

1 **Stakeholder dynamics, perceptions and representation in a regional coastal** 2 **partnership**

3 **Abstract**

4 Effective stakeholder participation is increasingly seen as an essential part of improving
5 marine and coastal management. Coastal partnerships are a well-established informal
6 method for enabling stakeholder participation in coastal management. However, how well
7 they perform this role has been little explored. The North West Coastal Forum is a UK regional
8 coastal partnership, interacting with stakeholders from across local, regional, national and
9 international spatial scales. At the time of this research, the Forum had been in place for 14
10 years and, with its excellent record keeping, provided a valuable case study of the
11 effectiveness of coastal partnerships to engage with and represent stakeholders over time.
12 This study both analysed Forum records and conducted an electronic survey of Forum
13 members. The diversity of stakeholders that participate in the Forum and how that has
14 changed over time was examined. Forum members' perception of the purpose of the Forum
15 and their level of satisfaction with Forum performance was also investigated. In addition, we
16 explored members' values and how they aligned with the organisations they were
17 representing. Results indicated that, whilst many sectors have been represented on the
18 Management Board and at Forum events, there are some which dominated, particularly Local
19 Authorities, and others, such as extractive industries, which were under-represented. Overall,
20 survey respondents' perceptions of the Forum purpose aligned with its stated purpose very
21 well. Respondents were also supportive of the performance of the Forum: 56% considered
22 the Forum to have delivered on initial expectations "well" or "very well" and only 4% "poorly".
23 Respondents' personal values tended towards pro-environmentalism and were broadly in line
24 with the perceived values of their own host organisations, suggesting that stakeholder
25 representatives can be effective conduits. This study indicates that coastal partnerships can
26 be viewed by stakeholders as an effective means for facilitating stakeholder engagement. As
27 such, coastal management efforts should encourage the development and ideally provide
28 long term support for coastal partnership initiatives. However, this study also suggests that
29 active recruitment is needed to encourage a full range of stakeholders to participate and thus
30 enable coastal partnerships to more fully contribute to integrated coastal zone management.

31 **Keywords**

32 Integrated Coastal Zone Management; Stakeholder participation; Coastal partnership; Post-
33 normal science; North West Coastal Forum; Values

34 **1. Introduction**

35 Until recent years, coastal zone management has predominantly been sectorally based,
36 bound by administrative limits from a range of statutory bodies [1–3]. This sectoral
37 approach has been criticised for a lack of connectedness and a confusion of regulatory
38 authorities, resulting in inconsistent approaches to management, even in adjacent stretches
39 of coast, and a particular lack of integration across the land-sea interface [1]. The failing of
40 the sectoral management approach has often led to degradation of coastal areas [3–6].

41 Integrated coastal zone management (ICZM) is one way to address the disconnectedness of
42 sectoral management and to fulfil the participatory requirements of international
43 legislation. ICZM seeks to bring coherence to management approaches through consultative
44 and deliberative approaches, public participation, and an ecosystem approach of
45 management that spans land-sea-air interfaces [7]. In 2002 the European Parliament and
46 the Council of the European Union officially adopted this approach and issued the
47 ‘Recommendation concerning the implementation of Integrated Coastal Zone Management’
48 [8]. This paved the way for EU member states to adopt ICZM, following eight key principles
49 laid down in the Recommendation. One of these principles focuses on participatory process
50 in decision making, with the explicit inclusion of stakeholders.

51 Stakeholder participation has been shown to be valuable at all stages of coastal
52 management. Involving stakeholders in planning processes has been shown to lead to
53 better environmental decisions [9,10] and enhanced compliance with a given management
54 plan [11]. Stakeholder participation gives planners a greater appreciation of the context of a
55 plan and the potential impacts of different planning options [12]. That can facilitate the
56 early identification and thus more easy resolution of conflict associated with a potential
57 plan [13], and can increase the range of solutions developed [10]. Incorporating
58 stakeholder-derived data has also been shown to reduce the cost of planning solutions [14].
59 Despite the many positive reasons for involving stakeholders, there are nonetheless
60 criticisms levied at participatory processes, such as: being too time-consuming, easily
61 dominated by powerful voices, being consensus driven leading to stagnation, not enabling
62 stakeholders to have truly meaningful input, and lacking in authority to effect change
63 [4,10,15–17]. It has also been susceptible to bias and may not be representative of general
64 public opinion [18], and the process of inviting stakeholders to represent single interests can
65 exacerbate division, impeding solution development [19]. Increasing the diversity of voices
66 being heard and encouraging more deliberative participatory approaches may therefore
67 improve the practice of ICZM, and should thus be a focus of coastal managers.

