

Governance and economic impact of whale-watching. The case of El Vizcaíno Biosphere Reserve, Baja California, Mexico

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Whale-watching (WW) has gained considerable importance for coastal communities as a potentially sustainable form of tourism-driven resource use (Brenner et al., 2016). However, as common-pool resources marine wildlife bears the risk of being overly exploited to the detriment of animal populations and economic sustainability. Therefore, careful management and use regulation based on capable institutions are required (Hill et al., 2015). Governance arrangements fulfilling these requirements need to be accepted by (local) stakeholders and resource users. To assure compliance with regulations stakeholders must be involved in decision-making about management issues and should participate in the economic benefits of whale-watching. Both factors are major drivers of positive conservation governance attitudes. Therefore, this presentation analyses the nexus between governance and economic impact of WW for the case of the coastal lagoons in El Vizcaíno Biosphere Reserve, Baja California, Mexico, a globally-renowned WW destination, declared World Natural Heritage Site by the UNESCO in 1993 (see Figure 1).

Our study is based on one quantitative and two qualitative studies. The quantitative methods applied to assess the economic impact of whale-watching consisted of a demand- and supply-side survey. A random sample of 382 whale-watchers was asked about their trip motivation, expenditure patterns, and sociodemographics during, or after, their WW tour, using standardized intercept interviews. The additional quantitative study focussed on tourism enterprises related to whale-watching (40 tour operators/owners/managers of hotels and camp sites), who were interviewed qualitatively. This survey assessed the gross turnover of tourism businesses, the employment situation, seasonality, and supply and intermediate input situation in the EVBR. The economic impact of WW were estimated using an input-output (IO) model. A national IO table for Mexico was obtained from the OECD (2011), and a regional table was derived from the FLQ location quotient approach described by Flegg et al. (1995).

To identify, characterize and classify the actors directly or indirectly involved in WW at different locations in the reserve, 27 semi-structured, in-depth interviews were conducted, using the snowball procedure. Most respondents were representatives of governmental institutions (8), tourism cooperatives (6), or non-governmental institutions (NGO) (4). Also, six private tourism entrepreneurs and two academics were interviewed. Follow-up interviews were conducted five years later. All interviews were recorded *verbatim* after approval and then analyzed using Atlas ti 5 software. When reviewing the transcriptions, we defined and assigned codes that were subsequently grouped in code families by applying an iterative procedure. Special emphasis was placed on perceptions and attitudes towards governance arrangements, restrictions imposed on operators by the BR administration, power relations, competition and conflicts among service providers and other actors involved in WW, and the economic benefits derived from WW.

