Northumbria Research Link

1 **Exploring 'islandness' and the impacts of nature conservation through the**

2 **lens of wellbeing.**

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5 **Summary**

6 Motivated by growing concern as to the many threats that islands face,

7 subsequent calls for more extensive island nature-conservation, and recent

8 discussion in the conservation literature about the potential for wellbeing as a useful

9 approach to understand how conservation affects people's lives, this paper reviews

10 the literature to explore how islands and wellbeing relate, and how conservation

11 might impact that relationship. We apply a three-dimensional concept of *social*

12 *wellbeing* to structure the discussion and illustrate the importance of understanding

13 island-wellbeing interactions in the context of material, relational, and subjective

14 dimensions, using examples from the literature. We posit that islands and their

15 shared characteristics of 'islandness' provide a useful setting in which to apply

16 social wellbeing as a generalizable framework, which is particularly adept at

17 illuminating the relevance of social relationships and subjective perceptions in island

18 life, aspects which are often marginalized in more economically-focussed

19 conservation impact assessments. The paper then explores in more depth the

20 influences of island nature conservation on social wellbeing and sustainability

21 outcomes using two case studies from the global north (UK islands) and global south

22 (the Solomon Islands). We conclude that conservation approaches that engage with

23 all three dimensions of wellbeing seem to be associated with success.

<u>Introduction</u>

The world's islands are increasingly recognized as providing a wide range of important benefits to human society. Islands host a diversity of indigenous and distinct cultures, identities and languages, which form part of a valued heritage (Depraetere 2008), with many islanders deriving a significant part of their wellbeing directly, or indirectly, from a wealth of natural resources (CBD 2016). Globally, island habitats host more than half of the world's marine biodiversity and 20% of all bird, reptile and plant species (UNEP 2014). These rich ecosystems provide a foundation for food security, livelihoods and industry – for example, biodiversity-based tourism and fisheries account for over half of the GDP of the economies of Small Island Developing States 'SIDS' (CBD 2016).

Recognition of the importance of islands has, in recent years, been catalysed by global concern as to the many threats that face islands and their inhabitants. A combination of sensitive endemic ecology and intense human use and dependency tend to magnify aspects of island vulnerability (Baldacchino and Berttram 2009). For example, many islands experience high levels of species extinction (64% of all recorded extinctions in recent history happened on islands, CBD 2014), whilst climate change and ocean acidification pose a growing threat to loss of life and property from sea-level rise and extreme weather, and the loss of wave-attenuating habitat, such as coral reefs and mangroves (UNEP 2014a).

In the SIDS literature, it is often highlighted that islands share similar sustainability challenges, many of which are exacerbated by specific island characteristics including smallness, isolation, susceptibility to natural disasters, and

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47 vulnerability to external shocks (Guillotreau et al. 2012; Nurse et al. 2014). Many

48 islands experience historical peripheralization and economic marginalization, out-

49 migration and community decline and loss, where sustaining a viable island society

50 becomes a challenge (Kennedy 2006), whereas other islanders can also

51 demonstrate strong attachment to place and way of life. This has been witnessed in

52 disputes over island displacements, such as in the campaigns led by some former

53 Chagos island inhabitants to return to the islands 40 years post-displacement

54 (Jeffery 2013), or where potential island 'climate refugees' argue their desires to

55 remain in their homelands (McNamara et al 2009). The South Pacific archipelago of

56 Vanuatu is an example of the contradictory and diverse nature of the island-

57 wellbeing relationship; the islands are renowned for storm surge incursion and

58 human displacement, prompting the United National Environment Programme

59 (UNEP) to label their inhabitants as the world's first climate refugees (Ballu et al

60 2011) and yet, for several years, Vanuatu also boasted the world's highest levels of

61 self-reported happiness (Abdallah et al 2012).

62   The relationship between islands and human wellbeing is therefore clearly

63 complex, not easily generalizable, and heavily influenced by ecological, social,

64 historical and political context. Furthermore, people's perceptions can often explain

65 the very different interpretations of island living, with common divisions between

66 mainlander perceptions, and the views of islanders themselves, the former often

67 harbouring a more negative and marginalizing connotation (McCall 1994).

68 Recognition of this is perhaps reflected in the fact that SIDS have recently been

69 referred to as 'large ocean states' (UN-OHRLLS, UNESCO, and UN-DOALOS,

70 2014) rather than 'small island states'.

71 Given these observations, any exploration about how islands, and

72 conservation activities within them, affect peoples' lives requires a sufficiently broad

73 conceptual framework which can capture some of this context-specificity and

74 complexity, but in a way that can also encourage aspects of comparability and cross-

75 learning between islands. This paper uses a concept of social wellbeing to explore

76 the interplay between islands, wellbeing and the impact of nature conservation.