68 There is now a range of deliberative participatory theories that merit application in coastal
69 management decision-making situations, from cooperative and reflexive knowledge
70 production, for example Mode 2 [20,21], right through to application and practice. Of
71 particular relevance to the dynamic and unpredictable marine and coastal environment [22]
72 is the theory of post-normal science (PNS). PNS is a deliberative theory advocated for

73 application to ‘wicked’ problems, that is problems which hold uncertainty in their solutions
74 and evidence, and for which there are high stakes and high risks. It contrasts with ‘normal’
75 science (according to Thomas Kuhn [23]) which takes a positivist approach in assuming that
76 essentially all problems can be solved with enough data [24–26]. PNS advocates a plurality
77 of voices and use of a range of knowledges, not just that which is derived from scientific
78 method, and recognises the role of values in contemporary decision-making. Consequently
79 it draws on aspects of environmental psychology, such as human and environmental values,
80 in order to develop solutions to complex environmental and scientific problems occurring in
81 a social setting.

82 Advocates for the application of PNS theory argue that it can help un-stall decision-making
83 processes such as those found in sectoral management, by removing ‘lack of evidence’ as a
84 problem [27], and by offering an alternative approach to resolve basic conflicts based upon
85 different philosophical views [28]. Indeed Jones [28] argues:

86 *“Given the divergent values of different stakeholders, the high degree of*
87 *scientific uncertainty, and the high marine resource management decision*
88 *stakes, it is concluded that a key challenge is to adopt a “middle-ground”*
89 *approach which combines top-down and bottom-up approaches, and which is*
90 *consistent with the post-normal scientific approach.”*

91 The right to participate in environmental decision-making is also enshrined in the 1998
92 Convention on Access to Information, Public Participation in Decision-Making and Access to
93 Justice in Environmental Matters (the Århus Convention) [29], which stated that:

94 *In order to contribute to the protection of the right of every person of present*
95 *and future generations to live in an environment adequate to his or her health*
96 *and well-being, each Party shall guarantee the rights of access to information,*
97 *public participation in decision-making, and access to justice in environmental*
98 *matters in accordance with the provisions of this Convention.*

99 In the EU, the Convention has been ratified through a set of directives and regulations
100 relating to public access to environmental information, planning, and justice (Directive
101 2003/4/EC [30]; Directive 2003/35/EC [31]; and Regulation (EC) No 1367/2006 [32]).
102 Together with the Environmental Impact Assessment regulations, EU member states and
103 the UK are obligated to engage the public on environmental matters. The means by which
104 this should be performed is not exactly stipulated in the legislation, however the Århus
105 Convention makes clear the role of NGOs in this process, as representatives of specific
106 public environmental interests. Whilst the ability of NGOs to effectively represent the public
107 has received criticism [10,33,34], it’s nonetheless the case that they now perform a pivotal
108 function in UK and EU participatory environmental management, sending representatives to
109 key local, national and international meetings and contributing directly to policy, for
110 example, in the marine sector, coastal partnerships.

111 Coastal partnerships are an established mechanism for facilitating stakeholder participation
112 and encouraging knowledge exchange between sectors [35,36], which in turn should
113 contribute to the achievement of more integrated coastal management. How effective
114 coastal partnerships are as a stakeholder participation mechanism has not, however, been
115 thoroughly examined. Here this gap is addressed by examining participation, satisfaction
116 levels, and values of the stakeholders involved in a well-established, regional coastal
117 partnership in the UK.

118 **1.1 Coastal management in the UK**

119 The UK makes a good case study for complex coastal management [37]. As a member of the
120 European Union (at present) and with devolved administrations within its borders, its
121 coastal areas are subject to legislation at a broad range of spatial scales [5,38]. A number of
122 government departments, non-government public bodies, and local authorities have an
123 interest in management, alongside the devolved administrations of Northern Ireland,
124 Scotland and Wales, whose remit extends to the 12 nm limit of inshore waters [39].
125 Traditionally the UK has managed coastal waters sectorally [2] but has made some progress
126 towards ICZM [39].

127 The 2009 Marine and Coastal Access Act [40] represented a firm step in the direction of
128 integrated management and compliance with the EU Marine Strategy Framework Directive
129 [41]. The Act requires authorities to produce a statement of public participation for any
130 marine planning activity, which includes people with an interest in the plan, and the general
131 public (Schedule 5, Paragraph 4). It also recognised the need to create a network of Marine
132 Conservation Zones (MCZs) [42] which led to nationwide regional consultation to identify
133 candidate sites.

134 Since the 1990s, a UK-wide, national network of local coastal partnerships has evolved as a
135 voluntary mechanism to coordinate the various actors involved in coastal governance [43].
136 These can be found at numerous coastal locations and vary in their scale, structure,
137 governance and legal identity, but share common features [44,45]. See Stojanovic and
138 Barker [44], Fletcher [43], and Fletcher et al. [46] for comprehensive descriptions of the
139 broader policy background to UK coastal partnerships.

