All selected environmental issues are perceived as important, but soil, air, and water pollution, the extinction of plant and animal species, and habitat loss stand out in particular. At the national level, the use of biological resources is also emphasized, while at the county level, climate change and extreme weather events are highlighted.

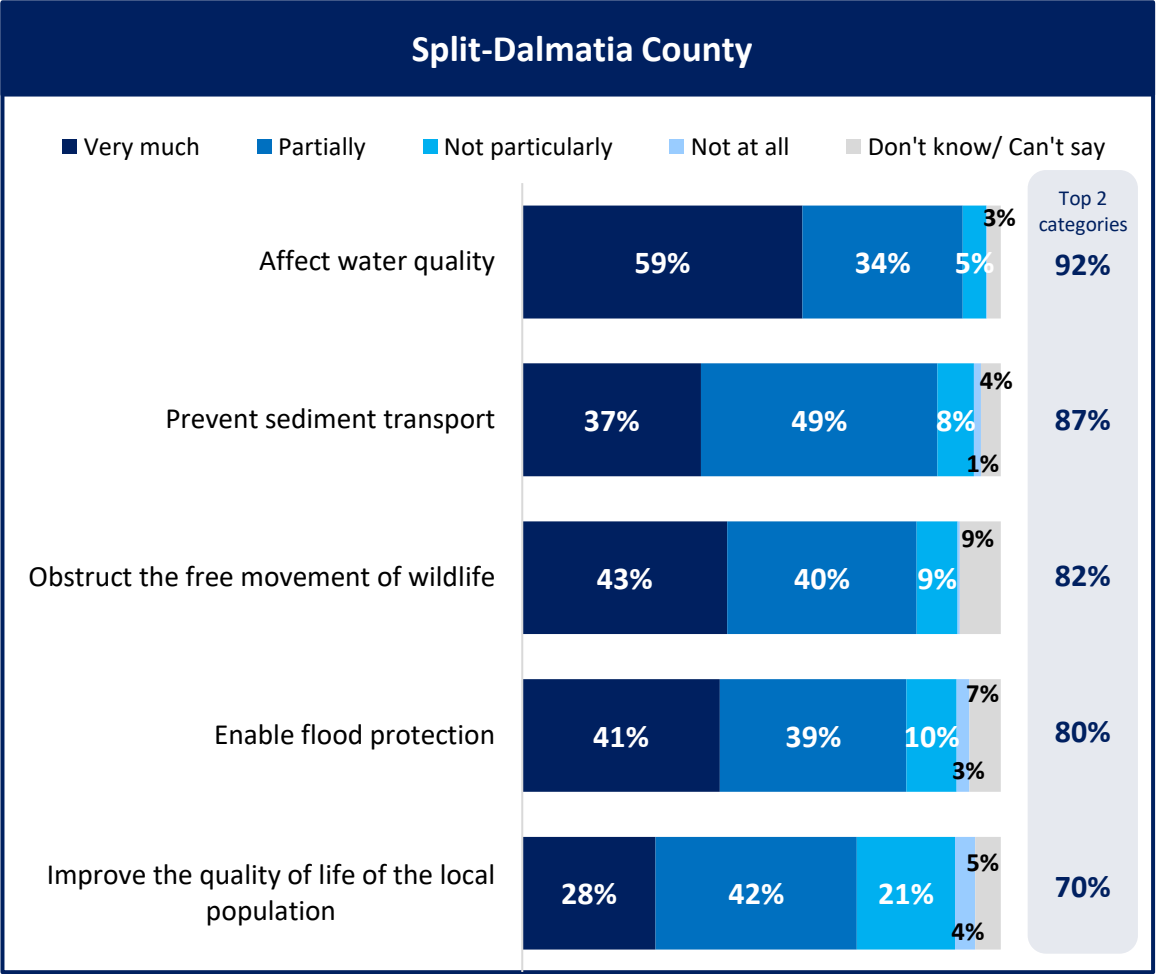
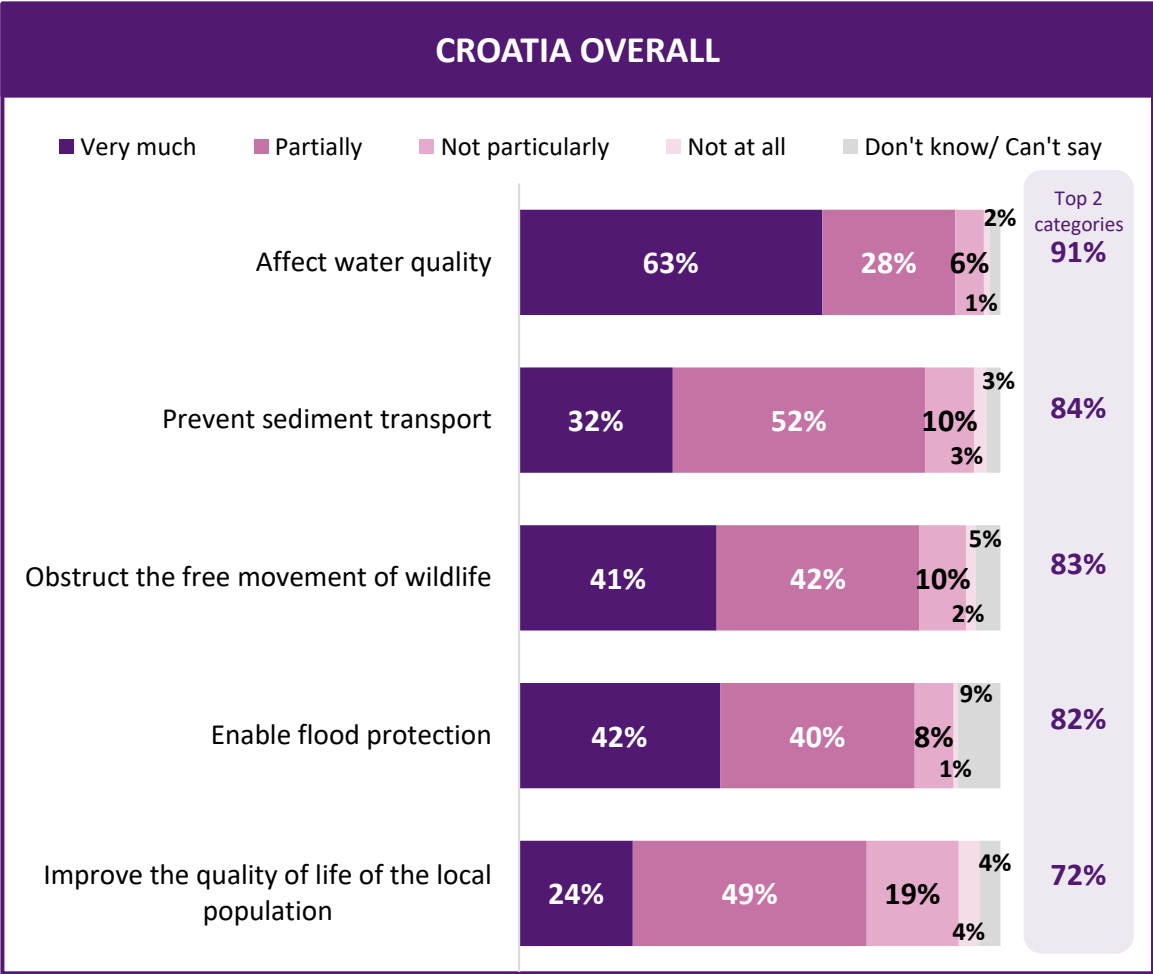
Perceived importance of selected environmental issues (in % and M; sorted by Mean)



