

The Broken Golden Egg of the Galápagos: Mistrust and short sightedness in the UNESCO World Heritage Site

Peter Varga
peter.varga@ehl.ch

EHL Hospitality Business School, HES-SO, University of Applied Sciences and Arts Western Switzerland, Lausanne, Switzerland

Andrea Andrea Muñoz-Barriga
AMUNOZ@puce.edu.ec

Pontifical Catholic University of Ecuador

<https://doi.org/10.33001/18355/IMJCT0824>

Received Date : 13/11/2024

Accepted Date: 30/01/2025

Abstract

The Galapagos Islands, known as a leading sustainable tourism destination in the world, was hit by the COVID pandemic in 2020. Tourism numbers fell by 73% from 2019 causing tremendous challenges to local tourism stakeholders. The study revealed that the UNESCO World Heritage Site, despite its excellence in the management of environmental sustainability, has been falling short concerning social and economic sustainability of local tourism stakeholders. Through an exploratory study with 586 completed semi-structured surveys in the local population, alongside interviews with diverse stakeholders and leading tourism authorities, the article explains what social and economic impacts and challenges the pandemic has generated in the local tourism sector. Additionally, the study also elucidates, on the one hand, what sociocultural modifications the studied stakeholders needed to adopt to survive during this unprecedented period in tourism history, and, on the other hand, what tourism authorities propose to revitalize tourism in the post-COVID period.

Key Words:

Galapagos Islands; tourism; sustainability; impact of pandemic; stakeholders' perception

Introduction

The Galapagos Islands in Ecuador is a 7,880 km² archipelago with a unique natural environment. Charles Darwin described the islands as a “little world within itself.” Some 97% of the total emerged surface area was declared a National Park in 1959. The Galapagos National Park was recognized as a UNESCO World Heritage Site in 1978, and later a Biosphere Reserve in 1985. Though tourism numbers were only about 2,000 per year in the 1960s, reaching 163,000 in 2009 (Izurieta, 2017), and 275,817 in 2018, which is a 14% increase from 2017. Lastly, Galapagos received over 330,000 in 2023 (Observatorio Turismo Galapagos, 2024).

The three populated islands, out of a total of 21 islands (not counting the numerous rocks and islets), had an estimated population of around 30,000 inhabitants in 2019 (INEC, 2022). The population has been multiplied by fifteen since the 1960s, mainly because of the growing opportunities related to tourism (Walsh *et al.*, 2019; Román *et al.*, 2021). The world-renowned Galapagos Islands have been under scientific research since its creation in 1985. Nevertheless, despite the intention of various institutions (e.g., Ecuadorian Ministry of Tourism, Ministry of Environment, etc.) to keep the islands as intact as possible for future generations, tourism development has been lacking an inclusive and

sustainable strategy (Ecuadorian Environment Ministry & Galapagos National Park Directorate, 2016). Tourism stakeholders believed that runaway tourism development “has been conducted in an intermittent and unconnected way, proposing solutions to acute social and ecological crises without a long-term vision or strategic plan” (González *et al.*, 2008, p.1). Furthermore, governmental regulations have mainly focused on environmental issues, such as zoning and fishing, and accommodations (UNESCO, 2019), and disregarded social, economic, and cultural aspects.

As a result, this exploratory study seeks to understand an understudied aspect of the Galapagos tourism activity, which is the sociocultural impacts of the pandemic, with a focus on local stakeholders’ perceptions. The article, first, focuses on the analysis of the situation of key tourism stakeholders, such as hotels, tour guides, and residents, and second, the steps tourism authorities have been taking to regenerate tourism in the Galapagos National Park.

