

AN AQUAPELAGIC EVOLUTION?

Developing sustainable tourism futures in Galápagos, Ecuador

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ABSTRACT: In less than 200 years, the Galápagos Islands have experienced a fast-tracked transformation from an inhospitable archipelago to a glamorous ecotourism hot spot. Waves of extractive industries and the development of conservation and ecotourism have shaped Galapagueño communities. This article draws upon critical literature to analyse Galápagos as an aquapelagic society – wherein residents’ identities and sense of belonging are conditioned by the interconnections in and between aquatic and terrestrial spaces – dealing with rapid ecotourism development and the attendant socioeconomic and eco-cultural consequences. An initial unpacking of Galápagos histories is provided to frame the cycles of exploitation and development that have structured human life in Galápagos today. This background motivates a critique of Galápagos’ land-sea binary, path dependency on ecotourism, economic leakage, and ways ecotourism practices dissociate Galapagueños from marine spaces. Several ways forward are then presented to account for how social actors – namely the public, private, and conservation-science sectors – may pursue long- and short-term objectives to reinforce Galápagos’ future as one that promotes aquapelagic epistemologies and ontologies as well as socially and environmentally responsible development.

KEYWORDS: Galapagos, aquapelago, ecotourism, carrying capacity, path dependency

Localising the Galápagos aquapelago

The Galápagos Islands, commonly associated with Darwin’s theories of evolution and natural selection, comprise a remote Pacific Ocean archipelago 960 kilometres off Ecuador’s coast (Figure 1). International recognition of Galápagos’ natural capital, especially over the past half-century, has motivated the Ecuadorian state to (re-)zone terrestrial and marine spaces to align with conservationist and ecotourism agendas. Quiroga (2009a) explains that the Ecuadorian government established the Galápagos National Park (GNP) boundaries in 1970 while also designating 97% of the archipelago’s terrestrial spaces as protected areas.¹ In 1973, Galápagos became one of Ecuador’s 24 provinces (GNP, 2014). In 1978, UNESCO inscribed Galápagos as a World Heritage site and later, in 1984, as a Biosphere Reserve. In 2001, Galápagos’ World Heritage status was extended to include the Galápagos Marine Reserve (GMR) (CDF, 2009).²

¹ The Ecuadorian government officially established the GNP in 1959, however, the park’s boundaries were not delimited until 1970 after efforts to evict some farmers from their land (Quiroga, 2009a).

² Piu (2011) points out that the GMR covers an area of 135,000 square kilometres, making it the world’s second largest marine reserve, after Australia’s Great Barrier Reef. The GMR is recognised by a perimeter



Figure 1 – Map of Galápagos in relation to Ecuadorian mainland (Beautiful World, 2020)

The short-term crafting of Galápagos into what Quiroga (2009a) describes as a “natural laboratory” is an impressive feat – and has stimulated a booming ecotourism industry heralded as a ‘green’ alternative to extractive economies such as large-scale fishing. Yet, it is not uncommon for global (and Ecuadorian national) tourists to voice their surprise when learning that a population of permanent residents reside within the GNP boundaries. Ecuador’s National Institute of Statistics and Censuses’ (NISC) (2010) most recent national census calculated the official Galápagos population at 21,067 with over 90% living on two of fifteen main islands – Santa Cruz Island (population 12,630) and San Cristobal Island (population 6,405) – which also contain the largest residential, commercial, and conservation centres.³ NISC’s (2015) Galápagos census calculated the permanent resident population at 25,244.⁴ Permanent Galápagos residents – commonly referred to as Galapagueños – sustain the thriving ecotourism industry by providing labour for terrestrial, island-hopping, and luxury cruise-boat tourism. In 2018, the industry recorded 275,817 total tourist entries, the highest ever annual total and a 14% increase from 2017 (GNP, 2020).

The archipelago is situated at the point of convergence of three main ocean currents – the cold Cromwell current from the west, the cold Humboldt current from the southeast, and the warm Panama current from the north (Piu, 2011). Movements caused by these currents correspond to Gupta and Ferguson’s (1992) figurative notion of the flows and counter flows of people and ideas – flows that occur from outside into, and also within, the archipelago. The metaphor is important for perceiving Galápagos since it allows one to include people

located 40 nautical miles around the archipelago’s ‘baseline’, determined by circling the furthest points of the archipelago.

³ The remaining reported population of 2,032 live on Isabela Island. NISC’s (2010) official census accounts for no human populations on Floreana and Baltra islands, even though small populations are found there. Also, residents report Galápagos actual population to be higher than NISC’s reported 2010 figures due to flows of undocumented migrants or laborers whom have overstayed their work visa allowances and settled in the archipelago.

⁴ Population figures per island were not reported.

who reside and migrate there, includes the natural capital, and, more importantly, serves as a bridge to aquapelagic literature such as Hayward's (2012: 5) framing of 'aquapelagos' as assemblages of "the marine and land spaces of a group of islands and their adjacent waters." To be clear, the 'aquapelagic' lens offers more than a geographic conflation of landscapes and seascapes. This article argues that rethinking Galápagos' institutional project of ecotourism development from an aquapelagic perspective elevates dialogue on environmental justice, social equity, and permanent residents' identities and sense of belonging⁵ in and across Galápagos' marine and terrestrial spaces.⁶ This conceptual shift is important considering Galápagos' temporary inclusion on UNESCO's list of World Heritage sites in danger (2007-2010) – a recognition that according to González et al (2010) signals that the archipelago's economic development is incompatible with conservationist interests.⁷ Rethinking Galápagos as an aquapelago also offers new pathways to approaching Galápagos' conservationist agendas and economic production, which are essential considering Galapagueños' excessive dependency on tourism revenue and the attendant social discord (primarily among artisanal fishermen) stemming from authorities' (re-)zoning of protected and productive areas.

This reconceptualisation of Galapagueño realities is folded into global critiques of overtourism (eg World Tourism Organisation, 2018). Galapagueños' long-term socioeconomic and eco-cultural futures are uncertain, especially when considering what appears to be an unsustainable tourism growth rate and the attendant threats to Galápagos' ecological carrying capacity. Hayward's (2012: 5) notion of aquapelagic societies is thus a meaningful conceptual framing, which he describes as "a social unit existing in a location in which the aquatic spaces between and around a group of islands are utilised and navigated in a manner that is fundamentally interconnected with and essential to the social group's habitation of land and their senses of identity and belonging." It is therefore essential to critically review Galapagueños' geospatial and socioeconomic freedoms within the aquapelago. For example, Moity's (2018) evaluation of the GMR's 2000-implemented zoning plan affirms that the intersection of subzones (eg conservation, tourism, artisanal fishing) in the Bolivar Channel has produced issues of compliance and enforcement.⁸ The jockeying for use of the Bolivar Channel highlights the kind of geospatial debates wherein stakeholders vie for use of natural spaces in a shifting eco-political landscape. Such disputes are at times contentious since traditionally open-access spaces have been converted to regulated protected areas. Valdivia et al's (2014: 690) geographic analysis of resituating borders in Galápagos' nature conservation describes such 'borderland spaces' as sites where "humans (and nonhumans) negotiate, resist, accommodate, and cross borders in ways that disrupt the modernist compulsion for order" and reflect economic drivers. This article extends such

⁵ This article explores opportunities for local stakeholders to rethink the ecotourism project and its impact on social communities from an aquapelagic perspective. Future scholarship may instead use 'aquapelagic' as a heuristic to substantiate local knowledge systems that negotiate the geospatial divides that are ritualized and institutionalised since conservation regulations and ecotourism practices dissociate most local residents from terrestrial and marine protected areas.