77 Wellbeing provides a holistic and multi-dimensional framing of human life, and

78 therefore can serve as a powerful tool capable of capturing a wide range of social

79 impacts, including those stemming from conservation activities (Coulthard 2012,

80 Milner-Gulland et al 2014).

81 A social wellbeing framework (Gough and McGregor 2007) structures

82 wellbeing analysis around three closely related dimensions: a material dimension

83 which emphasizes the objective resources a person has access to; a relational

84 dimension which considers how social relationships influence what people can (or

85 cannot) do; and a subjective dimension which takes into account a person's level of

86 satisfaction with the quality of life they achieve. As such, it broadens attention from a

87 traditional focus on tangible material conservation impacts, such as changes in

88 employment, finance, or health, into a broader range of considerations including the

89 relational (social relationships such as family and community relations, conflict, and

90 cohesion), and the subjective (how people think and feel about their experiences of

91 island life and conservation within it). As Coulthard et al (2011) argue, it is crucial to

92 understand how conservation interacts with all aspects of living, in order to

93 comprehend the synergies and trade-offs that exist between people and their

94 environment (see also Woodhouse et al 2015). An overly narrow framework can

95 miss many important connections. For example, a conservation project that has

96 successfully provided income and jobs (material wellbeing) could also stimulate

97 conflict between beneficiaries and non-beneficiaries leading to erosion of

98 relationships and cohesion, aspects of social wellbeing that are particularly important

99 in islands (Foale 2001, West 2006). Likewise, a project that has little impact in terms

100 of tangible material gains may still be valued by local people who perceive other

101 contributions, such as a sense of security and sustainability benefits for future

102 generations (subjective wellbeing gain), which can be enhanced for the endemic

103 species or unique habitats that characterise some islands (Pieraccini and Cardwell

104 2016). Understanding a fuller range of conservation impacts through a multi-

105 dimensional wellbeing framework could, arguably, provide important evidence to

106 support decision-making at both community and management levels (Agarwala et al

107 2014, Howe et al 2014).

108   As has been recognized within the conservation literature, there is a need to

109 move beyond narrow (often monetized) approaches to assessing the impacts of

110 conservation (Ban et al 2013, Igoe and Brockington 2016), and conceptual

111 arguments have been made that wellbeing could be useful in conservation research

112 by offering a broader lens with which to explore how conservation efforts affect

113 society as well as nature (Milner-Gulland et al 2014). This paper advances this

114 conceptual debate and starts to unpack details of how wellbeing could be applied,

115 using the context of island conservation and published examples in the literature. A

116 recognized challenge is the need to build up conservation case studies which can

117 speak to a wellbeing framing, so as to draw out generalizable aspects (Milner-

118 Gulland et al 2014). This paper is a contribution from the perspective of islands –

119 which often share characteristics, captured in the term 'islandness', which

120 transcends local context (Conkling 2007), thus providing a useful setting for a more

121 generalizable approach to wellbeing assessment.

122   The paper starts with a brief overview of current wellbeing debate and

123 relevant frameworks and describes the three-dimensional (3D) Social Wellbeing

124 framework, which explores wellbeing through material, relational and subjective

125 dimensions. We apply and adapt this framework to an islands context (see Fig. 1) to

126 first explore how islands and wellbeing relate, drawing from a range of published

127 island research which speaks to these three wellbeing dimensions. Whilst many

128 aspects of the island-wellbeing relationship could be applied to other non-island

129 contexts, we draw attention to particular characteristics common to many islands, to

130 illuminate the relevance of the three dimensions of wellbeing to island life. We then

131 turn to the question of how conservation can influence the island-wellbeing

132 relationship, drawing from two contrasting case studies: (i) the Solomon Islands

133 archipelago, and (ii) offshore islands of the United Kingdom, selected due to the

134 availability of knowledge on specific conservation interventions in relation to

135 wellbeing, and to enable discussion in the context of the global north and south. Our

136 contribution is timely, since it is embedded in the growing global concern as to the

137 vulnerability of island life, and a prioritisation of island-conservation, but also seeks a

138 more holistic understanding that avoids defining island life in terms of these threats

139 alone.

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142 **Application of a wellbeing framework to an islands context**

143   In recent decades, there has been a flurry of research to conceptualise and

144 operationalise the study of wellbeing. This has been stimulated in particular by two

145 events: first, the centrality of wellbeing in the Millennium Ecosystem Assessment

146 (MA 2005), which encouraged environmental scholars to better articulate how

147 ecosystems translate into human wellbeing and second, recognition of the potential

148 for wellbeing to serve as a more meaningful measure of social progress, in the face

149 of growing criticism of economic measures (Stiglitz et al 2009). The result has been

150 a plethora of different frameworks and approaches to measure wellbeing, spanning

151 several academic disciplines and policy arenas (Alkire 2002, Coulthard 2011, White

152 and Blackmore 2015).

153   As McGregor et al (2015) point out, there is emerging consensus across

154 wellbeing frameworks: first, on the importance of measuring wellbeing through

155 multiple domains, rather than single indicators; second, that measures should

156 include both objective data (for example, life expectancy) alongside subjective data

157 (for example, satisfaction with life) in order to provide a more complete view of how

158 people are doing, and how people subjectively think and feel about their

159 achievements. Furthermore, they argue that the various lists or 'domains' promoted

160 across different frameworks can roughly be organized to fit into three overarching

161 dimensions – which form the basis of the '3D' framework (Gough and McGregor

162 2007) in which three perspectives are taken into account: material, relational, and

163 subjective wellbeing.