Literature review

Being an extremely popular tourism destination the Galapagos National Park received 271,238 tourists in 2019, of which 67% were international (Observatorio Turismo Galápagos, 2024). Tourism revenues are extremely important for the local economy, because it provides 66% of GDP (Spenceley *et al.*, 2021). Although the archipelago is considered a leading sustainable tourism destination in the world (Garcia Ferrari *et al.*, 2021), the current economic model of Galapagos is heavily dependent on tourism, and is therefore often described as unsustainable (González *et al.*, 2008; Rousseaud *et al.*, 2017). This is clearly contradictory with the goal of the planning and policy-making body, the National Institute for Galapagos (INGALA) created in 1980, to achieve sustainable development (Garcia Ferrari *et al.*, 2021), and also with the LOREG (Special Law for Galapagos) in 1998, which aimed at developing more tangible sustainable practices in the area of conservation management (Muñoz-Barriga, 2015).

Several studies (Walsh *et al.*, 2019; Garcia Ferrari *et al.*, 2021) state that the health crisis combined with the economic crisis (due to a reversal in the growth trend for tourism) revealed the extreme fragility of the Galapagos tourism industry. This is also justified by various studies that show potential threats to achieve sustainable tourism management goals (Brewington, 2013; De Groot, 1983; Epler, 2007; Garcia *et al.*, 2013; Honey, 1999; Izurieta, 2017; Muñoz-Barriga, 2020; Pizzitutti, *et al.*, 2014; Rice, 2007; Ruiz-Ballesteros & del Campo, 2020; Steele, 1995; Tindle, 1983). Since the pandemic profoundly disrupted international tourism (Hall *et al.*, 2020), initiatives for more sustainable tourism management were also destabilized. Due to this worldwide crisis, the islands have been coping with unprecedented difficulties with losses totalling USD 200 million (Urquiza *et al.*, 2021), which has deeply affected the local population.

Until the present study, no research has focused on the challenges and impacts of the pandemic on the Galapagos population in the context of tourism. Consequently, this study seeks to fill this research gap and explore tourism stakeholders' perceptions on how the birthplace of the theory of Darwinism coped with the unprecedented situation caused by the pandemic. Additionally, the paper also reveals what lessons we can learn from one of the supposedly most sustainably managed protected areas in the world. Hence, this exploratory research seeks to answer three questions:

RQ 1: What sociocultural challenges and discrepancies has the pandemic revealed concerning the sustainability of tourism in the Galapagos Islands?

RQ 2: What sociocultural modifications do tourism stakeholders need to adapt as far as the post pandemic tourism dynamics are concerned in the Galapagos Islands?

RQ 3: What strategy do local and national tourism authorities believe will contribute to sustaining tourism in the Galapagos Islands?

Methodology

Data collection was through semi-structured surveys administered in person, and semi structured interviews. A purposive sample of three tourism stakeholders were studied: Hotels (owners and employees), local Tour Guides and Residents. The semi-structured survey was constructed based on Magablih and Mustafa's (2018) study and adapted to the Galapagos Islands. A total of 586 semi-structured surveys and 11 semi-structured interviews were completed.

Results and Discussion

The descriptive analysis of the semi-structured interviews with key tourism decision-makers in the Galapagos Islands reinforced previously found conclusions about the high level of tourism dependency on the islands. This dependency concerns social and economic aspects. Interviews with tourism stakeholders indicate that the local economy is extremely dependent on tourism revenues.

The survey revealed that tourism stakeholders have rather negative perceptions concerning the management and decisions of tourism authorities. The results show that there is a strong mistrust in national and local tourism authorities by the local tourism stakeholders, Hotels, Tour Guides, and Residents. This mistrust is clearly indicated by the Likert scale scores for the questions in Table 1. Local tourism stakeholders feel that tourism authorities were not only unprepared for the crisis, but that they also mismanaged the crisis (i.e., the absence of a clear strategy for the local population and economy) and have failed to put in place strategies to bolster resilience if a new crisis should occur.

Concerning the impacts of the pandemic, the study revealed that 87% of the 108 surveyed Galapagos Tour Guides have a temporary, invoice-based, contract. Some 97.2% of them said that the pandemic has affected their job situation. Similar results were found for Galapagos residents; for 79.7% of respondents their economic situation worsened during the pandemic, although 56.37% of the surveyed resident population do not work directly in tourism.

