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1 **Exploring ‘islandness’ and the impacts of nature conservation through the**  
2 **lens of wellbeing.**

3 **Authors:** Sarah Coulthard, Louisa Evans, Rachel Turner, David Mills, Simon Foale,  
4 Kirsten Abernerthy, Christina Hicks and Iris Monnereau.

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.

## 24 **Introduction**

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

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

44           In the SIDS literature, it is often highlighted that islands share similar  
45 sustainability challenges, many of which are exacerbated by specific island  
46 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

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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.

140

141

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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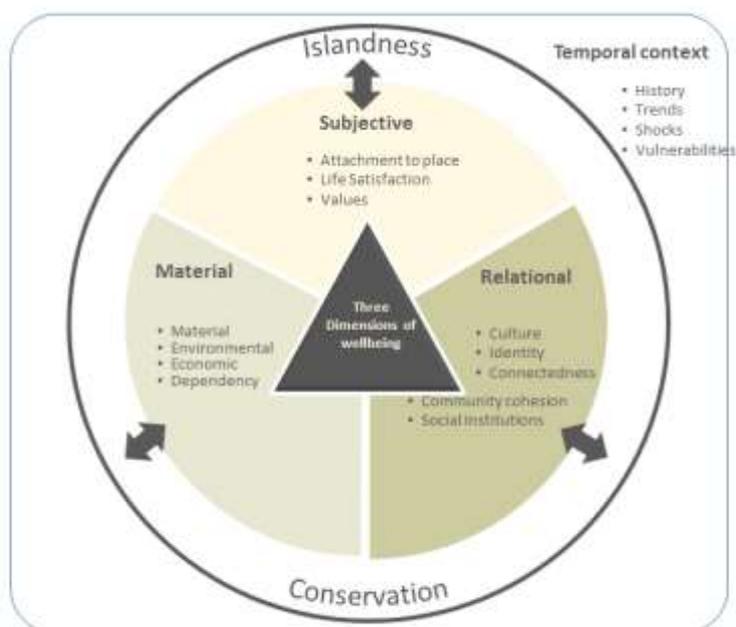
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184 **Figure 1: Conceptual framework for the study of wellbeing and island**  
185 **conservation (adapted from White 2010 to illustrate its applicability to an**  
186 **islands context)**



187 The following text provides a brief synthesis of existing literature to showcase how  
188 islands relate to wellbeing in material, relational and subjective terms. The case  
189 studies which follow address how conservation influences these existing island-  
190 wellbeing relationships.  
191

### 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).

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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  $\geq 20\%$  of their GDP generated by tourism, 27 are island states.

226

### 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

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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.

278

### 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.

314

### 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

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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

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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.

351

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.**

355

		<b>Solomon Islands</b>	<b>UK offshore islands</b>
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

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		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.

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

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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

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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,

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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

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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

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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

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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

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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

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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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