⁶ While the author's ethnographic research (eg Burke, 2012; Burke 2016) explores Galapagueño identities and aspirations in the tourism and fishing sectors, this article does not set out to unpack change in local epistemologies and ontologies over time (eg Ahassi, 2007; Ospina, 2001a; Ospina, 2001b; Ospina, 2005).

⁷ In 2007, Ecuadorian president Rafael Correa declared Galápagos at risk, emphasising the need to conserve the archipelago's ecosystems. In the same year, UNESCO listed Galápagos as an endangered heritage site – while the World Heritage Committee removed Galápagos from the list of precious sites endangered by environmental threats or overuse in July 2010 (CDF, 2009: 6).

⁸ The Bolivar Channel is located between Fernandina Island and Isabella Island in the aquapelago's northwestern sector.

inquiry by exploring how Galápagos' ecotourism project in and across protected marine and terrestrial areas reinforces what Valdivia et al (2014) describe as two incommensurable spaces: the 'protected' and the 'productive.'

In this light, several key questions emerge. How does the development and maintenance of protected areas (to align with conservationist and ecotourism agendas) enable and disable Galapagueños from envisioning an aquapelagic future? How does shifting from an archipelagic to aquapelagic understanding of Galápagos enable the GNP to address an apparent land-sea binary in its management plans and require the institutional ecotourism project to reimagine how local epistemologies and ontologies are featured in the ecotourism experience? What are the structural conditions necessary for Galapagueños to cultivate and sustain livelihoods, aquapelagic identities, and a sense of belonging in and throughout the islands and adjacent waters? The article also calls into question Galápagos' ecotourism dependency and revenue sharing. What is a sustainable ecotourism growth rate? How and to what extent are Galapagueños featured as protagonists in the ownership and operation of the ecotourism industry? How is tourism revenue circulated within the Galapagueño 'social unit' in order to 'green' current tourism infrastructure and to develop educational institutions and cultural heritage? To make sense of these kinds of questions and to address key issues of socioeconomic and ecological well-being, a brief history of exploitation over time is offered to establish a baseline of how to understand the Galápagos aquapelago as an evolving social unit influenced by waves of exogenous economic drivers.

Cycles of Exploitation and Development

The exploitation of the Galápagos aquapelago's natural resources has been fast-tracked, considering the archipelago's frequent recognition as the planet's last colonised space. The archipelago's history of human presence is relatively brief, all of it being within the last five centuries. This article adopts and adapts González et al's (2008) four-part periodisation, and adds 'Overtourism' as a fifth period, to construct an initial synopsis of noteworthy people and events that have preceded Galapagueños' current dependence on ecotourism: (i) Discovery and Extractive Exploitation, (ii) Colonisation, (iii) Conservation and Tourism, (iv) Development of Conservationism, and (v) Overtourism.⁹ At the time of its publication, González et al's (2008) article unpacked the controversy between two distinct archipelagic futures in Galápagos: a static approach to satisfy conservationist goals and a dynamic approach to accommodate residents' economic needs and local authorities' development aspirations. The authors advocate a socio-ecological systems approach to dealing with Galápagos' social and environmental problems, which disrupts the pre-existing normative approaches reliant on sectoral perspectives. In the same way, this article turns to a historical periodisation of human presence in Galápagos' marine and terrestrial spaces in order to subvert the dominant land-sea binary framework used to govern the archipelago – and to offer in its place a comprehensive and integrated aquapelagic framework that addresses Galápagos' socio-ecological futures across and in both marine and terrestrial spaces.

The first era of human presence is Discovery and Extractive Exploitation (1535-1832). The earliest corroborated evidence of Galápagos' discovery dates to the March 1535 arrival of the

⁹ González et al's (2008) summary of major historical periods informs their writing on the self-organising capacity of Galápagos as a social-ecological system (SES). This article builds upon that historical mapping. Three of the four historical period titles have been modified and 'overtourism' is introduced to account for the ecotourism boom (era) since their 2008 publication.

fourth Bishop of Panama, Tomás de Berlanga. Knowledge of environmental resources available in the islands (eg water, fresh meat, wood, safe anchorages, fish and whale populations) set in motion a series of cycles of extractive environmental exploitation, beginning with piracy, then whaling, and later succeeded by colonisation and ecotourism. European pirates were reportedly among the first to learn of Berlanga's journey and navigational charts. Galápagos proved a safe anchorage where firewood and food were easily located.¹⁰ Whalers comprised a second wave of extractive exploiters wherein Pacific Ocean whaling networks established an important hub in and around Galápagos (Grenier, 2007: 75, 77). Even so, some historians believe that Galápagos' isolation, harsh environment, and freshwater scarcity precluded development of permanent human settlement during these centuries (González et al, 2008: 3). Colonisation was neither sustainable nor desirable without significant access to resources exogenous to Galápagos. Early use of the archipelago nonetheless presaged: (i) subsequent large-scale exploitation of natural resources; (ii) pathways for subsequent migrations of people to and within Galápagos; and (iii) today's exploitative ecotourism practices.

The second era of human presence in Galápagos marks the beginning of Colonisation (1832-1959) and symbolises a change in Galápagos' economic path dependency. The second major historical period began with Ecuador's 1832 annexation of Galápagos and continued with subsequent efforts to colonise select spaces permanently. This era can be said to have lasted until the next significant historical shift – which, González et al (2008: 3) suggest, commenced with the 1959 founding of the GNP, the Charles Darwin Foundation (CDF), and the Charles Darwin Research Station (CDRS). However, colonisation efforts in Galápagos are unlike other colonial histories – such as the Comaroffs (1991, 1997) detailed accounts of Christian missionaries' civilising mission in South Africa between 1820 and 1920, and Acemoglu et al's (2014) account of European powers establishing neo-European colonies (eg Australia, New Zealand, Canada, and the USA) and extractive states (eg the Belgian colonisation of the Congo, the Spanish and Portuguese colonisation of Latin America). The type of colonisation that occurred in Galápagos was a type of settler colonialism, but one that did not involve imposing on an already present population. Galápagos colonisation involved translocating whole groups of people from continental Ecuador as was the case with Villamil's settlement attempt on Floreana Island in 1832 and later with Cobos' 1879-established colonial station on San Cristobal Island (Latorre, 1999). Many colonists worked temporarily for the US military when a US base was built during World War II. Most of the one thousand earlier settlers reverted to subsistence farming following the war's end. Galápagos' early colonial stations in the highlands thus reflect the kind of 'human in nature' distinction common to Archipelago Studies literature wherein human existence is informed by land-sea and island-continent binaries (Hayward, 2012). US occupancy during the war provided residents with an airstrip, which offered an easier means of access from abroad than had been the case earlier, and it has since proven particularly valuable for the tourist trade today. While in the 1930s and 1940s conservationists accumulated economic and political resources, by the late 1950s, the Ecuadorian government established Galápagos as a national park, signalling that what it had previously seen as a wasteland where life was difficult,

¹⁰ Consequently, English pirates were the first group to plunder Galápagos' natural resources significantly. Sailors' desire for fresh meat led to mass tortoise harvesting; within the first 200 years, pirates had captured and killed more than 200,000 tortoises (Latorre, 1999: 16). Giant tortoises, endemic to the archipelago, could survive for up to a year when stacked upside down in a ships' galley. Today, there are no such tortoises on certain Galápagos Islands, having been rendered extinct by pirates, whalers, and colonists' exploitation.

actually had potential to offer international esteem as well as lucrative and stable financial benefits via tourism (Quiroga, 2009a).

