



110th DGINS CONFERENCE

22-23 OCTOBER 2025 | SPLIT | CROATIA

European Tourism Statistics:

A Forward Looking and Innovative Response to 21st Century User Needs

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Abstract title

Balancing Tourism Growth and Sustainability: The Croatian Experience in Developing Tourism Destination Carrying Capacity Indicators – How Many Tourists is too Many?

Subject area

- Session 1: Choosing the right tourism package (users' perspective and information needs...)
- Session 2: Cooking class – exploring new ingredients and recipes (innovative practices)
- Session 3a: Excursions to exotic locations – a. Measuring the economic importance of tourism / TSA
- Session 3b: Excursions to exotic locations – b. Measuring the sustainability of tourism
- Session 4: Our next trip ... where do tourism statistics want to travel, how and when? (future orientations)

Organisation, authors and contact

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Executive summary

Tourism represents a cornerstone of the Croatian economy, yet its rapid expansion, pronounced seasonality and spatial concentration exert considerable pressure on coastal destinations, local infrastructure and host communities. This presentation examines Croatia's approach to balancing tourism growth and sustainability through the application of destination carrying capacity indicators, encompassing quantitative measures such as tourism flows, water and energy consumption, waste management, GHG emissions, spatial planning complemented by perception-based insights including visitor satisfaction and residents' attitudes. Together, these indicators form a critical analytical basis for tourism policymaking in Croatia, enabling evidence-based decision making that should foster sustainable destination management. For many coastal destinations findings underscore that growth does not necessarily equate to development – true tourism development is defined by quality and sustainability, not by unlimited growth and limitless expansion.



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Abstract

1. Introduction: objective, key focus, problem statement

Tourism represents one of the most dynamic and vital segments of the Croatian economy, directly contributing with 12% to national GDP, generating more than 100 thousand jobs, moderating country's trade balance and strengthening the country's international competitiveness and visibility. However, the tourism's very success also brings major challenges. Rapid expansion over the past two decades, coupled with pronounced seasonality and high spatial concentration along the Adriatic coast narrow strip, has placed unprecedented pressure on fragile coastal ecosystems, local infrastructure, and host communities.

The central objective of this initiative is to create a structured and evidence-based framework that allows Croatian policymakers and local stakeholders to better balance the benefits of tourism growth with the imperatives of long-term sustainability. The key focus lies in applying destination carrying capacity indicators - both objective and perception-based - that can capture the environmental, social, and economic pressures of tourism development.

The problem to be addressed is multifaceted:

- Overdependence on general tourism indicators (arrivals, overnight stays, revenues) that provide limited and biased insights into the sustainability of destinations
- Complete absence of data on same-day visitors, who in many destinations represent the primary driver of overtourism challenges
- Lack of integrated, harmonised, and user-oriented data systems that would allow decision-makers to recognise thresholds and take timely action.

By embedding carrying capacity principles into tourism development and corresponding carrying capacity indicators into tourism planning, the initiative seeks to redefine what tourism development means for Croatia: moving away from an emphasis on unlimited growth and towards a model that values quality, resilience, and sustainability, a model that is commonly known as steady state economics or, in the context of tourism – steady state tourism.

2. Approach and methodology

To address these challenges, Croatia has adopted a multi-dimensional approach that integrates both quantitative and perception-based carrying capacity indicators into tourism planning and policymaking.

Methodological framework. The primary framework is rooted in the concept of destination carrying capacity; a methodology originally developed in the 1970s and later adapted into more flexible and policy-relevant models. The Croatian model integrates adaptive thresholds - reflecting limits of acceptable change (LAC) and includes environmental, social, and economic dimensions.

Data integration. The approach relies on combining traditional tourism statistics (arrivals, overnight stays, accommodation capacity) with alternative data sources such as water and energy utility records, municipal waste collection data, greenhouse gas emission inventories, and spatial planning datasets, as well as surveys on visitors' and residents' attitudes.

International harmonisation. Croatia has aligned its methodological development with Eurostat's Tourism Satellite Accounts and UN/UN Tourism Statistical Framework for Measuring the Sustainability of Tourism (SF-MST). This

ensures comparability with other European and Mediterranean destinations, while also meeting EU reporting requirements related to sustainability and climate action.

Governance and cooperation. The success of this approach rests on collaboration among multiple stakeholders: the Ministry of Tourism and Sport, the Croatian Bureau of Statistics, regional and local governments, utility companies, protected area managers, and local communities. Academic institutions and the Institute for Tourism play a key role in methodological development and knowledge transfer.

Efficiency and burden reduction. A guiding principle has been the minimisation of reporting burdens on local authorities and businesses. By integrating data from already existing administrative sources (utility providers, environmental reports, digital platforms), the system reduces duplication and creates efficiency in data collection and processing.