140 These coastal partnerships can be defined as ‘voluntary groupings of stakeholders and lay
141 public bound together by a shared sense of place concerning a discrete coastal area’ [35]
142 and they have a well-established informal role in coastal decision-making based on ICZM
143 principles [47]. At the time of this research there were 42 coastal partnerships, which has
144 increased to more than 50 in 2018 [48]. However, they are suggestions of a general trend of
145 decline in UK coastal partnerships as a result of the changing marine policy landscape [46].
146 Only two of the 42 coastal partnerships were regional during the period of research, a
147 number since increased to eight.

148 1.2 *The North West Coastal Forum*

149 The North West Coastal Forum (hereafter the Forum) was the first regional coastal
150 partnerships to be formed in the UK, and the only one operating in 2014 at a strategic level
151 [44]. Though unusual in its regional scale, the functions it performs are common to other
152 coastal partnerships in the UK, for example running regular conferences and workshops;
153 small-scale project work and report writing; and serving as a hub for local organisations to
154 network [44]. The Forum was established as result of recommendation from government
155 funded research into integrated coastal planning, combined with the growing political
156 interest in ICZM at the time [49]. Founded in 2000, the Forum was designed to address the
157 principle of ICZM within the North West region of England, with its main aim being: “to
158 promote and deliver integrated coastal zone management for the long term sustainability of
159 the North West’s coast”. The Forum vision is focused on “three pillars of sustainability:
160 Environment, Economics and Society.” [50]. Prior to 2010 the Forum was hosted by the
161 Government Office for the North West then the North West Regional Assembly. Since 2010,
162 and at the time of this research, it was hosted by Sefton Council, but is now supported
163 independently [51]. Throughout its history the Forum has depended upon mixed sources of
164 funding, primarily grants or tied to project work (NWCF Secretariat, pers. comm.).

165 [Fig. 1 here.]

166 The Forum covers the North West coast of England, which runs for over 1000km along the
167 east of the Irish Sea and is bounded to the south by the North Wales coast (at the Dee
168 Estuary) and to the north by the Solway Firth at the Scottish border (Figure 1).

169 Administration and management of this coastal stretch is influenced by and shared with
170 neighbouring administrations at local, national and international levels [2] including local
171 authorities; the devolved administrations in Wales, Scotland and Northern Ireland; the Isle
172 of Man and Ireland; and the EU and OSPAR. A variety of governmental and administrative
173 bodies involved in policy-making, non-governmental organisations (NGOs) and groups also
174 have considerable influence in the development and management of local policy [39].

175 Geographically, the North West coast has areas of considerable conservation and economic
176 value and boasts a range of environmental and heritage designations. Prior to Marine
177 Conservation Zone designation, over 30% of protected coast in England was within the
178 North West. With the presence of ten ports, including major ones such as at Liverpool;
179 energy installations (on and offshore); and popular tourist resorts attracting millions of
180 visitors annually, the economy of the North West is heavily reliant on the coast [52]. Yet,
181 around 80% of the coast remains undeveloped [2]. Balancing the needs of the growing
182 number of coastal sectors in an integrated and sustainable way, whilst maintaining
183 environmental integrity, is a substantial local challenge.

184 The Forum acts as a regional hub for local coastal partnership working and has been
185 recognised as an example of good practice, facilitating communication between
186 partnerships and across the region [45]. Common to other UK coastal partnerships [44], the

187 Forum is led by a management group and actions are primarily delivered by a single project
188 officer, the Secretariat. The Management Board is open to all with an interest in coastal
189 management, and is independent of those who have provided funding to the Forum. The
190 Secretariat organises networking and knowledge exchange events for stakeholders within
191 the North West region and more broadly, with both national and international attendees at
192 some events. Together with the Management Board, the Secretariat performs other
193 functions including commissioning research; digesting and disseminating national and
194 international legislation and news; and providing considered and researched consultative
195 responses on behalf of the stakeholders.

196 Like other coastal partnerships, the Forum is key to knowledge exchange within the
197 geographical area it covers, and provides a voice to local and regional stakeholders in
198 national policy (Forum secretariat, *pers. comm.*). Knowing which stakeholders are currently
199 and have historically engaged with the Forum is important for understanding the reach of
200 the Forum in the NW and the extent to which different interests are represented. In the
201 interests of both ICZM and PNS there should ideally be a broad range of stakeholders
202 engaged, from community residents, through industry, to statutory and government bodies.
203 The make-up of engaged stakeholders may potentially impact upon the direction of
204 decision-making in the region and consequently has the potential for influence at higher
205 levels.

206 **1.3 Research Questions**

207 Specifically, this study set out to examine the following research questions:

- 208 1. What are stakeholders' perceptions of the Forum in provision of coastal partnership
209 services?
- 210 2. What is the range of stakeholders that have been engaging with the Forum and how
211 has representation changed over time?
- 212 3. What environmental values do Forum members hold and how do these relate to the
213 perceived values of their host organisation?