Concerning the local economic reaction to the pandemic, 81.9% of residents answered that they have not had an extra source of income. This number is 67.6% for Tour Guides, showing a serious economic shock for this group. This was anonymously shared among the 70 Hotels surveyed in the study, too. All Hotels had to lay off personnel, massively, and have slowly been rehiring them in the post pandemic period, but with extremely unfair working conditions for the employees.

More explicitly, concerning the overall perception of the surveyed stakeholders, as indicated in Summary Table 1, the answers for the questions (*'National/local tourism authorities were prepared for the crisis like COVID?'*) had very low scores; *mean* 1.43 (National authorities) and 1.33 (Local authorities), with a *mode* of 1 for both in the Likert scale, meaning that local residents perceived massively the readiness of those authorities in a very negative manner.

Concerning the post-pandemic strategy planned by the tourism authorities (*'The Ministry of Tourism has plans for the touristic crisis post-COVID?'*) scores were very low (*mean* and *mode*, 2.46 and 1, respectively), indicating a mistrust and inadequacy of planning towards the future. Concerning financial help for tourism businesses and actors (*'Tourism sector authorities had assigned financial aid for the current tourism crisis?'*) the surveyed local stakeholders evaluated very poor with a *mean* of 1.78 and a *mode* of 1, since there was no financial help for the stakeholders.

Similar values were found concerning the communication of tourism authorities during the crisis (*'Crisis management's message from tourism authorities has been clear?'*); 2.40 for *mean* and 1 for *mode*. Likewise, local tourism stakeholders reported that tourism establishments have been closed due to the pandemic, and that there have been myriad negative consequences (e.g., shorter stays and less tourism spending). Local tourism stakeholders were nearly unanimous about the catastrophic impacts of the pandemic in the local tourism industry, which also confirms a suspicion, again, about tourism authorities regarding both its crisis management and its resilience strategy.

Table 1. Tourism Stakeholders' perception of the pandemic and its management

		Statistics								
		National tourism authorities were prepared for a crisis like Covid	Galapagos tourism authorities were prepared for a tourism crisis	The Ministry of Tourism has plans for the touristic crisis post-Covid	Tourism sector authorities had assigned financial aid for the current tourism crisis	Crisis management's message from tourism authorities has been clear	Touristic establishments have closed because of the current situation	Tourists stay less days than before the pandemic	Tourist spent less money than before the pandemic	The current situation in Galapagos has a negative effect in the tourism sector
N	Valid	586	586	586	586	586	586	586	586	586
	Missing	0	0	0	0	0	0	0	0	0
Mean		1.41	1.33	2.46	1.78	2.40	4.58	3.96	4.22	4.54
Median		1.00	1.00	2.50	1.00	2.00	5.00	5.00	5.00	5.00
Mode		1	1	1	1	1	5	5	5	5
Range		4	4	4	4	4	4	4	4	4
Minimum		1	1	1	1	1	1	1	1	1
Maximum		5	5	5	5	5	5	5	5	5

In order to answer the research questions, the paper will now focus on more details revealed by the field work. Semi-structured, face-to-face methodology allowed participants to provide details about their perceptions.

Concerning RQ 1, *'What sociocultural challenges and discrepancies the pandemic revealed, concerning the sustainability of tourism in the Galapagos Islands?'*, as a general analysis, most of the 586 surveyed tourism stakeholders have endured extremely harsh living conditions. Their previously steady life and in the Ecuadorian context, the highest GDP per capita in the country, has been turned upside-down. As an extreme example, both the semi-structured interviews with tourism authorities and semi-structured surveys revealed that there were tourist guides and other tourism stakeholders, such as residents, hotel employees, who had absolutely no economic revenues during the pandemic and those impacted families could only survive due to the solidarity and help of other Galapagos residents.