The third era of human involvement is Conservation and Tourism (1959-1998). Environmental conservation efforts preceded Galápagos' tourism boom. The Ecuadorian government, assisted by UNESCO, established the GNP in response to pressure from international environmentalist organisations to protect non-colonised spaces. The GNP's partnership with the CDF¹¹ – an international scientific organisation based in Belgium and created both to conduct research in Galápagos and to “advise national authorities regarding the conservation and management of the islands” (author's translation from Spanish) – resulted in the establishment of the CDRS on Santa Cruz Island (Grenier, 2007: 123-124; Quiroga, 2009b: 48).

Tourism to Galápagos became a formal industry in 1969 when the government selected Metropolitan Touring (MT) as an exclusive tour operator to build a commercially viable ecotourism industry targeting foreign tourists.¹² Ultimately, those integral to conservation and ecotourism growth during this period achieved their wishes. Conservationists' pressure led to the CDF's establishment of the CDRS; the CDRS, in collaboration with the Ecuadorian government working through MT successfully introduced commercial tourism to Galápagos – an industry created to fund CDRS conservation efforts at the time, and one that has since grown to become Ecuador's most lucrative income generator today (eg Honey, 2008; GNP, 2014), with international tourists (largely from North America and Europe) visiting Galápagos' isolated natural capital with relative ease. Growth in both environmental conservation and tourism, while always interconnected, grew independently of one another until the 1990s when growing tourist inflows began to threaten Galápagos' environmental integrity and to prompt interest in notions of ecotourism that might allow the conservation and tourism industries to coexist without one compromising the other's future. Therefore, while tourism in and throughout Galápagos' natural spaces grew in its early years as fame of the archipelago's marine and terrestrial biodiversity spread internationally, the aquapelago's tourism practices can now be folded into the global ecotourism project (also referred to as 'green' travel). Ecotourism is promoted on the global scale to serve as a 'healthy growth model' alternative to mass tourism since the nexus of tourism and conservation is nearly ubiquitous today. In this light, Honey (2008: 4) explains that ecotourism has been regarded as a global panacea for economic precarity – a tool to fund conservation-science, to promote development of rural communities and poor countries, and to cultivate both environmentally responsible behaviours (see Forsyth et al, 2015) and eco-cultural sensitivity among travellers and the tourism industry, among other benefits. However, a complex reality reveals there are limits to ecotourism's promises both globally and in Galápagos.

¹¹ The CDF (2011), established in Brussels on July 23, 1959, defines itself as “an international not-for-profit organisation that provides scientific research and technical information and assistance to ensure the proper preservation of the Galápagos Islands . . . The Charles Darwin Foundation is registered in Belgium as an International Non-Profit Association (AISBL, abbreviated in French) under the number 371359 and is subject to Belgian law.” The CDF is solely responsible for conservation of the islands' natural environment (Grenier, 2007). Consequently, it may be argued, listing the CDF as an NGO (nongovernmental organisation), disguises the intrusion of a foreign organisation, albeit not government funded, directed or managed, in issues of Ecuadorian national and provincial sovereignty.

¹² Grenier (2007:146) comments that commercially sponsored organisational partnerships by early tourism developers meant, “The publicity of the visitors that MT would carry to the archipelago would contribute funds to the CDF: so, the financing of conservation through tourism, one of the objectives of ecotourism, was implanted in the Galápagos much before its invention in the 1980s” (author's translation from Spanish).

The fourth historical era is The Development of Conservationism (1998-2010). Tourism growth, beginning with MT's first Galápagos boat-based tours in 1969, has led to a steep increase in environmental degradation, and a resulting tipping point has been reached between the balance of ecotourism growth and environmental sustainability (Tapia et al, 2009). At the end of the 20th Century, studies focused on social welfare and the increasing insular population led Galapagueños and environmentalists to realise an apparent need to change tourism practices and to seek future sustainability for Galápagos ecotourism (Quiroga, 2009b: 57). This realisation marked a dramatic shift in philosophy regarding tourism and its governance and environmental conservationism in Galápagos. This shift occurred in 1998 with a presidential decree and was followed by subsequent ratification by Ecuador's Congress of the Galápagos Special Law¹³ (GSL) (González et al, 2008: 6) and later followed by the GNP's 2005-implemented Management Plan that introduced groundbreaking reforms to the management of protected areas.¹⁴ GSL's institution, among other objectives, signalled the Ecuadorian government's political commitment to what came to be described as sustainable tourism that would partner scientific and social investigations with tourism administration. GSL's implementation soon introduced change in Galápagos as it "became a key legal instrument that granted the province special status, including severe migratory restrictions" on people from continental Ecuador settling there (González et al, 2008: 6).

The fifth and current era of human involvement is Overtourism (2010-Present). Annual tourist entries to Galápagos had increased each year from 1992 until the 2008 global financial crisis. After a one-year decline, annual tourist entries picked up in 2010 and soared to a record high in 2018 of 275,817 tourist entries, raising concern regarding overtourism and strain on the aquapelago's natural capital (GNP, 2020). The year 2010 marks Galápagos' economic recovery from the 2008 global financial crisis and the decade that followed (2010-2019) symbolises further entrenchment in its ecotourism dependency. The global COVID-19 pandemic and attendant social distancing measures in 2020 precipitated wide-reaching travel restrictions and, ultimately, a global recession. Ecuadorian local and national authorities took action in March 2020 by freezing travel to and tourism within Galápagos' urban and natural spaces. It remains unclear how and to what extent, if at all, Galápagos' ecotourism industry will return to its pre-COVID-19 'overtourism' status and compound annual growth rate in tourist entries (5.1% from 2010-2019) (GNP, 2020). However, 'overtourism' is a subjective construct and commonly linked to perceptions of a destination's carrying capacity. For instance, the Responsible Tourism Partnership (RTP) (2019) defines overtourism as "destinations where hosts or guests, locals or visitors, feel that there are too many visitors and that the quality of life in the area or the quality of the experience has deteriorated unacceptably." This conceptual framing is especially meaningful for small-scale aquapelagic economies dependent on tourism – such as Galápagos – when considering Nash's (2016: 2) recognition of islands "as small-scale social groups where cultural interactions are densely intermeshed." Therefore, while the RTP's perception-based definition complicates agreement on an official start to overtourism in Galápagos – since many hosts and guests argue that overtourism began years or decades prior – the 2010-2019 decade symbolises a new tourism upsurge wherein the attendant impacts on local

¹³ GSL is a colloquial reference to the law, which is officially titled 'Ley Orgánica de Régimen Especial para la Conservación y Desarrollo Sustentable de Galápagos.'

¹⁴ Chávez and Viteri (2007) account for GSL, its legitimacy, its effect on local participation in the ecotourism industry, and its compliance with the GMR.

ecosystems outpace local investment in environmental conservation and cultural development.