214 **2. Method**

215 The North West Coastal Forum was selected as an appropriate case for this research it has
216 been established for 17 years and has extensive records of participation over that time.
217 These records were examined from inception to 2014. The examination of records was
218 complemented with a survey of existing Forum members. As well as exploring stakeholder
219 satisfaction with the Forum, stakeholder values and how these aligned with the perceived
220 values of their organisation were also explored. The personal values that stakeholders hold
221 are rarely considered in the literature on participatory processes, and how personal values
222 may differ from the organisations individuals represent has not been explored. As these
223 personal values may impact upon how representatives participate within the Forum, it is
224 highly relevant when considering the efficacy of a stakeholder process.

225 **2.1 Stakeholder representation**

226 The main form of engagement with the public and stakeholders is via the Forum's regular
227 events. The Forum keeps records of all event attendees: 21 events between 2004 and 2012.
228 The Forum also has records of members of the management board since its inception in
229 2000. These documents were analysed to determine historical stakeholder engagement.
230 Event attendees and board members were categorised by the type of organisation they
231 represented (19 categories) and by sector (61 categories) (Table 1).

232 Attendee classification was determined by internet research into the purpose or business of
233 the organisation, and cross-referenced with the Forum's own database classification. Single
234 organisations covering a range of fields were classified using Secretariat knowledge of their
235 reason(s) for engagement with the Forum at a given event. Classification of each
236 organisation was then used throughout all analyses.

237 [Tab. 1 here]

238 Management board member categorisation used data included in annual report publication
239 and board meeting attendee lists. For analysis of overall type of organisation management
240 board members represented, both sets of data were combined. However, for analysis of
241 change in representation of organisational type over time each data set was considered in
242 isolation, enabling the examination of difference between those named as on the board and
243 those who actively attended meetings. Events attendees and board members whose
244 organisational type could not be identified at all were categorised as *various*.

245 Event attendance over time was analysed according to event, whereas management board
246 membership was considered on an annual basis. Attendees who were not present as a
247 stakeholder (e.g. translators, presenters) were excluded from analyses. Individuals in
248 attendance as stakeholders of more than one organisation had their attendance value split
249 across the relevant organisational types. For example, a representative of a business at a
250 single meeting was allocated a value of 1; a representative of both a community group and a
251 consultancy was allocated 0.5 to each type or sector.

252 **2.2 Stakeholder survey**

253 In 2014, an online survey was sent to the Forum stakeholder list which was composed of
254 previous event attendees, current or former management board representatives, and any
255 additional individuals who had requested to be on the Forum mailing list. The survey
256 distribution method was chosen on the basis that the Forum Secretariat typically
257 communicated via email and the survey could be cheaply and effectively distributed to all
258 stakeholders. A news article about the research was placed on the website inviting
259 participation but it elicited no responses. (See Supplementary S1 for complete survey.)

260 The survey was predominantly quantitative with a mixture of Likert and multiple choice
261 questions, but included some qualitative questions. The survey sought to identify the

262 organisation type (e.g. business) and sector (e.g. fishing) of each stakeholder and gather
263 general demographic information about the individuals. It also aimed to uncover opinions
264 on the purposes (as replicated from the Coastal Partnerships Network report to enable
265 direct comparison with the Forum's stated purpose [45]) and efficacy of the Forum, and
266 assess the environmental values of stakeholders and their host organisations, as perceived
267 by the stakeholders. Respondents had the option to respond in a personal capacity and
268 those respondents were not included in any analyses comparing personal and organisational
269 values. The survey requested organisation type and sector information via multiple choice,
270 plus an 'other' field.

271 2.3 Value statement analysis

272 A large section of the online survey considered respondents' different value positions in the
273 context of coastal zone management, to allow comparison between values and other
274 characteristics such as organisational sector, political position, educational level etc.
275 Respondents were provided with a five-point Likert scale (*strongly agree-strongly disagree*)
276 and a 'don't know' option. Using this scale they were asked to rate a series of value
277 statements, which were constructed to reflect conflicting values between environmental,
278 economic and social issues (See Supplementary S2 for a full list). These were chosen to
279 reflect a diversity of pro- and anti- positions: science, localism, community participation,
280 environmental protection and conservation, economic priority. These values were
281 considered to be important for conflict resolution and coastal zone management, and also
282 contribute to an understanding of how post-normal science might be prevalent in or useful
283 to this method of stakeholder engagement. The first set of statements was repeated, asking
284 for both personal and organisational perspectives, allowing a comparison between
285 organisational and personal values to explore how well aligned these were. The second set
286 of value statements were asked from a personal perspective only. The rationale for this
287 approach was that many of the relationships within the Forum were based on the individual
288 rather than the organisation, as demonstrated by changing levels of commitment with
289 changes in staff (North West Coastal Forum, pers. comm.). It is probable therefore, that
290 personal values are significant in shaping the way the Forum and stakeholders influence one
291 another.