164   The appeal of exploring these broad dimensions of wellbeing in the context of

165 islands is that it provides three clear and relatively simple platforms in which to

166 unpack the island-wellbeing relationship (allowing that the three dimensions also

167 overlap). Figure 1 illustrates the three dimensions of the social wellbeing framework,

168 noting aspects of wellbeing under each dimension that our review of the literature

169 suggests are highly relevant for island settings. In addition, we argue that wellbeing

170 in islands is structured by an important temporal context, which brings the dynamism

171 of islands to the fore, including historical change, shocks, trends and vulnerabilities,

172 and also a common sense of 'islandness' which transcends local context (Conkling

173 2007) and aids comparability across diverse settings.

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184 **Figure 1: Conceptual framework for the study of wellbeing and island**

185 **conservation (adapted from White 2010 to illustrate its applicability to an**

186 **islands context)**
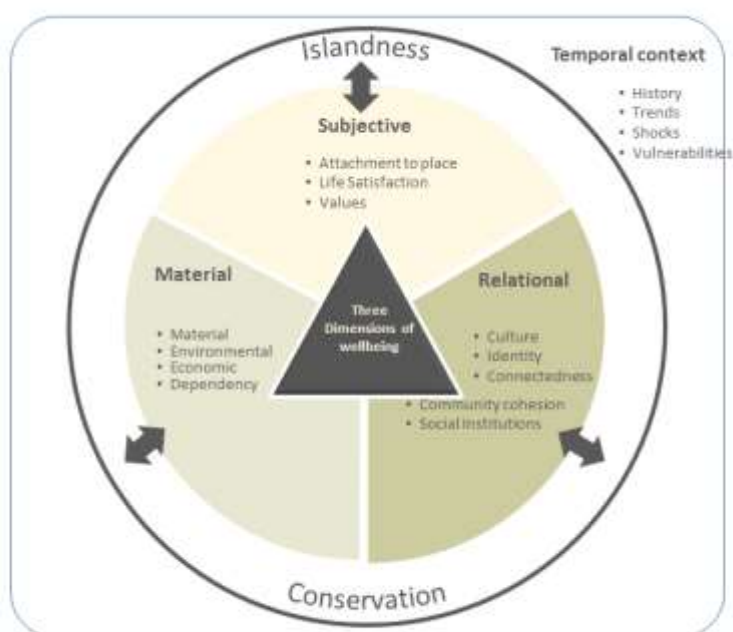
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188 The following text provides a brief synthesis of existing literature to showcase how

189 islands relate to wellbeing in material, relational and subjective terms. The case

190 studies which follow address how conservation influences these existing island-

191 wellbeing relationships.

192 *Islands and material wellbeing*

193   Material wellbeing is perhaps the most familiar dimension to development and

194 conservation approaches, with its focus on the tangible assets that people have (or

195 are denied), such as education, health care, income and work, natural resources,

196 and sanitation. The historical underpinning of island life has been a rich environment,

197 which supports predominantly agricultural, forest, fisheries and, increasingly, tourism

198 and heritage-based livelihoods. Beyond this, natural resources contribute a

199 significant proportion of island GDP through exports, and are also important for

200 island food security (Connell 2013). The environmental richness of islands is

201 however bounded by issues of scale, limitation, and isolation (Kerr 2005) which,

202 exacerbated by other aspects of fragility such as endemism or threats by invasive

203 species, limits natural resource availability and increase likelihood of over-

204 exploitation (UNEP 2014). Connell (2013) argues that pressures on land, including

205 forest loss and 'coastal squeeze', are being equally matched by pressures in the

206 marine environment.

207 Island economic development is similarly recognised to be constrained by

208 small size (Briguglio 1995, McGillivray et al, 2010). Economies of scale are absent,

209 skills-bases often small, while remoteness and fragmentation (particularly of

210 archipelagic states) render costs of providing basic services (e.g. transport,

211 communication, energy, health, education) as exceptionally high (Connell, 2013).

212 Economic and export diversity is frequently low, and while connection to international

213 markets brings vital foreign income, power and information, asymmetries in trade

214 arrangements are commonplace, leading to sub-optimal wellbeing outcomes (PANG

215 2016).

216 As a result of limited economic development, islands, and in particular small

217 island states, generally have a high dependency on subsistence agriculture, fisheries

218 and wild harvest for food security of the local population (UNEP 2014). In many

219 island states, food production is growing at a rate slower than population increase,

220 with a growing dependency on more expensive food imports and store items, which

221 has implications for nutrition, especially among the urban poor (Connell 2013).

222   Small Island dependency on agriculture, fisheries, and wild harvest is changing

223   however, with SIDS now diversifying their economy, especially through investment in

224   the tourism sector (Connell 2013). As Kerr (2005) points out, of the 31 countries in

225   the world with ≥20% of their GDP generated by tourism, 27 are island states.