The utility of this historical backdrop serves multiple ends. First, it provides an overview of events and processes that have contributed to contemporary circumstances for human life and economic futures in Galápagos. Second, it establishes a framework in which to critique how exogenous economic interests (such as the interplay between ecotourism and conservation) have: (i) embedded a binary land-sea disposition, (ii) established residents' dependency on ecotourism as a dominant economic sector, (iii) crept into local politics and reaped financial benefit via 'economic leakage' and social stratification, and (iv) made permanent residents dependent upon marine ecotourism yet are dissociated from the sea. The next section draws upon the author's primary research (eg Burke, 2012; Burke, 2016) on sustainable tourism practices (2006, 2010-12, 2017-2019) and artisanal fishing (2013-2016) to unpack these four issues in relation to the management of natural capital and ecotourism development.¹⁵

Key Issues with Ecotourism Growth in Galápagos

Key Issue #1: Transcending Galapagueños' embedded land-sea binary disposition

Galápagos' sociocultural development has not followed the pattern of traditional archipelago settlement. As noted, Galápagos colonists established highlands stations and largely developed interdependencies with terrestrial ecosystems. They thereby have an *insular condition* and a *connectivity* to their finite terrestrial resources and a disconnection from marine environments. Such disconnection is evident in Galapagueños' terrestrial orientations – and highlights a dissimilarity with ways Polynesian wayfinders, such as those navigating to and settling in the Hawaiian archipelago, maintain a dependency on marine ecosystems, as well as ways of knowing and interacting in and with the sea. As an example, Ingersoll's (2016: 1) "seascape epistemology" is an enriching departure from land-based geographies in Hawai'i, wherein she writes, "[w]hen I enter the ocean, my indigenous identity emerges," reflecting that her Hawaiian indigeneity is informed by an embodied literacy of the ocean. Conversely, early Galapagueño colonists developed terrestrial epistemologies amid the rugged, harsh conditions of subsistence living.

The colonial-inspired land-sea binary that divided human interaction with Galápagos' landscapes and seascapes became further entrenched by the GNP's implementation of geospatial divides: the GNP in 1959 and the GMR in 1998. While these conservation milestones received international acclaim for escalating the preservation and protection of ecosystems, the 39-year gap suggests a considerable technocratic delay in identifying the value of marine spaces in Galapagueño ontologies. To its credit, the GNP has worked to dissolve the geospatial land-sea binary via its protected areas management structures –

¹⁵ The 2016 dissertation draws upon ethnographic data to explore how artisanal fishermen (i) deal with the local managing authorities and the enterprise of sustainability that disturb their daily lives on land and at sea, (ii) situate themselves within co-management processes, and (iii) enact performativities that allow them to deal with their precarious livelihoods by remaking, challenging, and subverting 'sustainability' in an effort to remain relevant in Galápagos' evolving eco-political landscape. The 2012 project presents ethnographic research conducted throughout the aquapelago aboard a catamaran, which led to the conclusion that Galápagos' cruise-boat tourism compromises the GNP's capacity to practice and regulate its own notion of 'sustainable tourism.'

initially in the 2005-implemented Management Plan and most substantially in its 2014-implemented Management Plan (Honey, 2008: 129; GNP, 2014). The latter recognises terrestrial and marine spaces as interdependent, demonstrated by its conceptual mapping of pressure points in which an interrelated management approach – transcending the land-sea binary – is necessary to mitigate the impact of extractive industries (eg tourism, fishing) on at-risk ecosystems (GNP, 2014: 89).

Such policy development suggests the GNP's institutional shift from an archipelagic to an aquapelagic mindset, consistent with Hayward's (2012: 5) recognition of aquapelagic states as including the "territory and human experience of an intermeshed and interactive marine/land environment." Yet, while the GNP's 2014-implemented Management Plan exhibits a maturing awareness of ecosystem interdependencies, the document's scope does not provide a detailed assessment of the GNP's 'aquapelagic turn' and engagement with local communities, as well as the socialisation and perceived impacts of the management plan. This disjuncture prompts several critical questions for future research. First, how are Galapagueños' ways of knowing changing, and how and to what extent, if at all, do they understand their identities as 'aquapelagic'? Second, how does the GNP's new integrated system of zoning natural landscapes and seascapes enable or restrict permanent residents' access to natural resources – and what are the sociocultural and socioeconomic concerns that arise with such zoning modifications? Third, how and to what extent do the GNP and other State-sponsored institutions envision conditioning permanent residents to embody an aquapelagic mindset who, for the most part, have relocated to Galápagos within the past three generations and infrequently perform the embedded dispositions common among long-standing residents in more traditionally-recognised aquapelagic states, such as Hawai'i and Hayward's (2012) signalling of Indonesia and Japan?

Key Issue #2: Path Dependency on Ecotourism

Galápagos' brief anthropogenic history reveals a vicious cycle of one exploitive industry after another (eg whaling, colonial agricultural stations, fishing, tourism) harming natural landscapes and seascapes. Amid this vicious cycle, Galápagos' artisanal fishermen now find their livelihoods put at risk by GMR zoning measures that prioritise ecotourism and conservation expansion over fishing (Burke, 2016). This marine zoning dispute over common pool resources resonates with Fleury's (2013: 3) recognition of the global complexity in which users and State actors negotiate the "traditions, preoccupations, priorities and strategies" of fishing resources in community waters. Yet, while artisanal fishermen's periodic protests in port towns continue to illustrate resistance to marine zoning measures and fishing bans, many Galapagueños are slowly recognising the magnitude of tourism growth and the imminent threat of market saturation.

What, then, is a healthy growth model to ensure that ecotourism does not become yet another of Galápagos' failed extractive industries? Wood's analysis of the economic development of tourism in emerging economies provides a metric in which to evaluate economic transitions among island economies:

Fisheries, once the mainstay of island economies, are under severe threat worldwide. Tourism is often the only vibrant and growing source of hard cash coming across their borders, and they are increasingly desperate for the deals required to make more tourism companies take an interest. But once tourism becomes more than 25% of an export economy, island states are on the road to dependency. (2017: 96)

Wood's evaluation of island economies' dependency on tourism elicits critical questions – or analysis under what Nash (2016: 2) describes as “the aquapelagic assemblage microscope” – about Galápagos' socioeconomic present and future.

A first question is how and to what extent has Galápagos become dependent on ecotourism as a replacement for fishing and agricultural production? According to Honey's (2008: 131) study of Galápagos' ecotourism industry before the 2008 global financial crisis, “tourism services—both boat and on land—provide an estimated 71 percent of the ‘gross island product’ and generate one-third of all tourism revenues earned by the Ecuadorian government.” This 2008 figure (71%) indicates that ecotourism in Galápagos had eclipsed Wood's (2017) tourism dependency threshold (25%). In the year of Honey's 2008 publication, the GNP (2019) reported 173,419 tourist entries (119,951 foreign and 53,468 national). Tourist entries dipped 6% the following year (2009) amid a global recession (GNP, 2019). Since then and leading up to the current 2020 global COVID-19 pandemic (2010-2019),¹⁶ the compound annual growth rate of tourist entries (173,297 to 271,238) was 51% (GNP and GTO, 2019; GNP, 2020).¹⁷ The average compound annual growth rate over that span (5.1%) exceeds the World Tourism Organisation's (WTO) (2018: 4) forecasting of the global tourism industry to increase 3.3% annually until 2030.¹⁸ These data collectively inform that Galápagos' tourism industry has far surpassed Wood's (2017) tourism dependency metric for island economies and outpaces the WTO's (2018) global tourism projections. These data thus raise concern that Galápagos' tourism growth is unsustainable over the long-term without considerable development in conserving the aquapelago's natural capital.