292 2.4 Data analysis

293 Qualitative questions were manually mapped thematically and coded for emergent common
294 themes. Likert scales were converted to numbers for analysis (very well=5 to very poorly=1;
295 strongly agree=5 to strongly disagree=1; don't know=0). Statistical tests were performed in
296 SPSS. Non-parametric Spearman correlation was used to test similarity between personal
297 and organisational values; Wilcoxon Signed Ranks was used to test difference.

298 **3. Results**

299 **3.1 Stakeholder representation**

300 **3.1.1 Forum events**

301 Attendees at events came from a broad range of organisation types and sectors. In total,
302 379 organisations were represented at one or more of the 21 events. 203 organisations
303 sent only one representative to a single event but many organisations sent multiple
304 representatives. Local authorities sent the most individuals, a total of 94.5 out of 1484
305 people at all events combined, representing 53 authorities. However, at an organisation
306 level, businesses were the most highly represented (34%, n=130) followed by local
307 authorities (14%, n=53). Academics, NGOs, partnerships¹ and government agencies showed
308 similar representation (8.7%, 8.4%, 8.2% and 7.7% respectively). Regional government and
309 regional agencies, projects², town council and education were least represented with only
310 one or two organisations each, though it is to be expected for regional organisations to be
311 small in number compared to multiple organisations working at smaller scales.

312 Events each had a theme and examination of attendance gives an indication of thematic
313 interests of each type of organisation. Education, projects, regional government and town
314 council were only represented at one event each, on specific themes of
315 sustainability/community interest. Conversely, NGOs were represented at all 21 events and
316 government agencies and local authorities and partnerships at 20; unsurprising for
317 organisations with statutory duties and/or sweeping interests in the marine and coastal
318 environmental management. Event themes that were highly focused attracted a smaller
319 number of attendees and frequently a majority of businesses.

320 Changes in representation of these different types of organisation over time were analysed
321 and the findings are presented in Figure 2 (note some types were combined for ease of
322 presentation). Some organisation types have held a fairly consistent proportion of
323 representation, such as NGOs, charities, and government agencies. Local authorities
324 dominate the chart, largely because of the multiple individual representatives previously
325 discussed. Of note is the greater involvement of voluntary organisations in recent years.
326 These are not charities, which are classified separately, but community organisations
327 representing local issues, for example friends groups. This pattern may reflect attractiveness
328 to individuals and voluntary groups of specific themes, e.g. marine spatial planning, or may
329 indicate a growing trend of more community involvement in participatory processes at the
330 Forum that would warrant further investigation, which is considered further in the

¹ Partnership refers to collaborative groups that are not an organisation or short-term project but which generally house representatives from a number of different organisations with interest in a particular location or activity. They are distinct from loose voluntary organisations which are comprised of interested members of the public rather than organisations.

² A representative of a time-limited discrete project not coordinated by any specific organisation.

331 discussion. There has been an overall increase in proportion of attendees classified as
332 various since around 2009 (combined with 'other' category in Figure 2). This may also
333 indicate a diversification of the stakeholders getting involved with the Forum to include
334 more members of the public.

335 [Fig. 2 here]

336 Analysis of attendees by sector provided a more sensitive picture of representation at
337 events. Those in the bottom two quartiles included the following industries: *dredging* (n=1),
338 *transport – air* (n=1), *transport – sea* (n=1), *transport – land* (n=2), *boating* (n=3),
339 *construction* (n=3), *defence* (n=3), and *energy* (non-renewable) (n=3). The top quartile
340 (shown in Figure 3) was dominated by *local authority* (n=49). It also included *environment*
341 (n=24), *engineering* (n=19), *scientific research* (n=18), *renewables* (n=17), and *conservation*
342 (n=17). *Fisheries* (n=14) also appears in the top quartile. The high presence of
343 environmental, conservation and scientific sectors may influence the perception of the
344 Forum.

345 [Fig. 3 here]

346 3.1.2 Management Board

347 The management board acts as a steering group and has the most significant influence on
348 the activities of a coastal partnership [47]. Over the course of the Forum a total of 55
349 organisations have been represented on the Board. The most commonly represented
350 sectors, by organisation, are partnership (n=13), local authority (n=11), government agency
351 (n=7), and business (n=5). Unlike with the event attendee data, the management board data
352 included roles of local authority representatives enabling a more specific sectoral analysis.
353 Only 19 of the 61 sectors identified in the events analysis were represented on the board
354 (Figure 4). Most highly represented were regeneration (n=12), coastal defence (n=7), Local
355 Coastal Partnership (n=7) and environment (n=5). Some notable exceptions include
356 aggregates, boating, and sailing. Planning, marine spatial planning, community and
357 countryside, all listed in the top quartile of subsectors in the survey data, may be covered to
358 some extent within the regeneration, conservation and government categories for Board
359 members' roles. There were no members of the public or community organisations present
360 on the board at any time in its history. Only large national charities were present from the
361 voluntary sector. Board membership is open to anyone who is a stakeholder and who
362 wishes to get involved, therefore the limited representation is not a function of direct
363 selectivity by the Forum.