Q15 In your opinion, how IMPORTANT are the following environmental issues?
Scale: 1 = not at all important to 5 = very important. Top-2-categories = sum of responses in the mostly important + very important categories.
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

Citizens perceive that artificial barriers in watercourses have the greatest impact on water quality, while their effect on improving the quality of life of the local population is the least noticeable. It is important to note that a significant share of citizens recognize a noticeable impact of these barriers across all observed aspects.

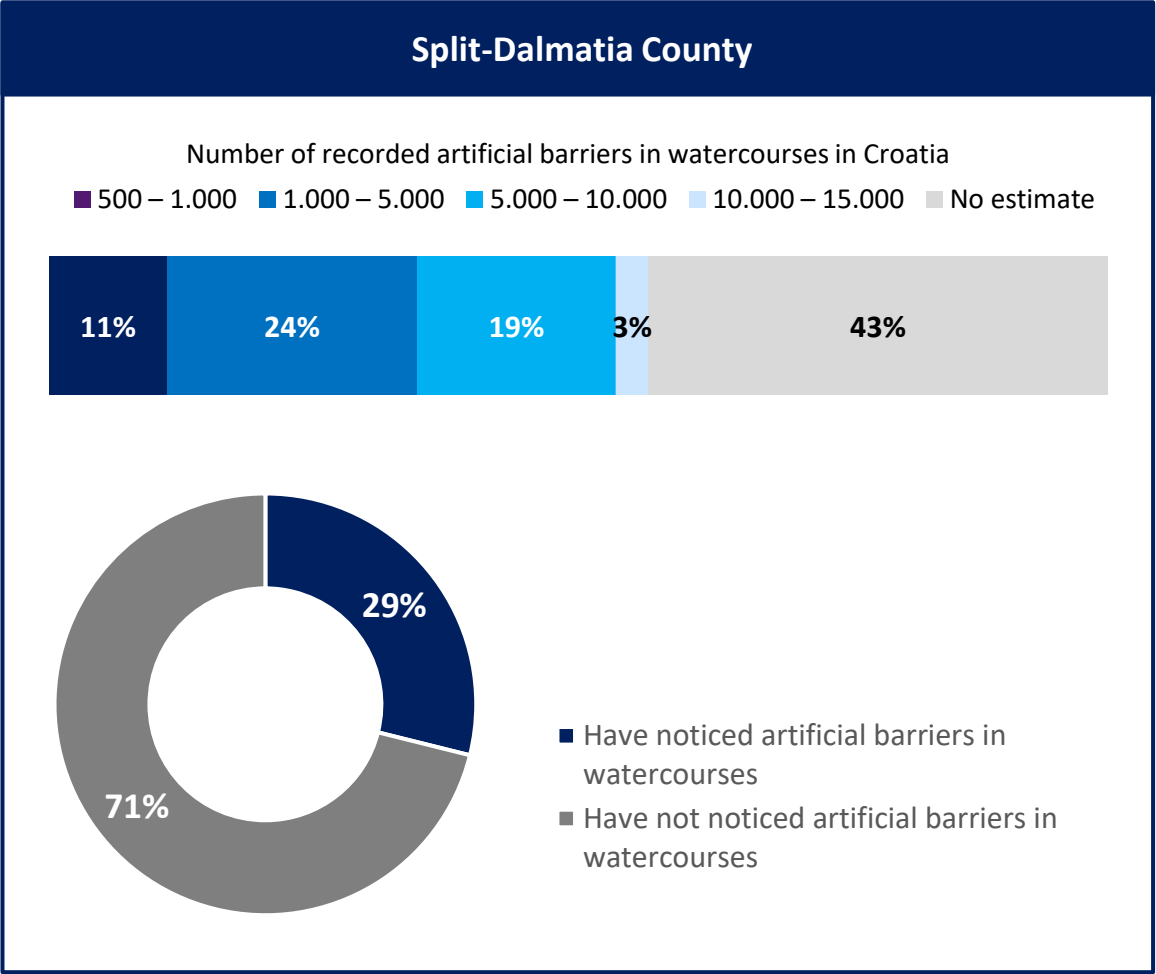
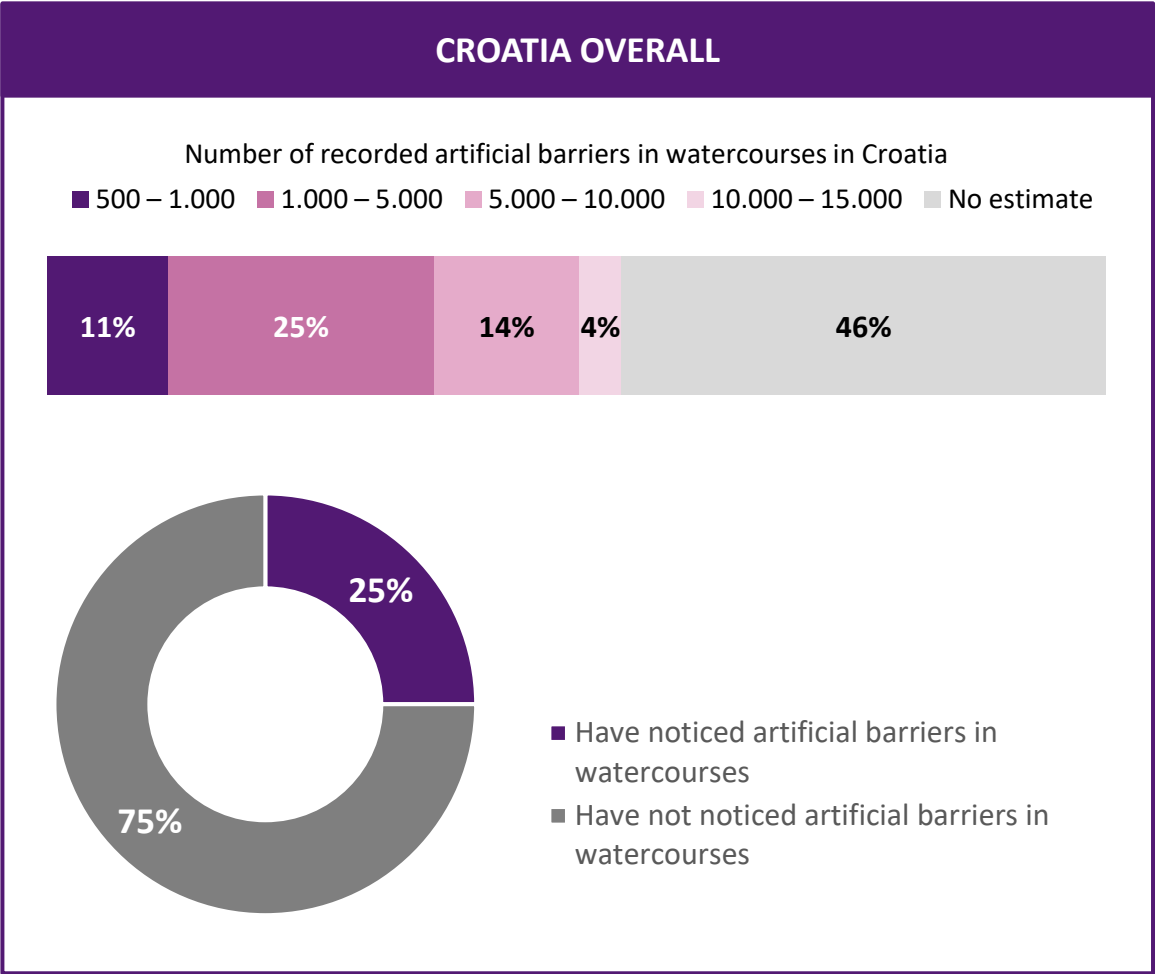
Perceived impact of artificial barriers on watercourses (in %; sorted by the sum of the top-2-categories)