A second question is do Galapagueño institutions recognise tourism dependency as an issue? The GNP's 2014-implemented Management Plan (GNP, 2014: 35) provides a ‘triple-bottom-line’ assessment (eg economic, environmental, social) of tourism growth, suggesting that the industry has impacted positively on the local economy, negatively on the archipelago's natural heritage, and that a lack of higher education opportunities in the islands has led permanent residents to secure menial labour in the tourism market, which the GNP identifies as close to saturation. Despite projections of a saturated tourism market and a series of recent moratoriums (discussed in the next section) intended to restrict tourism infrastructure development, the Management Plan suggests that when considering Galápagos' future, “conservation is not possible without development, nor development without conservation” (author's translation from Spanish) (GNP, 2014: 35). Yet, finding such equilibrium is problematic – especially when considering that Graham Watkins, former CDF Executive Director, described the Galápagos situation in a 2008 interview with the *New York Times* as “an unsustainable model of development” (Honey, 2008: 126). While achieving

¹⁶ The GNP (2020) reported that tourist entries grew between 6-14% in six out of the past 10 years (2010-2019). The industry experienced a double-digit compound annual growth rate increase in entries during three of those years: 2013 (13%), 2017 (11%), and 2018 (14%).

¹⁷ The GNP (2020) uses a compound average growth rate formula to calculate its annual tourist entry figures: 51% from 2010-2019, and a 5.1% annual average increase over that span. These figures increase to 56.5% and 5.7%, respectively, when using a standard arithmetic percent change formula – and suggest that Galápagos' ecotourism growth surpasses the WTO's (2018) global forecast of tourism growth (3.3%) beyond the GNP's (2020) reported figures.

¹⁸ The WTO's annual growth forecast (3.3%) provides a meaningful comparison to the GNP's (2020) reported 5.1% compound annual growth rate. However, the GNP's data strictly account for annual tourist entries and do not represent tourists' average trip duration and daily spending. Therefore, while a direct comparison cannot be made, the 5.1% growth rate from 2010-2019 nonetheless suggests a significant outpacing of the WTO's worldwide tourism growth projection.

equilibrium in developing Galápagos' economic industries and conservation measures has proved difficult, issues related to social stratification and revenue distribution have proven equally troublesome as described in the following section.

A third question is how does a critical assessment of socioeconomic development and social welfare in continental Ecuador contextualise the relationship between two competing futures in Galápagos: (i) developing agriculture and artisanal fishing to bolster food security and protect traditional livelihoods, and (ii) escalating a dependency on cruise-boat and island-hopping tourism as a means to finance local infrastructure development? At the national level, agricultural exports traditionally have powered Ecuador's continental economy. But, while the Correa presidency's (2007-17) reliance on oil extraction initially enabled heavy public spending and infrastructure development, the 2014-2016 global collapse in oil prices pushed Ecuador into a recession and, ultimately, austerity measures.¹⁹ Ecuador's unsustainable economic tethering to oil revenue led to violent clashes between citizens and the State, most recently in October 2019, resulting in nationwide strikes and the deaths of several protestors (Weissenstein and Solano, 2019; Ramírez and Vyas, 2019). The violent demonstrations exposed the sociopolitical instability and social precarity in continental Ecuador, and hindered tourist entries to Galápagos in October 2019 (*El Nuevo Herald*, 2019). These waves of social resistance highlight Ecuadorians' widespread dissatisfaction with the government's economic dependency on extractive industry, concerns with wealth distribution, and the attendant precarity distributed to local communities. The situation of civil unrest on the national scene may very well foreshadow Galapagueños' opposition to economic challenges that arise from tourism development, such as the provincial government's struggle to develop food security (eg fishing, agriculture) while protecting these traditional livelihoods, as well as tourism's exploitation of natural resources and exclusionary ownership models. A deeper dive into the relationship between Galápagos' path dependency on ecotourism and exclusionary ownership practices requires analysis of social stratification and economic leakage.

Key Issue #3: Social Stratification & Economic Leakage

As noted, Galápagos welcomed over 275,817 tourists in 2018 – its highest recorded annual total and nearly 11 times greater than the 25,244 permanent residents reported in the 2015 Galápagos census (GNP and GTO, 2019; NISC, 2015). Yet, many aspiring Galapagueño entrepreneurs voice dissatisfaction with ecotourism affairs, especially when considering the GNP Tourism Administration's (GNP-TA) role has been:

to promote sustainable tourism in protected areas of Galápagos with a regional perspective that ensures the conservation of ecological integrity and biodiversity for the archipelago, and to contribute to an equitable socioeconomic development and solidarity of the local population. (GNP, 2011: online).

While most residents acknowledge conservation gains, concerns remain about the insular condition of socioeconomic equity and advancement. First, many aspiring entrepreneurs worry about their apparent exclusion from ownership stakeholds in land- and sea-based ecotourism ventures. Second, they collectively lament that tourism profits generally benefit a minority group of residents who commonly have foreign investors financing hotel and

¹⁹ Stocker et al (2018: 51) recognise the 2014-16 global collapse in oil prices as the largest in modern history' and one that failed to yield an expected upswing to global growth.

cruise-boat operations. Third, aspiring entrepreneurs generally reject state-imposed moratoriums on tourism infrastructure development, such as the 2009-implemented moratorium on touristic boating permits, the 2013-implemented moratorium on the construction of new tourism accommodation infrastructure (eg hotels, hostels, AirBnB units), and the 2014-implemented reform to the pre-existing moratorium on vehicle entries to Galápagos (GNP, 2016; Ministry of Tourism, 2014; Governing Council of Galápagos, 2014).²⁰ Local authorities have upheld these moratoriums despite steady increase in annual tourist entries.

This scenario indicates that Galápagos' ecotourism industry apparently (i) restricts social mobility in tourism hierarchies and alternatives to exogenous ownership, (ii) enables foreign ownership and widespread economic leakage, and (iii) contributes to a future in which ecosystems and livelihoods face the uncertainty of institutional tourism policies and allowances. These conditions also suggest that the GNP-TA has not achieved its 'sustainable tourism' goal of contributing 'to an equitable socioeconomic development and solidarity of the local population.' In this light, a brief unpacking of social stratification and economic leakage is provided to examine issues associated with Galápagos' socioeconomic development.

Emerging economies commonly look to tourism as a panacea for economic precarity (Wood, 2017). Such is true in Galápagos where tourism growth has served to fund conservation (Grenier, 2007). This shift has involved prioritising cruise-boat and island-hopping tourism over agricultural and extractive fishing. Honey (2008: 132) recognises that, as a consequence, "farming is no longer able to compete with earnings from other occupations" due, in part, to a breakdown in market linkages between farmers and the floating hotels. This market linkage is essentially nonexistent, since most goods servicing the floating tourism fleet are imported by ship or plane. This supply chain breakdown has motivated many farmers, cattle ranchers, and artisanal fishers to deliberate the pros and cons of a livelihood change to tourism. This kind of vocational pivot might very well seem reasonable if the GNP-TA were to promote a 'bottom-up' tourism development model that produces equitable socioeconomic development as reflected in successful case studies such as Agrusa and Albieri's (2006) analysis of community-controlled tourism in Prainha do Canto Verde, Brazil. However, the apparent fears of market saturation and unregulated infrastructure development contributed to the Galápagos government's moratoriums on tourism development (eg vehicles, accommodation construction, and touristic boating permits), which has precluded ownership opportunities for most residents and instead relegated them to menial jobs in tourism services. A consequence is that many Galapagueño entrepreneurs struggle to achieve social mobility, as well as to inspire generative tourism practices similar to the kind of generative economy that Kelly (2012: 11) describes as having, "a built-in tendency to be socially fair and ecologically sustainable."