Innovations. Recent innovations include the use of composite indices that combine environmental, social, and economic variables into destination sustainability profiles, as well as the deployment of GIS-based dashboards for local governments to visualise carrying capacity in real time.

Destination Carrying Capacity Indicators Used in Croatia

In Croatia, tourism carrying capacity is regulated by the Tourism Act and bylaws, with indicators grouped into mandatory and supplementary sets. The 35 mandatory indicators span ten categories, including accommodation capacity, tourism demand, environment, infrastructure, population well-being, and the economic role of tourism. Most rely on official statistics, complemented by resident and visitor surveys. Examples include the ratio of tourist beds to residents, the share of housing units used for tourism, and residents' and visitors' perceptions of visual quality and attractiveness. Combining objective and subjective measures provides a holistic view of tourism's impact.

Supplementary indicators add flexibility, allowing destinations to focus on context-specific issues such as congestion, environmental stress, or cultural heritage degradation. Carrying capacity is assessed by benchmarking current activity against thresholds, using recent data and scenario modelling to project risks and opportunities. Stakeholder participation and zoning ensure tailored management of historic centers, beaches, and natural sites. Findings are translated into Action Plans with measures such as visitor limits in sensitive zones, infrastructure upgrades, sustainable mobility, and product diversification. This framework should help keep tourism within sustainable limits while balancing resident well-being and visitor experience, and should answer questions from the title of this paper – How many tourists is too many?

Croatia is unique in this respect, as it is one of the very few countries worldwide - and the only one in EU - that has introduced a legislative obligation for destinations to assess their tourism carrying capacity. According to the Tourism Law and accompanying bylaws, most municipalities with significant tourism activity are legally required to undertake systematic carrying capacity studies. This framework ensures that tourism development is not left to market forces alone but is instead guided by evidence-based assessments of environmental, social, and spatial limits.

Results and practical applications

The Croatian experience demonstrates both the potential and challenges of applying carrying capacity indicators in real-world tourism governance.

Results

- For many coastal destinations such as Dubrovnik, Split, Rovinj etc., carrying capacity assessments have highlighted critical thresholds in:
 - o infrastructure usage (water and electricity shortages, overloaded waste management systems, parking problems),
 - o challenges in spatial planning, large-scale land-use interventions and rising real estate prices that contribute to unaffordable housing
 - o in the social sphere - resident dissatisfaction with overtourism.
- Pilot projects have shown that integrating visitor satisfaction surveys with resident attitude surveys provides a fuller picture of social sustainability.
- In the future local government is expected to increasingly use carrying capacity reports as inputs for spatial planning, including limiting construction permits for new accommodation or introducing time-based visitor caps for heritage sites.

Possible solutions

- Partnerships with national statistical authorities should ensure harmonisation and technical training for local governments.
- Digital platforms should be developed to simplify data visualisation and interpretation.
- Policy dialogue should be encouraged between municipalities, tourism boards, and residents to increase acceptance of carrying capacity measures.

Lessons learned

- Quantitative (objective) indicators alone are insufficient; combining them with perception-based (subjective) measures (residents' quality of life, visitors perceived crowding) is essential.
- Data integration requires strong governance structures to overcome institutional silos.
- Transparent communication of results helps mitigate political resistance.

The Croatian approach is replicable both across the Mediterranean and in other small, tourism-dependent countries. It can also generate synergies with other statistical domains, such as environmental accounting, climate statistics, and sustainable urban development.

3. Conclusions and implications

The Croatian model of applying destination carrying capacity indicators demonstrates that sustainable tourism governance is both feasible and necessary. Still, the challenges remain - particularly regarding data gaps, technical, human and institutional capacity, and political acceptance on the local and regional level. In the future this approach has the potential to influence spatial planning decisions, infrastructure investment priorities, and policy debates at national, regional and local levels.

The implications are threefold:

1. **For policymaking:** Carrying capacity assessments provide evidence-based tools that support more balanced and sustainable decision-making, ensuring that growth does not undermine long-term development.
2. **For statistical development:** Integrating diverse data sources and aligning with international frameworks strengthens the robustness and comparability of tourism statistics.
3. **For user needs:** By addressing not only economic indicators but also environmental and social dimensions, the system meets the needs of a broad range of stakeholders—governments, businesses, residents, and tourists.

Ultimately, the Croatian case underscores the central message that growth is not synonymous with development. True tourism development is defined by quality and sustainability. Institutionalising and legally enforcing carrying capacity indicators offers a path toward a more resilient, competitive, and socially acceptable tourism model.

4. References or relevant links

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