364 [Fig. 4 here]

365 Unlike the variation present in event attendees, the board membership showed a relatively
366 static distribution of sectoral representation over time with changes predominantly driven
367 by institutional changes in organisations. However, actual attendance at board meetings did

368 show some temporal diversity (Table 2). Whilst Government authorities and agencies have
369 remained a steady presence, possibly connected to the Forum's origins within regional
370 government, more diversity has been seen in representation of other sector types. For
371 example, concurrently with the establishment of the UK Marine Management Organisation
372 (MMO) in 2010 and a period of consultation which may have both raised awareness of the
373 Forum amongst other individuals and groups, or provided an avenue for others to gain
374 timely influence in local coastal management.

375 [Tab. 2 here]

376 3.2 Survey

377 After removal of bounced emails and duplicates the final number of email addresses in
378 receipt of the survey was 1284 and 125 responded. A number of recipients may no longer
379 have been involved with the Forum despite being on the list, and two emails were received
380 indicating this to be the case. For this reason it is difficult to calculate an accurate response
381 rate against recipients still engaging with the Forum. Not all respondents completed all
382 questions and the sample set for most value questions was in the region of 80.

383 The survey data provides a snapshot of the stakeholders represented at the Forum through
384 event attendance or interest. Respondents were given a concise list of organisation types to
385 select from which was compared to the sectoral analysis of the event attendee lists.

386 Grouping the event attendee data into this smaller range and plotting against the survey
387 data showed a broadly similar distribution indicating a satisfactory degree of consistency in
388 organisation classification across the data sets (Figure 5).

389 [Fig. 5 here]

390 Of the 61 sectors identified in the Forum documents, 58 were represented within the survey
391 respondents. Three government agency/government respondents selected 23-24 sectors
392 indicating the breadth of issues of interest to some large organisations. The majority of
393 respondents selected only one (n=63) or two (n=19) sectors indicating that most
394 stakeholders represent single issues. Other sectors additionally provided included marinas,
395 museums, advocacy, European NGO, reduction of litter, development of coastal path.
396 Sectors selected by only a single respondent (including building surveyors; defence (MOD);
397 fish wholesale; international partnership; marine engineering consultancy; meteorology;
398 real estate; shipping; and telecoms) are not heavily involved with the Forum. Some of these,
399 together with aggregates in the bottom quartile, are important sectors for marine planning.

400 3.2.1 Perceptions of the Forum

401 The survey examined respondents' perceptions of the Forum, both efficacy and purpose, as
402 well as their reasons for participation. 36% (n=27) of respondents indicated their
403 professional role was the leading reason for participating; 26% (n=20) cited a general or
404 local interest in coastal conservation and/or management. 16% (n=12) had attended an

405 event as first contact with the Forum. The remaining reasons could be classified as project
406 based, networking, board election, personal invitation, or involvement with its inception.

407 On the whole respondents were highly satisfied with the Forum: 56% (n=43) considered the
408 Forum to have delivered on initial expectations well or very well. Only 4% (n=3) felt the
409 Forum had delivered poorly. 73% (59) of respondents strongly agreed or agreed that the
410 Forum is a “neutral, broad and honest broker”. This is important because most respondents
411 (81.7%, n=67) considered the Forum’s purpose “to provide broadly based consultative
412 forum on the coast” – the most highly selected of 8 purposes (Figure 6). Only 19
413 respondents (23.2%) identified ‘meeting statutory requirements’ as a purpose of the Forum,
414 and this was the only purpose that the Forum did not self-identify with in the Coastal
415 Partnerships Network Report [45]. Surprisingly ‘to drive a partnership approach to coastal
416 issues’ was the least chosen purpose, only chosen by 5 respondents (6%).

417 [Fig. 6 here]

418 Respondents were given a list of services the Forum could offer as a coastal partnership and
419 asked to rate how successfully the Forum had delivered them. Figure 7 shows that the
420 majority of services were favourably rated. The least favourable rating (‘poorly’ + ‘very
421 poorly’) was ‘Community engagement and awareness raising’ at 11.8% (n=11). In the
422 Coastal Partnerships Network Report [45] this was the only service that the Forum itself did
423 not list as providing.

424 [Fig. 7 here]

425 Overall, the Forum was viewed positively as an effective provider of services that met the
426 expectations of stakeholders. Thus as coastal managers and policy makers aim to involve
427 stakeholders in the development of more integrated management and meet national and
428 international obligations for participation, developing and expanding voluntary coastal
429 partnerships is one potentially effective option.