Another issue is that a vicious cycle of widespread foreign investment and economic leakage has maintained social stratification and inequity in Galápagos for decades. Chambers' (2010: 35, 79) anthropological study of tourism identifies that the leakage of economic benefits out of the local economy is acute in some island regions and is understood as the "amount of economic gain from an activity that is likely to leave the region or country," which also occurs in payments for the importing of tourism goods (eg building materials, vehicles, petroleum

²⁰ Local authorities routinely modify or extend these moratoriums without much notice. This uncertainty makes it difficult for Galapagueños to take out loans for tourism ventures with the confidence that they will be allowed permits in boating, accommodation, and transportation markets.

products). Although economic leakage is likely inevitable in Galápagos when considering its geographic isolation, and international tourists' demand for luxury goods and foods that are not produced locally, it is worthwhile to pose critical questions.

First, how much leakage is standard for cruise-boat dependent industries worldwide? Wood (2017: 250) suggests that “economic leakage from cruise lines hovers in the 50% area.” But, Galápagos' cruise-boat fleet is mostly comprised of 16-passenger yachts and catamarans, unlike the mega cruise liners that traverse international waters as often described in large-scale cruise-boat tourism literature (eg Cashman, 2013). It is thus important to consider the ownership of Galápagos cruise-boat fleet. Taylor's (2006) economic study of Galápagos found that Ecuadorian nationals and foreigners owned 55% and 6.5% of all vessels in 2005, respectively.²¹ The 2009-implemented moratorium has in most cases precluded local residents from carving out a stakehold in the cruise-boat market and has essentially frozen a model of exogenous ownership.

Second, what is the history of economic leakage in Galápagos tourism over recent decades? For starters, Honey's (2008: 131-2) surveying of 1993 tourist expenditures in Galápagos found that “92 percent of the tourist dollar was spent on floating hotels, and only 8 percent on day boats and land-based hotels” and that in 2000 “just 15.1 percent of the foreign expenditures stayed in the Galápagos local economy, compared to 95.2 percent of the money spent by Ecuadorians.” On one hand, these figures are alarming when considering a backdrop in which (i) foreign tourists' expenditures remained in Galápagos 80% less than Ecuadorian tourists' expenditures, (ii) foreign visitor entries have roughly doubled national visitor entries numbers dating back to 1990, (iii) non-Galapagueños own the majority of cruise-boats, and (iv) economic leakage in Galápagos is greater than figures reported in Wood's (2017) analysis of the global cruise line industry. On the other hand, these data rank higher than the United Nations Environment Programme's (UNEP) reporting on the global scale that “of the \$100 spent on a vacation tour by a tourist in a developed country, only \$5 remains in a developing country economy” (Wood, 2017: 96). Therefore, economic leakage in Galápagos is certainly a significant concern, and the situation is not much better than that of other emerging economies globally.

Key Issue #4: Galapagueños are dependent on, yet dissociated from, the sea

Galápagos' turn to small-scale cruise-boat tourism has achieved a dual purpose: connect ecotourists to diverse and remote preserved spaces, and conserve natural spaces by regulating the flows and pathways of tourists in and throughout the aquapelago. While this tourism model has produced lucrative financial returns for investors (and widespread economic leakage), it has complicated Hayward's (2012: 5) conceptualisation of an aquapelagic society in which marine spaces are “fundamentally interconnected with and essential to the social group's habitation of land and their senses of identity and belonging.” That is because Galápagos' ecotourism model has produced a paradoxical reality in which many Galapagueños have become increasingly reliant on tourism revenue generated in and throughout the aquapelago's seascapes yet find themselves increasingly disconnected from knowing and interacting with those very seascapes.

²¹ The 1998-implemented GSL established a legal distinction between Ecuadorian nationals and Galapagueños, entitling the latter to permanent residency and ownership privileges. There are cases of foreign investors circumventing GSL by offering Galapagueños financial compensation in exchange for placing the foreign-owned and controlled vessels under their permits.

This disjuncture occurs as the cruise-boat tourism model tethers many Galapagueños to land. Many local residents find themselves servicing cruise-boat tourists' half-day visits in port towns, hosting island-hopping tourists' multi-day visits, and labouring to meet the local community's needs (eg healthcare, education, transportation, food production). It is uncommon for Galapagueños (excluding fishermen, GNP naturalist guides, and SCUBA dive masters) to experience their native seascapes to the extent and with the intimacy that global tourists explore the aquapelago's aquatic spaces. For instance, many cruise-boat laborers (eg deck hands, kitchen staff, cabin crew) traverse the aquapelago on vessels' 14-day itinerary loops, but rarely are afforded time or granted permission by boat captains to join tourists on beach walks, dinghy rides through mangrove forests, and snorkelling adventures. This situation resonates with Cashman's (2013: 2) claim that modern cruise ships display "a convoluted relationship with their environment. It is the ocean that gives the cruise ship its mobility; however, these vessels reject and diminish their relationship with the natural ocean environment." While Cashman here refers to mega-liners, the same is true for Galápagos' 16-passenger cruise-boats, which effectively have become a cultural, social, and physical cocoon for Galapagueño laborers (Cashman, 2013). Therefore, many Galapagueños' express their identities and sense of belonging as involving knowledge of and pride in the aquapelago's far-reaching marine spaces while lacking routine, intimate seascape experiences. The irony, then, is that Galápagos' cruise-boat tourism increasingly connects global tourists to the aquapelago's natural spaces, yet simultaneously embeds a socioeconomic structure that dislocates Galapagueños from the marine spaces that prop-up the cruise-boat tourism industry. In this light, there is a pressing need for Galápagos' stakeholders to dialogue about ways to promote sustainable tourism policy measures that are in balance with preserving the integrity of ecosystems while also uplifting Galapagueños' aquapelagic identities.

Ways Forward Toward an Aquapelagic (R)evolution in Galápagos

Galapagueño authorities have traditionally been provided the legislative autonomy to author their stewardship of natural capital, to reconceptualise the aquapelago's economic futures, and to uplift the social welfare of permanent residents and those labouring in the ecotourism industry.²² Yet, present day ecotourism practices in Galápagos' landscapes and seascapes correspond with what Kelly (2012) calls an extractive ownership design that favours maximum financial extraction. What, then, are next steps in building toward a sustainable future in Galápagos that transcends the arbitrary land-sea binary of its past while embedding the identities and sense of belonging central to Hayward's (2012) notion of an aquapelagic society? Several ways forward are presented here to recommend how local actors – within the public, private, and conservation-science sectors – may undertake long- and short-term actionable steps that may very well contribute to a paradigm shift wherein an aquapelagic mindset (that frames socioscapescapes across and within landscapes and seascapes) informs Galápagos' sustainable development.