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227   *Islands and relational wellbeing*

228   The inclusion of a relational dimension in the 3D wellbeing framework

229   focusses attention on the critical, but often underplayed, role that social relationships

230   play in facilitating, or hindering, wellbeing and the dynamics of power and social

231   structure. Our exploration of relational wellbeing in an islands context first gives

232   emphasis to culture and identity – the bonds that connect people through shared

233   values, beliefs, or common activities, and which fundamentally determine what

234   people can and cannot do, and how they feel about the lives they live. Rich cultures

235   and a strong island identity are central attributes of islandness (Pitt 1980), often

236   accompanied by distinct language, and framed by a dynamic heritage and history. A

237   recent analysis of islander identity in two small-islands off the coast of Ireland

238   distinguishes between a 'historical' and a 'contemporary' islander identity, the former

239   shaped by shared hardship and self-sufficiency necessitated by island remoteness,

240   and the latter founded on more positive perceptions of isolation, sense of belonging,

241   culture and tradition (Burholt et al 2013). These layered identities can also underpin

242   tensions between 'island' and 'mainland' allegiances (Bainton 2009). Debates in the

243   Shetland Islands during the 2015 Scottish referendum for independence offer a good

244   example. Whilst Scotland as a nation was debating the pros and cons of leaving the

245   UK, the debate in Shetland, which has a strong Nordic heritage, was more often

246 tuned towards scope for islander independence and forms of self-governance
247 (Guardian 2014).

248   An islander identity permeates across individual and community levels, and
249 can lead to a strong sense of community as people are bonded by a shared sense of
250 place and isolation that 'generates a unique sense of difference from other
251 populations' (Anderson 2003:48, as cited in Hay 2006:22). Being 'close-knit' is a
252 typical characteristic of isolated communities (Schilling-Estes 2002). Geographic
253 isolation does not however, translate into a general characteristic of island life – with
254 many arguing that islanders can be much more interconnected and aware of global
255 others than non-islanders (Hay 2006). Social connections within, but also between
256 islands, which is captured by the idea of 'connectedness', stresses the importance of
257 mobility and social networks, often operating over significant distances across island
258 clusters. As Weisler et al (2016) demonstrate in the context of the Pacific, many
259 trade patterns between islands have operated for millennia and over distances of
260 1000s of kilometres, attesting to the complexity and durability of social relations
261 amongst island networks. Kerr (2005) also highlights the dynamics of community by
262 noting that large numbers of islanders may only inhabit the island for part of the year,
263 or part of their lives.

264   Whilst a strong sense of community is often seen as central to island living,
265 this does not automatically translate into social cohesion – where society works
266 inclusively to improve the wellbeing of all its members (OECD 2011). Identity is both
267 internally and externally defined: 'to be part of a group is to be *not* part of another
268 group' (Pitt 1985:1054), and shifting patterns of wealth and growth can pose risks to
269 cohesion through disparate benefits and inequalities (OECD 2011). The pursuit of

270 wellbeing can be hindered by social division and conflict, and is often exacerbated by

271 development processes. A good example is Hawaii, often heralded as an island of

272 tolerance and equality, where ethnic tensions are rising through unequal access to

273 resources (Okamura 2008). Modernization and fast-changing social and cultural

274 trends, whilst contributing to wellbeing for some, also have scope to break down

275 social cohesion, and remind us that social relationships, and their influence over

276 wellbeing, are dynamic and ever-changing, perhaps especially so in an island

277 context.

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279 *Islands and subjective wellbeing*

280 A subjective dimension of wellbeing enables the assessment of wellbeing to

281 take into consideration people's own experiences and subjective reflections about

282 their lives. The subjective dimension is placed at the apex of the 3D triangle to

283 reinforce the inter-connectedness between dimensions, and that each dimension of

284 wellbeing is ultimately framed by people's own perceptions and values, which are

285 grounded in social context and culture (White 2010). This is especially important

286 given the tendency of many island realities to be narrated by 'mainlanders', who may

287 hold very different and disconnected perspectives.

288 It has been argued that 'islandness' is linked to several aspects of quality of

289 life, including life satisfaction (Podgorelec et al 2015), sense of place and belonging

290 (Petrosillo et al 2013), connectedness with nature (Nisbett et al 2011) and

291 perceptions of social capital (Randall, 2014). A recent study in three small islands in

292 Croatia, found life satisfaction to be underpinned by common social values (such as

293 islander solidarity), a sense of security (maintained by such values and informal

294   mechanisms of social control), and that both islanders and in-migrants positively

295   valued the island way of life (Podgorelec et al 2015).

296   On the other hand, islands can also be seen as points of departure whereby

297   the sea does not act as a barrier but as the beginning of a journey (Connell, 2013).

298   This view emphasizes the mobility of island populations with experience of long-term

299   and circular migration (Byron 1999) and the rapid development of tourism which

300   affects island populations. This can contribute to differences between the lifestyle of

301   islanders and mainland populations and can change place perceptions of local

302   populations. Furthermore, the Podgorelec et al (2015) study warns against

303   generalising life satisfaction within the island population; despite providing a valued

304   way of living, the Croatian islands in their study have experienced extensive

305   outmigration, especially of young people, accompanied by population aging, a

306   phenomena also witnessed among the islands of Ireland (Royle 2007).   As Nunn

307   (2003) comments, the perception of islands as small, often driven by perspectives of

308   continental populations, can shape young peoples' perceptions of their own island

309   nations as unimportant, and have consequences for self-esteem and desires to

310   migrate to larger countries. Amoamo (2013) contends that this view contributes to

311   'geographical erasure' serving to minimise island importance and even render them

312   'invisible', with consequences for how people perceive their quality of life in a global

313   context.

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315   *Temporal context and islandness*

316   The island-wellbeing framework is bounded by a temporal context and sense

317   of 'islandness'. Throughout history, islands have been coveted for their many

318   purposes including cash crop production and resource extraction (Nunn 2004), which

319   has often resulted in complex and dynamic histories and politics. Many islands face

320   challenges of sustaining growing populations with limited resources (Reenberg et al.