430 *3.2.2 A comparison of Forum stakeholder personal and perceived organisational values*

431 Respondents were provided with a set of values relating to a range of environmental
432 perspectives including the influence of science, localism, economics, and environmental
433 protection (see Supplementary 2). They were asked to respond from both a personal
434 perspective (77 responded) and what they believed were their organisation’s perspective
435 (81 responded). The grouped data for each value clearly showed a similarity of distribution
436 between the two sets when plotted on a frequency chart and the non-parametric Spearman
437 correlation was used to ascertain the degree of similarity. Results of the Spearman analysis
438 showed positive correlation between personal and perceived organisational values for all 12
439 value statements (r_s values: V1=0.687; V2=0.597; V3=0.66; V4=0.716; V5=0.397; V6=0.478;
440 V7=0.781; V8=0.582; V9=0.515; V10=0.657; V11=0.735; V12=0.580, $p<0.001$ in all cases). In
441 such emotive fields as environmental management and exploitation it is not surprising that

442 people choose to work for organisations they believe broadly share their own values. People
443 pursuing education to a high level may be more likely to do so in order to pursue their own
444 interests and values in a career context and over half (56%, n=46) of respondents were
445 educated at post-graduate level and another third (32%, n=26) to degree level.

446 A small number of value statements showed some slight variation in distribution between
447 personal and perceived organisational values and the Wilcoxon Signed Ranks test of
448 difference was applied to the data. Only one value had a result significant to $p < 0.05$: Value
449 10 "We should take full advantage of coastal and marine resources and exploit them to their
450 full potential" ($z = -2.123$, $p = 0.034$). Examination of the data showed that 8 respondents
451 rated this personal value higher up the scale of agreement than for their organisation; 38
452 rated their agreement equally for personal and organisational perspectives; and 20 rated
453 their agreement with this statement as less than that of their organisation. These results
454 imply that on this issue of exploitation of resources, a significant number of respondents
455 believed their organisation was more in favour of exploitation of the marine and coastal
456 resources than they were themselves.

457 To examine overall group agreement and disagreement, all values were plotted as
458 frequency histograms and skewness calculated. Values highly or moderately skewed
459 towards agreement or disagreement are shown in Table 3. All statements that were highly
460 skewed were so towards agreement with values that were pro-environmental; pro-science;
461 accepting of organisational responsibility; inclusive of all stakeholders; and balanced in
462 terms of social, socio-economic and environmental importance. Eight of these were
463 personal values, and three organisational values, suggesting that respondents' personal
464 values were more favourable towards a pro-environmental and pro-participatory position
465 than were the perceived values of their host organisations. There was some evidence to
466 suggest that individuals were less pro-exploitation than the organisations they represented.
467 V10, a pro-exploitation statement, was moderately skewed towards disagreement for both
468 personal and organisational responses, as was a further pro-exploitation statement, though
469 both were the least skewed of this set. There was a strong personal and organisational
470 tendency towards taking a balanced approach to coastal management. Differences between
471 personal and organisational values suggested that respondents may believe that
472 responsibility lies more with organisations than with individuals (V50, V5P, and V9P).

473 [Tab. 3 here]

474 **4. Discussion**

475 Participatory decision-making is increasingly recognised as important for effective marine
476 and coastal environmental policy [9,14,46–48]. There is both legislative imperative [8,29]
477 and evidence from research and practice [9,10,18] that public participation makes for better
478 decisions and problem-solving. Deliberative theories, such as post-normal science (PNS),
479 argue that complex environmental problems cannot be solved by the application of science

480 alone, and scientific evidence must be used alongside other kinds of knowledge in order to
481 produce the best solutions [10,24]. Coastal partnerships are designed to facilitate
482 stakeholder participation and knowledge sharing. This research explored the efficacy of a
483 regional coastal partnership, the North West Coastal Forum, and considered: the diversity of
484 stakeholders that engaged with the Forum, their values and their level of satisfaction with
485 the partnership.

486 The Forum's purpose was well understood and highly approved of by stakeholders. A wide
487 range of stakeholders engaged with the Forum, but some sectors dominated in number of
488 both individual organisations and individual representatives. There were temporal variations
489 in stakeholder sector engagement related to event themes and time-limited projects, and
490 there was a tentative pattern of increasing involvement from grass roots and community
491 groups, amongst the local authority and business-dominated representatives, though this
492 did not translate to the management board. Stakeholders considered the Forum an
493 effective service provider. There was a pro-environmental tendency amongst engaged
494 stakeholders and, in general, there were shared values between organisation and
495 representative.