Q16 In your opinion, how much do the following artificial barriers affect watercourses?
Scale: 1 = not at all to 4 = very much. Top-2-categories = sum of ratings in the somewhat + very much categories.
Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

A significant share of citizens (46% at the national level and 43% at the county level) are unable to estimate the current number of recorded artificial barriers in watercourses in Croatia. Additionally, the majority of citizens (75% nationally and 71% in the county) have not noticed such barriers in their vicinity.

Estimated number of recorded artificial barriers in watercourses in Croatia and personal observations of artificial barriers in local watercourses (in %)

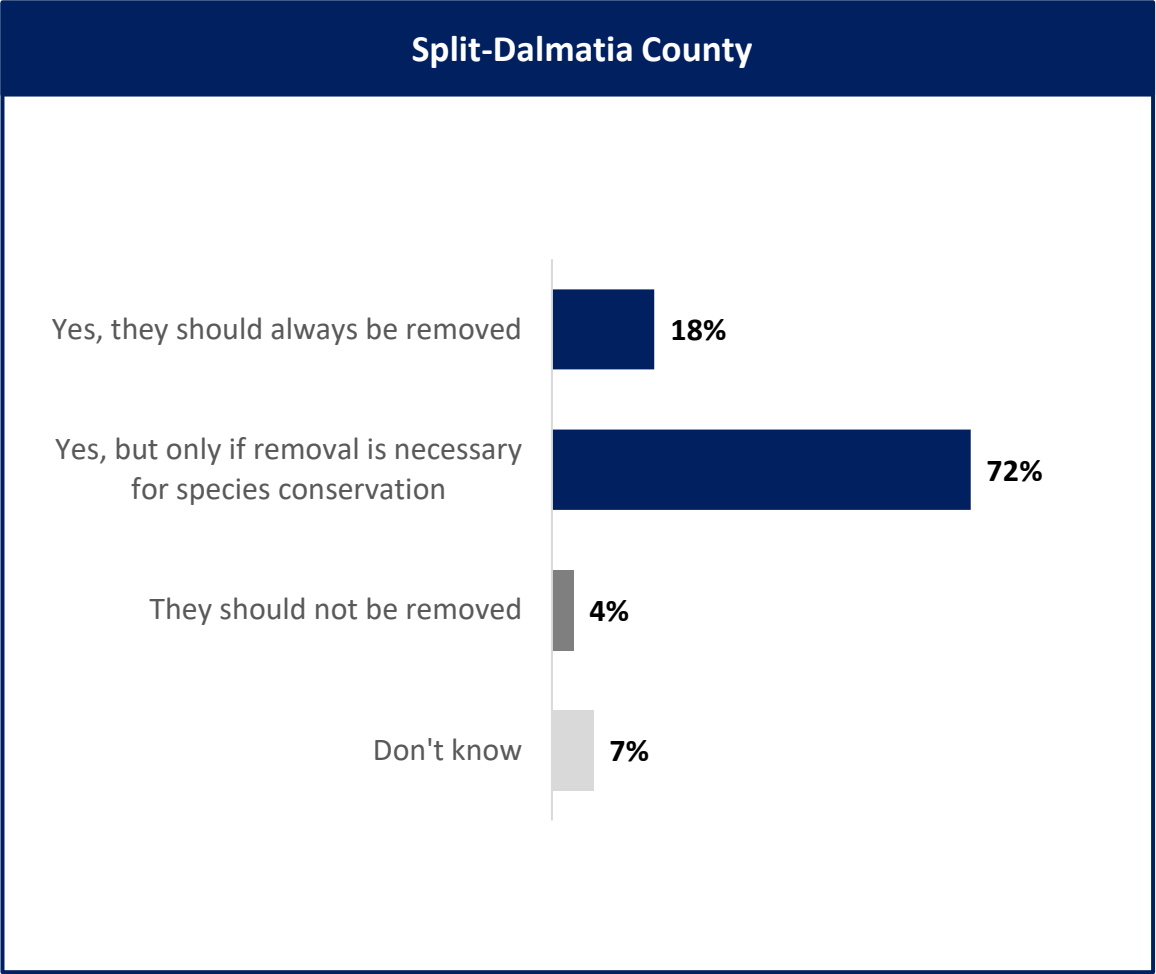
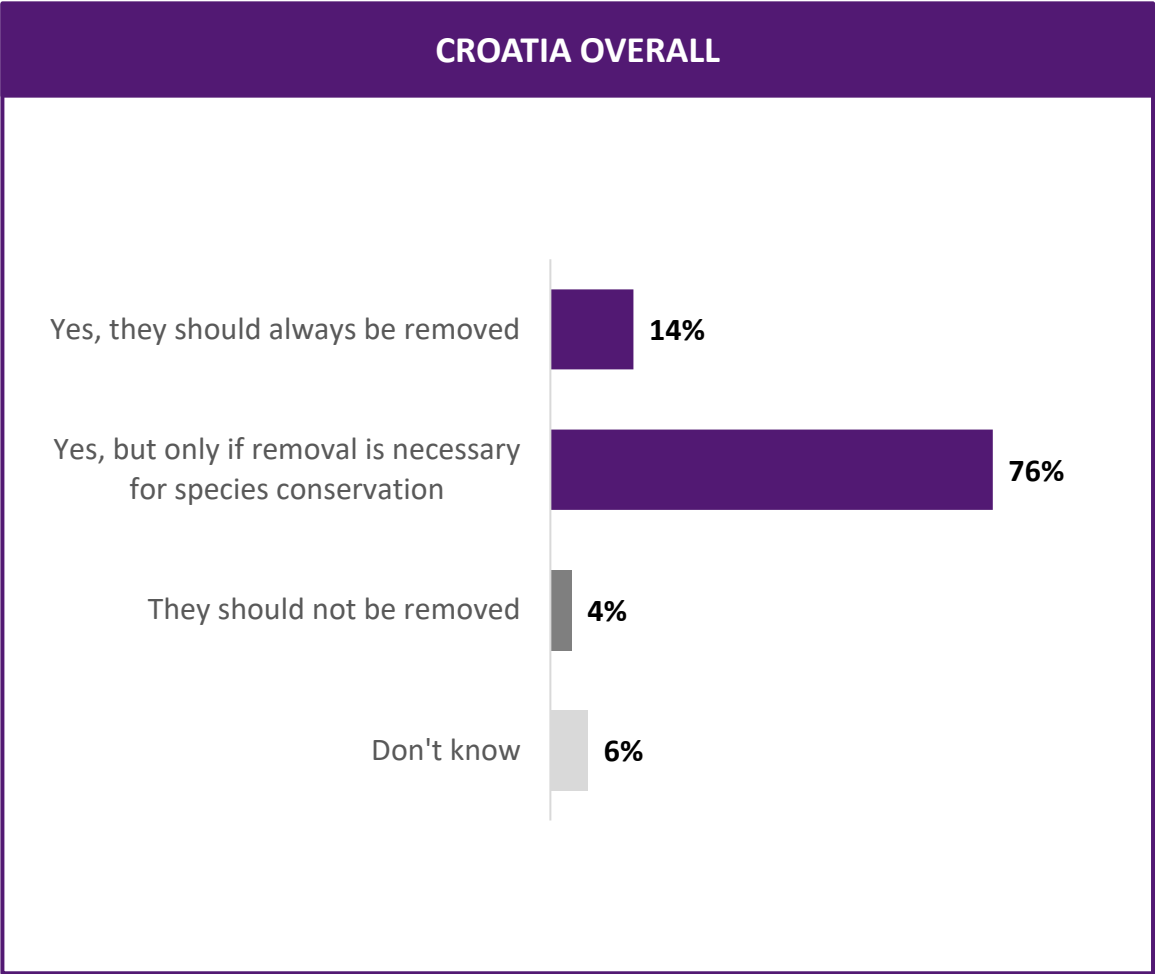