The results show that despite the Galapagos Islands' overall image as a well-managed sustainable destination, sustainability has not been fulfilled entirely. The 70 surveyed hotels also revealed that most of the establishments had not had a contingency plan for crises, including savings for such situations. Faced with devastating income losses, and without any local or national financial aid, hotels 'optimized' their operations, mainly by laying off staff. Since July 2020 and the reopening of the tourism industry in the Galapagos Islands, hotels revealed that tourism has been dominated by national tourists, with less purchasing power. Accordingly, hotels have had to make adjustments to welcome domestic tourism. As international tourism, which used to dominate, has been partially replaced with domestic demand there have been consequences affecting sustainability. Unfortunately, lower purchasing power will generate

impacts on the quality of services, the environment, the society, and of course, in the local economy (Muñoz-Barriga, 2015).

To answer Research Question 2: *'What sociocultural modifications do residents need to adapt as far as the post-pandemic tourism dynamics are concerned in the Galapagos Islands?'*

Since the pandemic was unprecedented, no one was ready for such a situation in the tourism industry of the Galapagos Islands. The study revealed that all three studied stakeholders were unprepared to face the crisis and also that the sociocultural impacts were extremely devastating (such as intrafamilial violence, extreme poverty, etc.).

The semi-structured surveys that were conducted with Hotel owners and employees also revealed that 80% of the hotels faced serious economic difficulties. This unstable financial situation generated major changes in the labor settings concerning hotel employees. No less than 78.6% of the surveyed hotels had fired employees during the pandemic. As a result, after the reopening of the islands for tourism in July 2020, the former legal work contracts, with health and social security benefits, have

been transformed into flexible agreements between employers and employees. As a result, employees were contracted for specific missions (often only a few hours) and paid on the spot. Although this practice is beneficial for the employers, the employees worked without any structured labor contract, which generated extremely uncertain and even exploitative circumstances in the labor market.

Room prices also dropped significantly in the case of 92.9% of the hotels surveyed, which indicates a substantial adaptation to the new situation. Concerning surveyed and interviewed hospitality stakeholders on the islands, this price drop is also the result of the fact that most of the tourists are Ecuadorian nationals. In 2019, this tourist segment represented only 32% of the tourism in the islands and around 70% in 2023 (Observatorio Turismo Galápagos, 2024). Also, the segment of international backpackers has increased, which alongside the growing domestic tourism generates lower room prices due to their limited purchasing power. As mentioned previously, this type of tourism will probably contribute to unsustainable practices on inhabited islands.

The 108 semi-structured surveys with Tour Guides revealed that they have been hit the hardest by the pandemic in the Galapagos islands. The study discovered that 88% of the Tour Guides had occasional, not permanent contracts in tourism which resulted in a very precarious economic situation while 97.2% of the questioned Tour Guides considered that their economic situation became worse during the pandemic, and 71% of them did not have basically any income during the crisis. In order to survive, these Tour Guides sold personal objects, often luxury ones, and received charity from other residents.

Semi-structured interviews with tourism authorities also revealed that despite the strong purchasing power of the Tour Guides, short-term orientation characterized their spending behaviors. Hence, the pandemic and particularly the lockdown period revealed that Tour Guides had no savings to cope with the situation. The only way 71% of the Tour Guides could survive during the lockdown period was through charity. Interestingly, as mentioned previously, the tragedy of the situation exposed that the highest purchasing power segment of the local population became the most fragile one during the pandemic.

Concerning the local population, the study revealed that only 35.5% of the Residents had some savings before the pandemic. Residents were also asked about their future intentions if the situation were to remain as it was during the pandemic. Only 6.4% of residents said they would leave the Galapagos Islands permanently, while 80.1% reported that they would stay on the islands despite the unpredictable future. The rest did not have a clear idea about how to face the future. This shows a solid attachment to their homeland.