321   2008); for example, in the South Pacific, colonisation underpinned a transition from

322   food surpluses to deficits as land was converted for cash crops by a land owning

323   elite (Barnett and Campbell 2010). These historical changes that are often driven by

324   markets, demography, and technology have resulted in fundamental and dramatic

325   changes to many island ecosystems which, once they have occurred, are particularly

326   difficult to reverse (Hicks et al 2016).

327   Political ties to former colonial powers continue to direct the flow of people

328   and money to and from islands, and foreign aid and remittances are important

329   elements of island economies (Gillis 2014). The histories of islands can also have

330   important implications for conservation and underpin many environmental impacts

331   experienced by islands including species introduction (rats being especially

332   problematic) (Nunn 2004), whilst many remote island territories have been exploited

333   as politically neutral places in which to dispose of waste (e.g. Marshall Islands) or

334   conduct nuclear tests (e.g. Micronesia) (Malm 2007).

335   Whilst diversity and local context is important to recognise in any study of

336   island life – 'islandness' is a characteristic common to many islands. As is argued by

337   Conkling (2007:192): 'Islanders across different archipelagos share many of the

338   characteristics imposed by the boundedness and isolation of island life. If the

339   characteristics of islanders resonate through time and across space, then certain

340   island qualities must transcend local culture'. As such, the concept of islandness

341   provides a useful framing in which to explore wellbeing-island attributes which can

342   hold relevance at a more generalizable level of analysis, and is therefore included in

343   our adaptation of the wellbeing framework.

344

345   **How does conservation affect wellbeing dynamics in island communities?**

346   Here, the Solomon Islands and the UK Islands are taken as pertinent case

347   studies to critically reflect on the ways in which specific conservation activities

348   interact with social wellbeing. Table 1 outlines key aspects of context and material,

349   relational and subjective wellbeing in the two cases, with the following sections

350   focusing specifically on predominant conservation approaches in the two cases.

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352   **Table 1: A summary of the dimensions of wellbeing that are highlighted in the**

353   **literature in two different island contexts: Solomon Islands and UK offshore**

354   **islands.**

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		Solomon Islands	UK offshore islands
Temporal context	History	Colonialism; 'Black-birding'	Concentration or fragmentation of land tenure
	Trends	High population growth, sea level rise	Emigration, growth in tourism, financial and energy industries
	Shocks	Earthquakes and tsunamis	Economic volatility in key industries
	Vulnerability	Dispersed and remote archipelago	
Material	Environment	Extremely high biodiversity, rich timber assets, multi-species fisheries	Relatively pristine ecosystems, iconic species, rugged landscapes.
	Infrastructure	Health and education service delivery is very poor given remoteness, fragmentation.	Scarcity of land, housing pressure, above average housing and commodity prices, relatively high levels of deprivation relating to income, employment, education, health and crime than other part of the UK (British Household Panel Survey)
	Economic	Natural resources, gold, fragmented, high transport costs	Agriculture, tourism, seasonal employment, lack of employment for young people.
	Dependency	Extremely high dependence on	Economic dependence on land and, increasingly, on biodiversity

		ecosystems for subsistence and income; and on foreign aid	for nature-based tourism, high cultural dependence on fisheries and natural resources
Social	Culture & Identity	Diversity of ethnic groups, languages, culture;	Strong cultural heritage and island identity further emphasised by influx of tourists interested in cultural heritage. For some, a sense of being an 'ethnic' minority
	Community	Strong sense of community and reciprocal obligations to Wantoks	Strong social cohesion in UK islands expected to contribute to high subjective wellbeing
	Connectedness	Links to migrant workers and diaspora living in Honiara, Fiji, NZ, Australia	Links to mainland, and in some cases islanders have a stronger global identity than inhabitants of the mainland.
	Conflict	High levels of conflict among ethnic-island groups underpinned by tenure disputes	History of land disputes, conflict over locus of power and decision-making between mainland and islands.
	Social Institutions	87% of land under customary tenure, traditional leadership	Greater levels of social regulation in island communities linked to negative subjective wellbeing
Subjective	Attachment to place	Assumed to be very high, but little research specifically on these subjective dimensions.	Very high attachment to place, islands seen as highly desirable places to live for retirees and as 'playgrounds of the wealthy' which increases prices and alters island demographics. Islands also seen as having limited opportunities by young people
	Life satisfaction		Higher levels of life satisfaction and subjective wellbeing than expected after controlling for material deprivation.
	Values	Connectedness to nature enshrined in customary institutions such as taboo areas, taboo species – eroding over time as communities aspire for western forms of development	Research mixed over whether island inhabitants or tourists placed a higher value on nature (willingness to pay).
Conservation implications	Approaches	Hybrid models of community-based conservation and natural resource management, Locally managed marine areas incorporating periodically harvested areas as modified notion of MPAs, taboo species, gear and species prohibitions.	Focus of conservation on species and habitat protection. Implementation of various forms of EU and UK legislation, including protected areas which essentially serve to reduce rather than prohibit impacts. No-take rules rare except to protect particular environmental 'features'.
	Outcomes	Limited evidence that material wellbeing (provisioning ecosystem services) is consistently improved. Socially motivated harvesting decisions can enhance material and cultural wellbeing at critical times when most needed, but can also create and exacerbate conflict. New forms of conservation beginning to change value systems around gender, voice and participation. Benefits for biodiversity conservation are not widely evidenced.	Literature reveals little disruption to existing extractive practices suggesting limited impacts on material wellbeing. Conservation appears focused on protecting cultural ecosystem services and material wellbeing in tourism and heritage sectors. Social and subjective wellbeing most influenced by the way that conservation decisions are made, and perceptions of insider / outsider control.