Public sector: long- and short-term objectives

Local authorities should develop policies to deal with ecotourism's impact on three interrelated issues: carrying capacity, consumption, and overtourism. To begin, the carrying

²² Local governing autonomy is at times threatened. For instance, Galapagueños protested the Ecuadorian state's June 2020 decision to adjust the GSL amid the COVID-19 pandemic and without sufficient Galapagueño representation (*El Universo*, 2020).

capacity of Galápagos' ecosystems has long been a concern. For instance, Honey (2008) warns that the archipelago's inclusion on the 2007 list of endangered World Heritage sites symbolises that tourism numbers had surpassed the islands' capacity. This caution is cause for local government (eg the GNP, municipal departments, the Governing Council of Galápagos)²³ to evaluate collectively how and to what extent tourism practices have eroded the aquapelago's ecological integrity and made vulnerable both social communities and natural capital. In an apparent attempt to mitigate human impact on the integrity of natural systems, authorities assigned cruise-boats operators to two-week itineraries throughout the aquapelago, with fixed visitation sites, days, and times. The idea was to minimise the impact of travellers' eco-footprint by distributing tourists to a wider range of sites while also giving tourists the illusion of isolated travel wherein about 3-5 cruise-boats visit a site at any given time. However, steady growth in annual tourist entries suggests that the current (albeit expanded) pool of visitation sites will soon require further enlargement, meaning that authorities will need to carve out and re-zone additional preserved natural spaces to satisfy consumer demand to experience Galápagos' natural capital without large crowds. This model of cruise-boat distribution is extractive as it prioritises maximum financial benefit over ecosystem limits. Therefore, studies of Galápagos' carrying capacity should continue to monitor ways cruise-boat tourists' travel impacts on the integrity of natural systems while also measuring how such perceived changes in natural systems alter Galápagos' aquapelagic dynamic. Future scholarship may inform how a systemic shift toward a generative tourism model creates living economies that fortify Galápagos' carrying capacity. To this end, applying an aquapelagic framing is thus an essential conceptual tool in assigning broader responsibility to the ecotourism industry vis-à-vis the conditions of Galapagueño communities and their environments.

Concerns over Galápagos' strained carrying capacity lead to a second long-term objective: addressing issues of consumption. The ecotourism industry's growth has accelerated both a reliance on the inflows of tourists, food, and building materials as well as the local development of land-based goods and services (eg schools, hospitals, markets, mechanics, restaurants). The latter serve land-based tourism excursions as well as the welfare of tourism laborers and their families. It is paramount that local authorities develop action plans – in partnership with the private, civil, and conservation-science sectors – to account for and anticipate ways unsustainable tourism growth strains ecosystem resiliency, erodes local infrastructure, and increases municipal services costs. As an example of public health issues related to water provision, Hennessy and McCleary (2011: 147) suggest that ecotourism growth “has outpaced basic infrastructure development in the Galápagos, particularly for water, wastewater, and sanitation services, to the point that the systems that do exist cannot adequately process waste or provide clean water.”²⁴ Accordingly, Galapagueño communities would benefit from Wood's (2017: 274) recommendation that authorities in tourism destinations “review the new [financial] costs of offering public services to outside visitors and then review those costs against the new revenues that are being generated” such as the price per unit for water, energy, and waste. Doing so would assist in establishing smart indicators to monitor changes in air/carbon emissions, water quality, toxic runoff, land use, and architectural and cultural heritage – and ultimately trigger a consumption-focused

²³ The Governing Council of Galápagos is known locally as Consejo de Gobierno del Régimen Especial de Galápagos.

²⁴ Hennessy and McCleary's (2011) note that local concern with infrastructure deficiencies and sanitation are well documented. Galapagueños have recognised sanitation as a major health issue (Tapia et al, 2009) and identified health and potable water as the principal deficiency among public services (Grenier, 2007).

action plan that institutionally shifts toward renewable energy, green infrastructure, and food security. Once again, an aquapelagic conceptualisation is vital to the public sector's strategic planning, in this case when utilising smart indicators to measure public services (eg water, energy, waste) linked to Galápagos' ecotourism practices that pervade the traditional land-sea binary.

A third long-term objective is to address overtourism. Annual tourist entry totals provided earlier reveal an unsustainable growth model, especially when considering an underwhelming history of investment in local infrastructure and production capabilities. Tourism cap discussions are common to aquapelagos in the Pacific, as is the case in Hawai'i where dialogues such as the Zócalo Public Square's February 2019 forum united community stakeholders to explore overtourism concerns. However, Fojas et al (2019) note that these kinds of community-based public forums commonly neglect to address issues of settler colonialism in which foreigners maintain economic advantage via institutional allowances. Therefore, stakeholder dialogue in Galápagos should interrogate and discuss publicly the impacts of settler colonialism on social equity as well as explore consensus on a range of 'sustainable' thresholds and caps for tourists and services: annual tourist entries (which should be a number significantly below the 271,238 entries in 2019), total number and kinds of cruise-boat berths, formal and informal accommodation allowances, boating and fishing permits, and other tourism related issues and services. One mechanism to inhibit escalating entry numbers is to deliberate on and impose a tourism cap on total international visitor entries generally. This strategy would likely bolster Galápagos' carrying capacity but inflate tourism prices and drive tour operators to privilege and further entrench the preferences of wealthy travellers. Another mechanism to address overtourism to natural spaces is to restructure tourist itineraries by requiring that cruise-boat tourists spend a minimum number of nights at terrestrial accommodations preceding or following their tours, which should better position Galapagueños as protagonists in cultural heritage tourism (as a complement to nature-based tourism). The prospects of delimiting unregulated tourism growth should be achievable, considering Galápagos' history of ratifying strict regulations on migration and private ownership.

The public sector should also contemplate executing several short-term policy measures. First, local authorities may provide economic relief to permanent residents by (i) dissolving the 2013-implemented moratorium on new accommodations, which persists despite a spike in annual visitors, (ii) developing a strategy to limit economic leakage, and (iii) partnering with the private sector to provide permanent residents with low-interest loans (to offset residents' reliance on cooperatives and savings clubs) to increase ownership stakes in cruise-boat and hotel tourism ventures. Second, local authorities should partner with the Ministry of Tourism to adjust the private sector's tendency to advertise Galápagos as one of Earth's last isolated paradises on the verge of collapse (Ministry of Tourism, 2019). Progressive marketing campaigns should consider promoting the island-hopping and cruise-boat tourism experiences by spotlighting Galapagueño epistemologies and ontologies as inseparable from the touristic experience. Third, local authorities should disseminate tourism tax revenue reports to residents in formats that are easily comprehensible, and also provide community forums to educate residents on the specific ways these funds (including GNP park entry fees) have contributed to triple-bottom-line projects. Such transparency is necessary when considering Galápagos' history of public funds mismanagement.

Private sector: long and short-term objectives

Critiques of Galápagos' tourism industry have long called for operators' increased stewardship of natural and human spaces. For instance, Honey (2008: 159) argues that "ecotourism operators can and must play a more active role in promoting conservation and providing financial benefits for the local population." International operators have taken significant strides over the years to practice their Corporate Social Responsibility (CSR) by investing in the eco-cultural systems they utilise for profit. Lindblad Expeditions (LE) is one of many large-scale cruise-boat companies that has taken seriously its CSR. In 2019, LE claims to be a carbon-neutral company on the global scale, investing in six carbon project investments and requiring that its vessels are free from single-use plastics (LE, 2019). In Galápagos, LE has contributed to local conservation efforts, such as the eradication of invasive rodents on Floreana Island and donations to NGOs, such as the CDF, Island Conservation, and the Scalesia Foundation. LE's benevolence falls in line with the United Nations Industrial Development Organisation's (UNIDO) call for the private sector to promote CSR by adopting the triple-bottom-line approach, which serves as a "framework for measuring and reporting corporate performance against economic, social and environmental performance" (UNIDO, 2019). Nonetheless, there are several long-term CSR opportunities for LE and other foreign-owned tour operators. First, there is minimal collaboration between operators to partner on the long-term development of energy, waste, and water systems, which tourists use pre- and post-cruise-boat excursions. A consequence is that local authorities are left to develop infrastructure with the capacity to sustain annual tourist entries, which in 2019 (271,238 entries) eclipsed the 2015-reported permanent resident population (25,244) by nearly eleven times (GNP, 2020; NISC, 2015). The private sector in Galápagos should draw upon an aquapelagic framing to establish its own CSR standards for tour operators as well as action plans on how to modernise water, energy, and waste systems. This actionable step is indispensable in Galápagos and other aquapelagos since the output and run-off of outdated and inefficient systems (eg water, waste) commonly flow from urban to marine spaces with minimal treatment and oversight. Second, the private sector should diversify archipelago itineraries so that the livelihoods of fishermen, artisans, and farmers are featured in the touristic experience. Doing so would emphasise the aquapelagic nature of Galápagos' histories, identities, and ways of knowing as a complement to tourists' nature-based encounters in and throughout Galápagos' unique landscapes and seascapes. According to Wood (2017), this kind of private investment in social capital locally is particularly useful since community partnerships require long-term commitments for success.