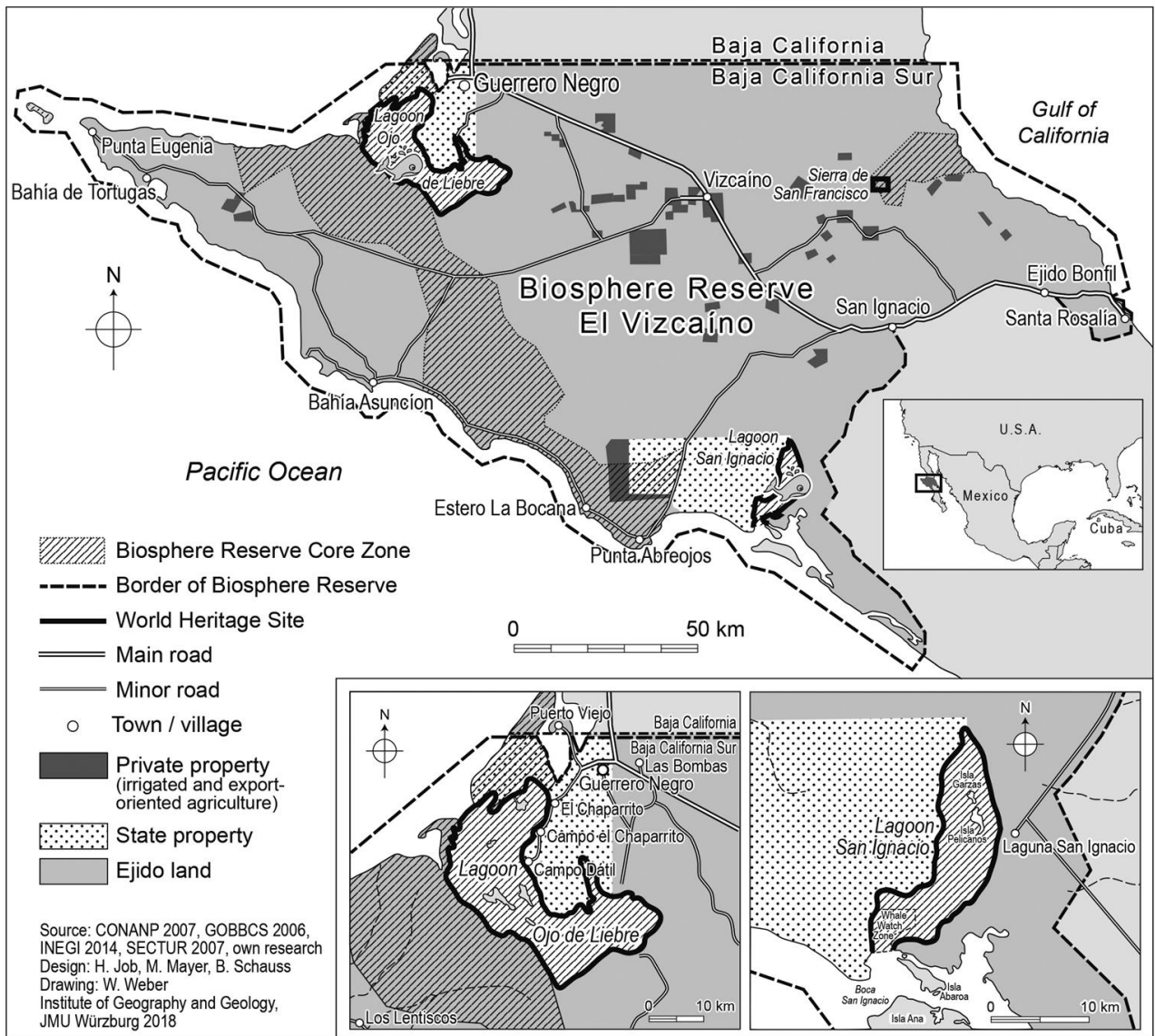


Figure 1: Study area “El Vizcaíno Biosphere Reserve”, Mexico
 Source: Mayer et al., 2018

Results show that over time a government-led whale-watching governance arrangement evolved in El Vizcaíno Biosphere Reserve which prevents overexploitation, restricts resource use for non-local operators ensuring that most of the income from whale-watching benefits local service providers, offers participation possibilities for local stakeholders and mitigates conflicts between actors of imbalanced powers with the help of the reserve’s advisory board being a relatively effective negotiating platform. Therefore, these institutional arrangements are widely accepted and supported by the local actors who often rely on economic rationalism as arguments (Mayer et al., 2018).

The economic impact of WW can be summed up as follows: ~18,000 whale-watchers lead to an annual regional economic impact of US-\$0.7 million, generating 334 seasonal and 180 year-round jobs. The opportunity costs related to restrictions on resource use are compensated. Thus, the case of WW in El Vizcaíno Biosphere Reserve supports the general

feasibility of the people-oriented protected area approach and the suitability of biosphere reserves as governing institutions for marine wildlife tourism (Mayer et al., 2018).

References

- Brenner, L., Mayer, M., Stadler, C. (2016): The economic benefits of whale watching at the El Vizcaíno Biosphere Reserve/Mexico. *Economía, Sociedad y Territorio* XVI (51), 429-457.
- Flegg, A. T., Webber, C. D., Elliott, M. V. (1995): On the Appropriate Use of Location Quotients in Generating Regional Input-Output Tables. *Regional Studies* 29, 547-561.
- Hill, W., Byrne, J., Pickering, C. (2015): The 'hollow-middle': why positive community perceptions do not translate into pro-conservation behaviour in El Vizcaíno Biosphere Reserve, Mexico. *International Journal of Biodiversity Science, Ecosystem Services & Management* 11 (2), 1-16.
- Mayer, M., Brenner, L., Schauss, B., Stadler, C., Arnegger, J., Job, H. (2018): The governance and economic impact of sustainable resource use in biosphere reserves: the case of whale-watching in the El Vizcaíno Biosphere Reserve, Mexico. *Ocean and Coastal Management*. DOI: <https://doi.org/10.1016/j.ocecoaman.2018.04.016>
- OECD – Organization for Economic Cooperation and Development (2011): OECD Input-Output Database. URL: <http://stats.oecd.org/index.aspx>.