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357

358   *A Solomon Islands case study*

359   Solomon Islands is a double-stranded archipelago of 990 islands in the south-

360   western Pacific that has attracted extensive western scientific and conservation

361   interest due to extremely high marine and terrestrial biodiversity. Solomon Islanders

362   are historically and still heavily dependent upon natural resources with a majority of

363   the growing population directly engaging in small-scale agriculture and with

364   exceptionally high nutritional dependence on seafood (Anderson et al, 2013). There

365   are few sources for cash income, other than producing and marketing agricultural

366   commodities including crops and fruit, coconut, cocoa, timber, fish and marine

367   products. Rainforests and commodified reef products such as trochus shells, beche-

368   de-mer, pearl oysters, and live fish have provided quick-cash incomes for many

369   coastal people without the need for external capital inputs, while also proving

370   attractive for large-scale extraction by international interests. Since the 1990s, high

371   dependency of material wellbeing on natural resources has raised international

372   alarm at the rate of degradation of marine and terrestrial ecosystems. The discourse

373   among international conservation agencies in Solomon Islands is one of ubiquitous

374   ecological crisis, exacerbated in recent times by climate change (Barnett and

375   Campbell 2010).

376   Crisis narratives and conflicting interests over natural resources and the

377   distribution of wellbeing benefits in Solomon Islands have precipitated a myriad of

378   conservation initiatives employing tools such as protected areas, species protection

379   (e.g., turtles) and resource management tools (e.g., fishing gear prohibitions) (Cinner

380   and Aswani 2007). Importantly, all conservation initiatives in Solomon Islands are

381   mediated through a strong customary tenure system (a property regime which

382   allocates ownership to indigenous peoples) that is enshrined in the national

383   constitution and natural resources legislation. Most land (87%) and inshore seas are

384   governed by customary tenure (Govan et al. 2009) and the *Wantok* system, a loosely

385   culturally based code of reciprocal obligations based on shared kinship, language

386   and place, remains influential in processes of leadership, decision-making and

387   distribution of resources.

388   The centrality of customary institutions; which themselves are founded on

389   relationships (relational wellbeing) between resource users; means that conservation

390   agencies negotiate directly with the local resource owners, who have power in

391   defining the nature of these relationships. Negotiations over such complex

392   customary arrangements can trigger internal dispute but can also illuminate highly

393   competent and powerful institutions for dealing with 'outside' agents, through

394   strengthened local culture. Anthropologist Hviding (2003: 533) makes clear that it is

395   important not to assume that Solomon Islanders are by any necessity victims of one-

396   sided pressure from global forces of political economy, nor are they "willing and

397   eager participants in biodiversity rescue operations…".

398   Hybrid models of community conservation and natural resource management

399   (CBRM) have emerged from these interactions. These consider customary tenure

400   boundaries, traditional knowledge and governance institutions, but are modified to

401   incorporate contemporary conservation, scientific and resource management tools

402   (Foale et al. 2011). Marine protected areas, for instance, are re-configured as locally

403   managed marine areas (LMMAs), avoiding specific references to 'protection', and

404   'no-take' (Govan et al. 2009) thereby better aligning with traditional 'taboo' systems

405 of periodic harvest (Foale et al 2011). These hybrid approaches aim to be sensitive

406 to place, values and identity, and existing social institutions (Hviding 2003, Foale et

407 al 2011), and therefore directly consider aspects of relational wellbeing – and the

408 nature of relationships between conservation actors and resource users - in their

409 approach to resource governance.

410 There is however mixed evidence about the effectiveness of hybrid systems in

411 delivering material wellbeing by enhancing sustainable provision of natural

412 resources. For example, in marine systems, evidence suggests that periodically

413 harvested closures can support higher catches for a limited time when opened to

414 fishing, particularly for sessile invertebrate species. However, these short-term

415 benefits do not necessarily compensate for the opportunity cost of the closure, and

416 there is little evidence of spill-over or long-term sustainability benefits (Cohen and

417 Alexander 2013). Researchers and communities have both argued that the

418 emphasis on 'information sharing' by conservation organisations, rather than on

419 lasting economic benefits for associated communities, can limit the effectiveness,

420 attraction and durability of conservation initiatives (Keppel et al. 2012), illustrating

421 that interpretations of which aspects of wellbeing matter most, can differ among

422 stakeholders (Palmer Fry et al 2017).