In the short-term, the private sector may collaborate with and provide funding for local researchers to investigate the long-term impacts of tourism growth on Galápagos' environmental capital as well as perceived changes in social norms, values, livelihood options, and market opportunities. The private sector may also rely on local researchers to identify how and to what extent, if at all, the private sector's investments – such as LE's contributions to educational scholarship and invasive species eradication – produce measurable positive impacts.²⁵ In this way, the private sector's partnerships with the public

²⁵ LE's financial contributions to the community – via the Scalesia Foundation – subsidised Galápagos' only bilingual (English-Spanish) school: Unidad Educativa Tomás de Berlanga. However, the global COVID-19 pandemic and the attendant freeze on tourism practices and salaries in early 2020 forced the school's provisional closure in April 2020, after 27 years of operation, because parents could not pay school fees. The school ultimately re-opened with distance education amid the pandemic. The school's long-term solvency and dependency on external funding highlights concern over the tourism sector's

and conservation-science sectors are likely to cultivate a shared sense of stewardship among stakeholders.

Conservation Science: long- and short-term objectives

The conservation-science sector may consider several avenues in which to bolster Galápagos' long-term aquapelagic development as a socio-ecological system. First, there is an opportunity for Galapagueño researchers (distinct from foreign researchers *in* Galápagos) to develop dialogue with other aquapelagic states and regions in the Pacific in order to share strategies and tactics that advance aquapelagic identities, policy advancements, and eco-cultural futures. Such collaboration corresponds with Maxwell's (2012: 23) claim that an aquapelagic framing lays the foundation to understanding "what it might be to be human." As noted, human histories in Galápagos' are nascent when compared to other aquapelagos in the Pacific (eg Hawai'i, Palau) that have developed aquapelagic traditions and values over centuries. This distinction is apparent when considering Baldacchino's (2012: 24) claim that aquapelagic literature highlights the "steady successes of indigenous people to reclaim the sea, and marine rights, as part of their title." However, Galápagos' recent human history and emerging eco-cultural 'sense of place' mean that civic engagement is less ethnically motivated, but instead driven by commitment to conservation, social welfare, and economic opportunity. Therefore, conservation-science's collaboration with other aquapelagic regions may direct the analysis of Galapagueños' emerging identities, sense of belonging, and emerging socioeconomic trajectories. Second, the conservation-science sector may assist the public sector to develop aquapelagically-informed management strategies. Such guidance echoes Wood's (2017: 273) claim that there is a need globally to train and empower local municipalities to manage destinations sustainably – which is a cost the private sector views as an externality, and thus neglects. In this light, the conservation-science sector may assist Galápagos authorities not only to reflect on the best practices of other aquapelagos similarly dependent on tourism, but also to reconceptualise socioeconomic and ecological management strategies by drawing upon insight from aquapelagic studies.

In the short-term, the conservation-science sector is well-positioned to assist the GNP's authorship of its next Protected Areas Management Plan (effective in 2023) to incorporate ways aquapelagic literature conceptualises human and non-human interaction in and throughout Galápagos. The current (2014-implemented) management plan made innovative strides to conflate the longstanding land-sea binary prevalent in prior GNP and GMR management plans. This conflation is evident in the GNP's (2014: 89) system of zoning marine and terrestrial spaces based on usage types (eg tourism, science and monitoring, sport fishing). However, it is not reasonable to assume that the current Protected Areas Management Plan's land-sea conflation will contribute significantly, if at all, to social uplifting and the democratisation of key stakeholder positions in the booming ecotourism industry. Therefore, Galápagos researchers are positioned to ask how and to what extent, if at all, Galapagueños (i) make sense of and deal with their embedded aquapelagic identities and ontologies – or what Baldacchino (2012) describes as 'aquacultures,' (ii) understand the aquapelagic nature and implications of the 2014-implemented management plan's land-sea conflation, and (iii) identify ways Galápagos' ecotourism industry compromises basic aquapelagic principles. In this way, academia's guidance of the public and private sectors may very well lead to an aquapelagic turn in Galápagos' management of tourism growth,

resilient commitment to sustain and develop local educational projects, especially considering that since the sector's profits are reliant on a bilingual workforce.

natural capital, and socioeconomic well-being – similar to Senge’s (2010: 11) claim that “a sustainable world, too, will only be possible by thinking differently.”

An Aquapelagic Horizon in Galápagos

Annual tourist entries to Galápagos continue to set records, revealing that the ecotourism industry has securely captured global tourists’ fascination with biodiversity and natural wonder. This is in part due to tourists’ increased accessibility to natural spaces via air travel and cruise-boat excursions and in part due to tourists’ growing awareness of the Anthropocene, which is commonly understood as the current geological period wherein human activity is rapidly impacting on the integrity of natural systems worldwide. Despite local and state actors advocating sustainable tourism as a livelihood panacea and escape from an extractive fishing industry, overtourism and consumption rates outpace conservation efforts to strengthen Galápagos’ ecological carrying capacity. The local government’s increasing dependency on tourism and neglect to diversify revenue (and its distribution) is a recipe for a precarious future. It appears that the bursting of Galápagos’ ‘ecotourism bubble’ is fast approaching. But, will Galapagueños be prepared to navigate life after a significant downsizing (or possible collapse) of the tourism industry?

The attrition of Galápagos’ terrestrial and marine ecosystems (caused primarily by overtourism and climate change) is a problematique better dealt with sooner than later. Fortunately, an aquapelagic future in Galápagos is possible and within reach. Bocci (2017) affirms that the resilience of hope is relevant for rethinking Galápagos’ modern conservationist project – and this article suggests the same is true for Galápagos’ institutional ecotourism project. Galapagueños and other local actors are well-positioned to infuse an aquapelagic mindset in policy decisions and livelihoods analysis. This kind of conceptual shift in resource management and cultural identities requires the public, private, and conservation-science sectors collectively to take on an aquapelagic restructuring of the tourism industry over the long- and short-term. Such collaborative efforts do not require the dissolution of tourism pathways and cruise-boat experiences. However, restructuring ecotourism in Galápagos should position Galapagueños with ownership stakeholds (thus minimising economic leakage), and spotlight Galapagueños’ relationships with landscapes and seascapes alongside tourists’ exposure to the aquapelago’s iconic blue-footed boobies, giant tortoises, land and sea iguanas, and sea lions. These strategies are likely to empower Galapagueños to further develop their aquapelagic dispositions, identities, and senses of belonging in the aquatic spaces that surround their terrestrial homes.

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