79.7% of the residents considered that their labor situation became worse during the pandemic, and 18.9% believe that it is the same as in the pre-COVID period. The latter responses mainly represent the public service workers who continued receiving their salaries during the pandemic. It is important to note that most of the residents have various professional activities, such as commerce, agriculture, transportation services, among others, which provided alternative sources of income during the pandemic. Hence, although most residents feel their job situation deteriorated (vs. before the pandemic), those alternative resources aided them to face the current situation better than for instance Tour Guides who are more dependent on tourism revenues.

As a general answer to RQ2 (i.e., *What modifications local tourism stakeholders needed to adapt to the face the pandemic period*), the study revealed that solutions were not led and assisted by tourism authorities, or by any political and economic institution. Locals, including tourism stakeholders, were left to fend for themselves.

Research Question 3: *‘What strategy do local and national tourism authorities consider sustaining tourism in the Galapagos Islands?’* Governmental regulations, prior to the pandemic, were mainly focused on environmental issues, such as zoning and fishing, and accommodations (UNESCO, 2019). Concerning the environmental impacts of the pandemic, key tourism stakeholders, among others the

Charles Darwin Research Station, revealed that although COVID-19 has contributed to less human activities related to tourism in the national park (e.g., due to the absence of scientific monitoring during the crisis), it is still unclear what exact impacts this period has left on nature. One major element was also mentioned, which is the illegal fishing activities that have increased due to the economic crisis and the lack of control in the Galapagos National Park. Undoubtedly, the sociological perspective of tourism dynamics, such as local stakeholders’ perceived experience, has been under-researched hitherto (Izurieta, 2017; Muñoz-Barriga 2020). The total of 586 semi-structured surveys with the selected tourism stakeholders clearly indicate that locals have not received any economic or social assistance to cope with the pandemic, and these stakeholders do not expect any aid from those authorities in the future.

Concerning the tourism strategy of the Galapagos Islands for the post-pandemic period, the surveyed stakeholders have a rather negative or neutral perception. The results indicate that local tourism stakeholders do not perceive any comprehensive tourism strategy or guiding principles, which have been developed and/or communicated by authorities, for the medium, or long term. This lack of proper tourism planning has been part of the tourism dynamics in the Galapagos Islands since its creation in 1959. As in many other cases, economic interest associated with the environmental aspects of the Galapagos National Park have taken precedence over the social and cultural perspectives (UNESCO, 2019; Muñoz-Barriga, 2015).

Moreover, the ongoing political instability in Ecuador, added another ingredient to the already unstable circumstances of the development of a coherent tourism strategy. Through semi-structured interviews with key stakeholders, such as Tourism Ministry, Santa-Cruz Municipality, the study revealed that tourism authorities are very dependent on political and national decisions concerning the future strategy of the Galapagos National Park, which limits the possibilities of making local decisions. Consequently, in a highly hierarchical and centralized political system, relevant stakeholders are extremely reluctant to make important decisions and/or any strategy propositions until clear instructions are given by the elected national government.

In addition, to make the context more complex, the study also underscored the fact that economic and social decisions that concerned the surveyed local stakeholders, in the past, have been short-lived and unilateral without any consultation with the relevant stakeholders. Hence, Galapagos’ residents, Tour Guides, and Hotel owners/employees lack trust in tourism and political authorities and their

decisions, which makes sustainable tourism management even more challenging (Muñoz-Barriga, 2015; Muñoz-Barriga y Maldonado, 2020).

The surveyed tourism stakeholders see the future of the Galapagos as being strongly correlated to the consequences of the worldwide pandemic. They believe the resilience will be dependent on health measures, biosecurity, and planning and savings. Interestingly, they do not speak of a better stakeholder relationship with tourism authorities, hence they do not foresee a collective strategy, rather individual adaptations to changing tourism dynamics. The following word clouds indicate the perception of surveyed stakeholders concerning the future of tourism in the Galapagos Islands (Word Clouds 1, 2 and 3).