423 Interestingly, the reviewed literature suggests that customary tenure systems

424 and associated rules are socially rather than ecologically motivated (see also Jentoft

425 2004). Protected areas are opened in response to social need, including paying

426 respects, feasts, health needs and schooling (see review by Cohen and

427 Steenburgen 2015). This can provide important material and relational wellbeing,

428 including subsistence, income and community cohesion at critical times. However,

429   customary institutions are often employed to reaffirm or assert power relationships

430   and claims on resources, particularly resources with high exchange value (Foale et

431   al. 2011). Spatial closure decisions under hybrid management have, in some cases,

432   further delineated what were vague, flexible or contested boundaries. Thus

433   community-based resource management (CBRM) has sometimes disproportionately

434   strengthened the rights of particular groups (such as chiefs and their families) and

435   thereby precipitated or reinforced negative relational wellbeing in terms of community

436   splits and conflicts (Cohen and Steenbergen 2015).

437   In response, CBRM approaches have evolved towards egalitarian

438   representation (e.g. women and men have the same voice as chiefs) and a focus on

439   'community' over position, tribe or clan (i.e. land-holding groups and residents of a

440   village correspondingly). This approach aims to ensure more evenly distributed

441   material and relational wellbeing is derived from CBRM and it is now mainstreamed

442   among government and NGO practitioners (Weeretunge et al. 2012). However, it

443   requires a fundamental shift in the norms, beliefs and power relations in

444   communities, and 'run[s] counter to indigenous notions of hierarchy, leadership, land

445   tenure and kinship structure' (Hviding, 2003: 541). It is not clear whether these

446   changes in values around community-level decision-making are imposed by external

447   agents or generated predominantly within communities, either to achieve desired

448   change or in response to wider influences. Nevertheless, there are examples of

449   broad integration of conservation objectives with wellbeing priorities that are

450   meaningful at the community level. For instance, Guadalcanal village self-initiated

451   and implemented a reef closure that has been in place, and widely supported by the

452   community, since 2008. Key to this success was matching community aspirations of

453   wellbeing (an example of subjective wellbeing); through increased economic

454   development and high social cohesion with outside organisations' environmental

455   protection values. The traditional leadership also enabled and empowered the youth

456   (traditionally marginalised) to lead the CBRM process (Abernethy et al. 2014).

457   Indeed, this process was able to achieve its expected wellbeing gains through

458   innovations in governance, and forming alliances with outside organisations.

459

460   *A UK islands case-study*

461   To examine the linkages between conservation and wellbeing on islands in a

462   high-income context we focus on the small islands and British Crown dependencies

463   that make up 8% of the United Kingdom's land area. These islands are renowned for

464   their natural beauty and are of conservation interest because of their role as critical

465   habitats for marine mammals, endemic animals and rare birds. The economies of

466   these islands are concentrated on a small number of sectors with agriculture and

467   nature-based tourism being important industries. For example, Scotland's

468   archipelago has a reputation for ruggedness and isolation, and supports a tourism

469   industry sustained by 'cold tourists' (Baldaccino 2006) who seek sustainable

470   experiences away from mass consumption, and are attracted by the islands' cultural

471   and natural heritage. The literature suggests that the impact of natural resource

472   extraction appears relatively minor on these islands, and instead, conservation is

473   motivated by biodiversity and cultural preservation .

474   Conservation on UK islands is underpinned by both European and national

475   legislation, including the most recent UK Marine and Coastal Access Act 2009, which

476   aims to establish a network of MPAs around the UK comprising European protected

477   areas and marine conservation zones (MCZs). In the UK, MCZs are spatially

478   designated before the specific rules of use are outlined. In practice, the new

479   legislation tends not to establish no-take zones but protects key habitat 'features'

480   from destructive gears (e.g., bottom-towed gear) and otherwise continues to allow

481   many existing practices suggesting minimal decline in material wellbeing for

482   resource users.

483   A comparative study by Pieraccini and Cardwell (2016), however,

484   demonstrates the important impacts of this conservation tool on subjective wellbeing.

485   The authors contrast islanders' responses to recent marine protected area policy in

486   the Isles of Scilly off Cornwall and the Isle of Barra in the Scottish Outer Hebrides.

487   The Isles of Scilly, a relatively pristine biodiversity hotspot which include a high

488   number of Nationally Important Marine Feature (NIMF) species (Hiscock and

489   Breckels, 2007), designated eleven new MCZs in 2013. Pieraccini and Cardwell

490   (2016) argue that compared to other experiences in the UK the designation of MCZs

491   in the Isles of Scilly was unique. It was bottom-up, underpinned by high levels of

492   consensus among island stakeholders, a sense of empowerment and ownership of

493   the process, and supported by a relatively strong scientific basis enhanced through

494   tourist diving surveys.

495   By contrast, the similarly sized community of the Isle of Barra strongly

496   contested the designation of a candidate Special Area of Conservation under the EU

497   Habitats Directive for over 13 years (2000-2013) to the extent that they attempted to

498   employ the UN Declaration on the Rights of Indigenous Peoples to query the legality

499   of the designation. Pieraccini and Cardwell (2016) attribute islanders' resistance to

500 conservation legislation in the Isle of Barra to a perception that it was imposed by

501 outsiders and to a history of conflict over land-based conservation. Past experience

502 of terrestrial protected areas, which created additional bureaucracy and delays for

503 crofters seeking government support for land management, now plays into

504 antagonism against outsiders wanting to impose further seemingly unnecessary

505 marine conservation; this is given that environments are perceived to be relatively

506 pristine.