Q17 Can you estimate how many artificial barriers in watercourses currently exist in the Republic of Croatia? / **Q19** Have you noticed any artificial barriers in watercourses near your area?

Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

The majority of citizens believe that artificial barriers should be removed only if necessary for species conservation (76% at the national level and 72% at the county level).

Attitudes toward the removal of artificial barriers for the purpose of reconnecting river flows (in %)

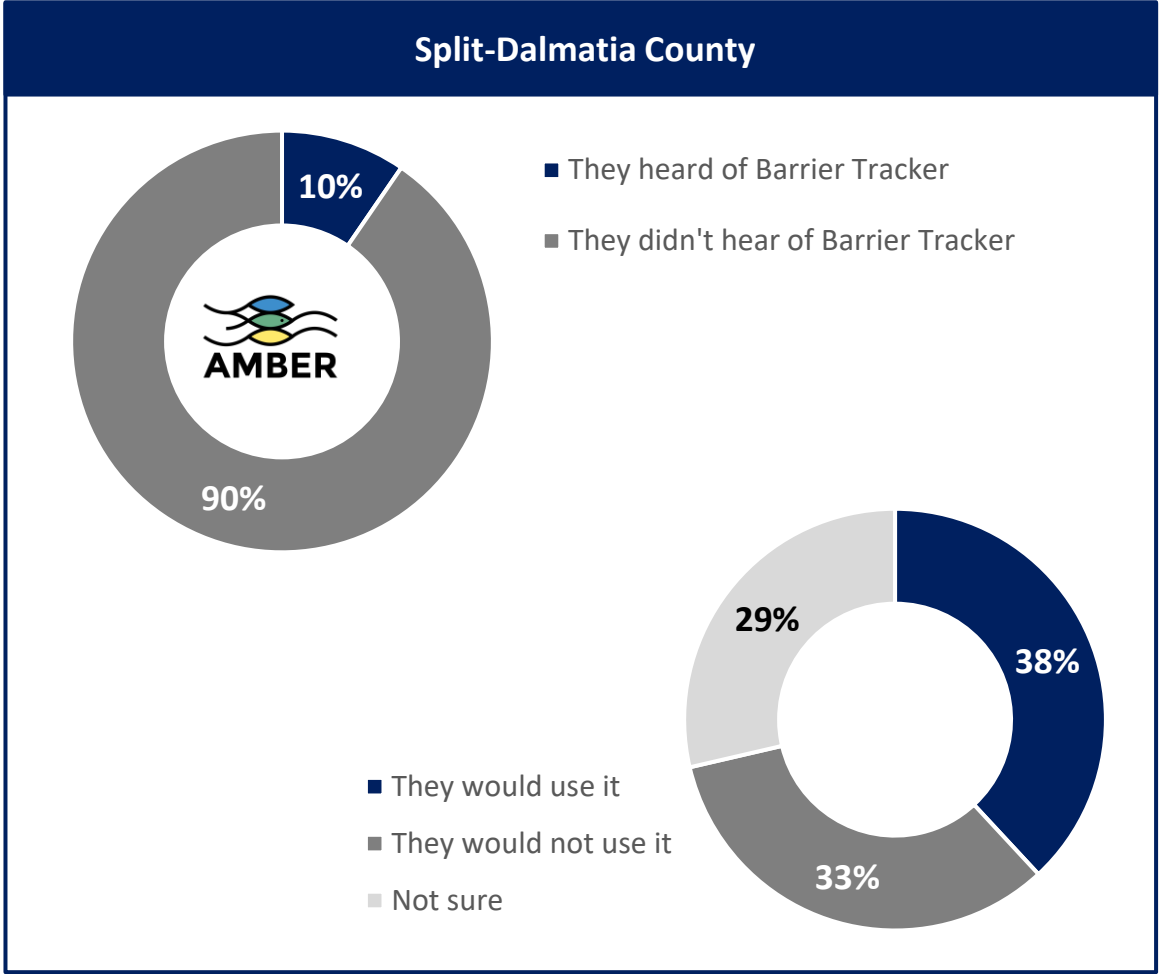
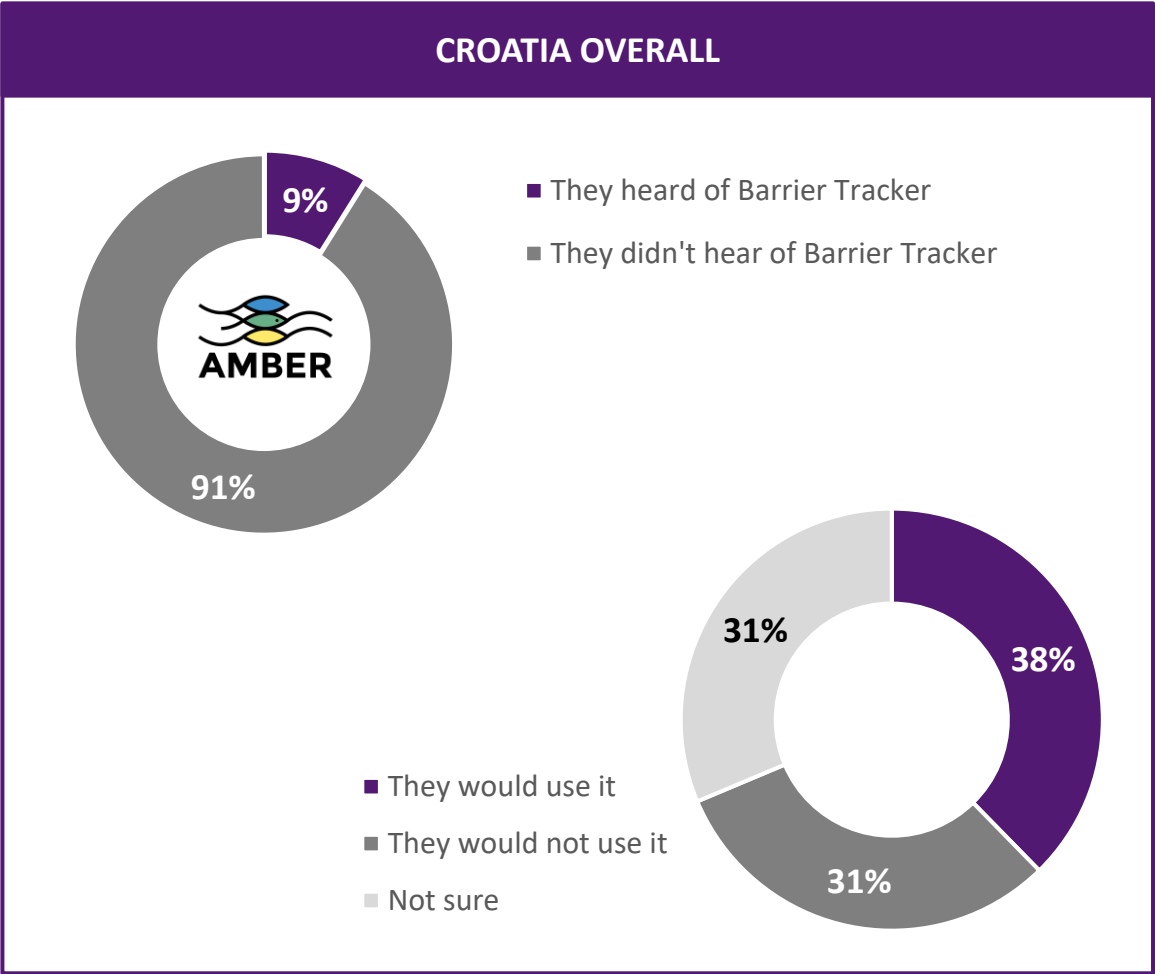


Q18 Do you think artificial barriers should be removed in order to reconnect river flows?

Base: Total, n = 1.008 → Split-Dalmatia County, n = 302

Awareness of the Barrier Tracker mobile app is low – only 9% of citizens at the national level and 10% in the county are familiar with it. However, there is moderate interest in using it in the future, as 38% of citizens would use it if given the opportunity.

Awareness of the Barrier Tracker mobile app and intention to use the Barrier Tracker app in the future (in %)



Q20 Have you heard of the Barrier Tracker (Amber) mobile app? / **Q21** The Barrier Tracker app is used to log and monitor artificial barriers in European rivers, aiming to involve citizens in field data collection and contribute to the European barrier database. Would you use it in the future if you had the opportunity?

Base: Total, n = 1.008 → Split-Dalmatia County, n = 302.

Thank you!

For additional information:

Andrea Žnidar

andrea.znidar@prizmacpi.hr

Prizma Centar za poslovnu inteligenciju
Petra Grgeca 9, Zagreb
tel. +385 1 6331 500

info@prizmacpi.hr, www.prizmacpi.hr