Word Cloud 1. ‘In a 5-year horizon, how do you see the reactivation of tourism in Galapagos? (Tour Guides, Hotels and Residents)?’



Word Cloud 2. ‘Do you think Hotels will make important changes to face another crisis in the future? If yes, what changes do you think?’ (Hotels)



Word Cloud 3. ‘What alternative would you consider viable to replace tourism as a main source of income?’ (Residents + Tour Guides)



Conclusion

The global pandemic has brought about unparalleled challenges to the tourism industry in the Galapagos. The social and economic consequences of the pandemic were extremely devastating in the local tourism sector. The study revealed that the major challenges local tourism stakeholders have been facing include the lack of a sustainable strategy from tourism authorities, which mainly means three elements: the inexistence of social and economic support for tourism stakeholders during the crisis; the lack of stakeholder collaborations due to highly centralized decision-making procedures; and also, the extremely high level of mistrust among locals towards tourism authorities.

More explicitly, the present study gathered primary data concerning the complexity of the tourism sector activity in the Galapagos Islands. The pandemic revealed the tension among tourism stakeholders, and the lack of proper strategic planning in relation to the post-pandemic period. Local stakeholders feel neglected and unsupported by local and national authorities. As a result, the Galapagos Islands cannot be characterized as a sustainable destination because - despite efforts made concerning environmental conservation - other aspects of the TBL framework have been completely neglected during the pandemic.

Bibliography

- Brewington L. (2013). The Double Bind of Tourism in Galapagos Society. In Walsh S., Mena C. (Eds.), *Science and Conservation in the Galapagos Islands. Social and Ecological Interactions in the Galapagos Islands, 1*. New York, USA: Springer
- Ecuadorian Environment Ministry & Galapagos National Park Directorate. (2016). Conservation status report of the Galapagos archipelago. Paris, France: UNESCO
- Epler, B. (2007). *Tourism, the Economy, Population Growth, and Conservation in Galapagos*. Puerto Ayora, Ecuador: Charles Darwin Foundation
- De Groot, R. S. (1983). Tourism and conservation in the Galapagos Islands. *Biological Conservation*, 26(4), 291–300. doi:10.1016/0006-3207(83)90093-9
- García J.C., Orellana, D. & Araujo, E. (2013). The new model of tourism: Definition and implementation of the principles of ecotourism in Galapagos. *Galapagos Report 2011-2012*, (pp. 95-99). Puerto Ayora, Ecuador: Galapagos Conservancy
- Garcia Ferrari, S., Bain, A. A., & Crane De Narváez, S. (2021). Drivers, Opportunities, and Challenges for Integrated Resource Co-management and Sustainable Development in Galapagos. *Frontiers in Sustainable Cities*, 3, 29.
- González, J. A., Montes, C., Rodríguez, J. and, & Tapia, W. (2008). Rethinking the Galapagos Islands as a complex social-ecological system: implications for conservation and management. *Ecology and Society*, 13(2).
- Honey, M. (1999) *Ecotourism and Sustainable Development: Who Owns Paradise?* Washington, USA: Island Press.
- INEC (2022). *Ecuador en Cifras. Proyecciones poblacionales por cantón*. Retrieved from <https://www.ecuadorencifras.gob.ec/proyecciones-poblacionales/>
- Izurieta, J. C. (2017). Behavior and trends in tourism in Galapagos between 2007 and 2015. In Cayot, L. J. & Cruz, D. (Eds.), *Galapagos Report 2015-2016* (pp. 83-89). Puerto Ayora, Ecuador: Galapagos Conservancy
- Magablih, K., and Mustafa, M. H. (2018). How the "Arab Spring" Influenced Tourism and Hospitality Industry in Jordan: Perceptions of Workers in Tourism and Hospitality Business. *Journal of Tourism and Hospitality Management*. 6. 10.15640/jthm.v6n2a11.
- Muñoz-Barriga, A. (2015). La contradicción del turismo en la conservación y el desarrollo en Galápagos – Ecuador. *Estudios y perspectivas en turismo*. Volumen 24 (2): 399-413.
- Muñoz-Barriga, A. & Maldonado, G. (2020). Ecuador: the Challenges of Natural and Cultural Heritage. In C. Montecubio, K. Andriotis, & D. Styliadis (Eds.). *Tourism Planning and Development in Central and South America*. United Kingdom: CABI Publishing, 86-103.
- Muñoz-Barriga, A. (2020). Persistencias, desigualdades y vulnerabilidades en el paraíso, Galápagos. *Revista de Geografía Espacios*. Volumen 10 (20): 1-14. <https://doi.org/10.25074/07197209.20.1874>
- Observatorio de Turismo de Galápagos. (2024). Informe anual de visitantes a las áreas protegidas de Galápagos del año 2023. Retrieved from <https://www.observatorioturismo.gob.ec/arrivos-anuales>
- Pizzitutti, F., Carlos F. M. & Walsh, S. J. (2014) Modelling Tourism in the Galapagos Islands: An Agent-Based Model Approach. *Journal of Artificial Societies and Social Simulation* 17(1) 14. doi: 10.18564/jasss.2389
- Rice, P. C. (2007). Can the Galapagos survive cruise ship mass tourism. *General Anthropology*, 14(1), 8-10.