507 In other Scottish Islands, conservation initiatives have been more readily

508 accepted through integration with crofting heritage. Community initiatives supporting

509 the practice of crofting have potential to promote occupational diversity and cultural

510 heritage, but also to contribute to maintaining natural heritage and biodiversity

511 through low intensity agriculture (Mackenzie 2010). Mackenzie (2010) argues that

512 new community land ownership movements are closely tied to claims of sustainable

513 stewardship and land management, in contrast to more external conceptions of

514 nature preservation. More participatory and culturally sensitive approaches to

515 conservation planning that better account for people's values, sense of place and

516 occupational attachments - elements of subjective wellbeing - appear to result in

517 better outcomes for social wellbeing and longer term sustainability.

518

519 **Conclusion**

520 Our framework and case-study discussion illuminates how a holistic

521 interpretation of the wellbeing-island relationship can inform understanding about

522 how different forms of conservation interact and influence wellbeing outcomes.

523   Islands represent a useful microcosm in which to explore wellbeing impacts of

524   conservation because the challenges and vulnerabilities they face are more acute

525   and have comparable elements. Our two case studies demonstrate, in contrasting

526   contexts, how conservation can be interpreted with a wellbeing lens, and suggest

527   that conservation presents different threats and opportunities. In Solomon islands,

528   material wellbeing including food and nutritional security, income (for education and

529   healthcare) and housing (mangroves & forest timber) derived from direct extraction

530   or the selling of extraction rights to companies stands to gain or lose from

531   conservation. In the medium to long-term, outcomes depend on how successful

532   conservation actions are at preserving or enhancing supply of services, but more

533   immediately on how access to natural resources is altered. This potential re-

534   distribution of resources by conservation in turn impacts on relational wellbeing by

535   affecting social cohesion, the durability of customary institutions, and access to

536   resources and places for cultural practices (e.g., feasts, traditional shell money for

537   paying bride price, sacred sites). State-supported customary institutions very much

538   shape the model of conservation implemented in Solomon Islands. Conservation

539   objectives are pursued through hybrid models such as CBRM or LMMAs. These

540   approaches aspire to promote community decision-making and are considerate of

541   social and cultural priorities, which can in one sense preserve the valued aspects of

542   material, relational and subjective wellbeing derived from natural ecosystems, for

543   instance the opening of a closed marine area when school fees are due. On the

544   other hand, the approach can exacerbate local-level inequalities that can exist within

545   customary institutions or contemporary community structures, and concentrate

546   wellbeing benefits to more powerful individuals, tribes or groups. Moreover, these

547   hybrid models may also be limited in their ability to counter the powerful interests

548 and abundant resources of extractive corporations that are arguably more of a threat

549 to the environment, or deliver meaningful development and material wellbeing

550 improvements to communities to meet basic needs and contemporary development

551 aspirations. Thus, while processes of conservation implementation may appear to be

552 complementary to diverse wellbeing outcomes, the substantive outcomes of

553 conservation action are falling short of local to international expectations.

554   In the UK's small islands, given a different set of dependencies, conservation

555 impacts occur through other pathways. The effects of conservation on material

556 wellbeing (food and income) derived directly from resource extraction are mostly

557 limited to regulation of agriculture. In some islands, terrestrial conservation and land

558 management have proved highly controversial and even where real impacts on

559 material wellbeing are arguably minimal, adverse effects on subjective wellbeing and

560 perceptions of conservation process are significant. Instead, the impacts of

561 conservation on material wellbeing (income, employment and housing) occur

562 primarily through its implications for nature-based tourism and property development.

563 The literature points to the mutual material benefits of conservation for biodiversity,

564 cultural heritage and the tourism sector, but highlights how rapid tourism decline and

565 limited property development opportunities pose huge challenges for island

566 communities and underpin a discourse of deprivation. In particular, aspects of

567 relational wellbeing, including cohesion, culture and identity, are impacted by out-

568 migration forced through a lack of jobs and housing, especially for young people.

569 The subjective wellbeing of islanders that stay and those that leave is also affected,

570 although positive feelings of place-attachment and identity can remain strong even

571 for those who live and work elsewhere (sometimes termed rootedness – Gustafson

572   2001). The politics of conservation implementation also have implications for

573   relational and subjective wellbeing. In these island contexts, policy implementation

574   processes are highly sensitive to social identity - us and them, insiders and outsiders

575   – and perceptions of control and autonomy, all of which can positively or negatively

576   influence responses to marine conservation, as evident in the contrasting reactions

577   in the Scilly Isles and Isle of Barra.

578   Conservation approaches that engage with all three dimensions of wellbeing

579   seem to be associated with success. We argue therefore that a social wellbeing lens

580   can be useful in enabling a holistic interpretation of how islands and wellbeing

581   connect, and the role of conservation in influencing wellbeing and sustainability

582   outcomes. The case studies reveal how important material, relational and subjective

583   aspects of wellbeing are to islanders, and, indeed, how intertwined and mutually

584   impacted they are, positively and negatively, by drivers of change, including

585   conservation interventions.   A social wellbeing framework explicitly gives equal

586   importance to all three dimensions, and argues that all must be considered in

587   relation to each other to provide an adequate assessment of wellbeing (McGregor et

588   al 2009). This is supportive of a growing literature which calls for multi-dimensional

589   assessments which use both objective and subjective criteria to understand how

590   people and their environment relate (see Howe 2014).

591

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