- Román, D. X., Castro, M., Baeza, C., Knab, R., Huss-Lederman, S., & Chacon, M. (2021). Resilience, collaboration, and agency: Galapagos teachers confronting the disruption of COVID-19. *The Journal of Environmental Education*, 1-10.
- Rousseaud, A., Cruz, E., Naula, E., Ramos, A., Granda, M., Calvopiña, M., Leon, P., Sanchez, D., Zapata, F., Guerrero, J., Gabriel, L., and falconi, E. (2017). Plan Galapagos: An instrument for the holistic sustainable development of the province. In: *Galapagos Report 2015–2016*, GNPDP, CGREG, CDF and GC. Puerto Ayora, Galapagos, Ecuador.
- Ruiz-Ballesteros, E., & del Campo Tejedor, A. (2020). Community-based tourism as a factor in socio-ecological resilience. economic diversification and community participation in Floreana (Galapagos). *Sustainability*, 12(11), 4724.
- Spenceley, A., McCool, S., Newsome, D., Báez, A., Barborak, J.R., Blye, C-J, Bricker, K., Sigit Cahyadi, H., Corrigan, K., Halpenny, E., Hvenegaard, G., Malleret King, D., Leung, Y-F, Mandić, A., Naidoo, R., Rüede, D., Sano, J., Sarhan, M., Santamaria, V., Beraldo Sousa, T. and Zschiegner, A-K (2021) *Tourism in protected and conserved areas amid the COVID-19 pandemic*. PARKS (27). pp. 103-118.
- Steele, P. (1995). Ecotourism: An economic analysis. *Journal of Sustainable Tourism*, 3(1), 29–44. doi:10.1080/09669589509510706
- Tindle, R. (1983). Galapagos conservation and tourism — 11 years on. *Oryx*, 17(3), 126-129. doi:10.1017/S0030605300029471
- UNESCO (2019). Galápagos Islands. Retrieved from: <https://whc.unesco.org/en/list/1/>
- Urquizo, J., Sánchez, N., Jeong, S. Y., Singh, P., Lansdale, D., & Martin, C. (2021). *Digital Technology Initiatives in Response to COVID-19 Challenges in the Galapagos Islands*. Paper presented at the 2021 IEEE Mexican Humanitarian Technology Conference (MHTC).
- Walsh, S. J., Engie, K., Page, P. H., & Frizzelle, B. G. (2019). Demographics of change: Modeling the transition of fishers to tourism in the Galapagos Islands *Urban Galapagos* (pp. 61-83): Springer.