496 Voluntary coastal partnerships such as the Forum have been seen as a stage in the evolution
497 of ICZM, with a recognised value in nurturing the ethos of ICZM where no statutory
498 authority exists to deliver it [6]. The utility of coastal partnership has however been highly
499 criticised by some [6] and realising their potential is not easy. This study shows that coastal
500 partnerships can be successful, at least from the perceptions of the stakeholders that
501 engage with it. The Forum has maintained a steady presence for 14 years, engaged with a
502 large number of stakeholders from a broad mix of sectors; delivered regular, well-attended
503 events focused on cross-sector issues; and provided a range of services that are both
504 recognised by the stakeholders and perceived as being effectively delivered. As such our
505 findings support the potential of coastal partnerships to contribute to evolving ICZM. The
506 future for partnerships such as the Forum may be as advisory authorities to statutory
507 structures with an ICZM function, with their remit of involving and informing individuals on
508 coastal issues [6]. Complementary to this role, local and regional coastal partnerships, such
509 as the Forum, can support effective integration of information systems within decision-
510 making [57].

511 Coastal partnerships have been criticised for exaggerating claims of stakeholder
512 involvement [35,36,44], yet our findings show that the Forum both succeeded in obtaining
513 diverse stakeholder involvement in numerous events held over a 14 year period and
514 succeeded in terms of stakeholders satisfaction for delivering on expectations. Thus is
515 seems that in general the Forum is effective at engaging and involving stakeholders. Indeed,
516 it has been previously identified that internal constraints are the primary cause of coastal
517 partnership inefficacy, particularly the time diverted to securing funding [44,58]. Thus, lack

518 of dedicated long term funding may what hold coastal partnerships back, not their ability to
519 engage stakeholders.

520 The diversity of stakeholders that engage with coastal partnerships has implications for the
521 partnerships capacity to contribute to integrated management. One of the big criticisms of
522 stakeholder participatory structures is the risk that some voices will dominate discussions
523 and positions at the expense of others [4,6]. Here, whilst the Forum engaged with a broad
524 suite of stakeholders, local authority and certain businesses tended to dominate both
525 events and the management board, in terms of numbers. Underlying causes for this might
526 include the historical involvement of regional and local government in hosting the Forum, or
527 may reflect the importance of the Forum to local government as a means of contributing
528 ICZM to statutory responsibilities. The far lower representation of industries that have a
529 significant impact on marine environmental health, such as aggregate extract, may limit the
530 capacity of the Forum to contribute to integrated management. The comparative lack of
531 diversity in engagement on the management board responsible for steering the coastal
532 partnership is also cause for concern, and opens the Forum to the risk of perceptions that it
533 is biased. Though the board has open membership, the lack of representation of many
534 groups suggests there are barriers to participation in this leadership role, which warrants
535 further exploration. However, that results also show that new and more diverse
536 organisations were engaged through thematic events is promising and indicates that coastal
537 partnerships can encourage wider engagement though a strong diversity of events, with
538 themes tailored to target stakeholders.

539 The post-normal science approach indicates representation of differing types of knowledge
540 and values in order to develop better solutions and can be applied to complex coastal issues
541 [59]. By bringing together decision-makers and a wide range of stakeholders and publics,
542 the Forum offers decision-makers the opportunity to better understand the context in
543 which they are making decisions and in so doing continues to meet its objective of being a
544 *“broadly based consultative forum on the coast”* [45]. The Forum is also contributing to the
545 EU Recommendation on ICZM [8], which stipulates engagement of *“economic and social
546 partners, the organisations representing coastal zone residents, non-governmental
547 organisations and the business sector”*, by facilitating stakeholder representation from a
548 considerable range of coastal interests.

549 In considering representation, this study looked at organisational interests, which are
550 important and highly significant, particularly in terms of statutory responsibilities and
551 impacts upon the environment. Post-normal science theory would, however, go a step
552 further in advocating direct involvement of stakeholders, not just of organisations, but of
553 the public themselves, as not only coastal zone residents and businesses are affected or
554 interested in marine health. Unlike attendance as an organisational representative,
555 individual attendance incurs personal cost (time and expenses). To encourage participation
556 from individuals from the general public the Forum and other coastal partnerships may

557 need to adapt their engagement mechanisms. Holding events at the weekend, for example,
558 may enable more individuals to attend, but may conversely make attendance more difficult
559 for others, such as members of the civil service. Another possible way of improving
560 attendance of less well represented groups, be they individuals, fishers, or community
561 groups, could be facilitated through additional funding utilised in subsidising costs of
562 attendance [16].

563 Respondents, in general, reported similar values to the stakeholder organisations that they
564 represented. The relationship between a stakeholder organisation (or constituency) and its
565 representative is considered fundamental to the flow of views to a coastal partnership, and
566 there is a risk that an individual will represent their own views rather than those of the
567 organisation they represent, consciously or subconsciously [47]. Here we showed a very
568 strong association between personal and perceived organisational values, indicating that
569 professionals either grow to align with their organisational aims or, perhaps more likely for
570 environmental professions, individuals choose to work for organisations which broadly
571 reflect their personal values. Whilst there is limited existing research exploring this
572 connection in the environmental sector, one study found that good ecological credentials
573 makes companies more attractive as prospective employers, though the study found no
574 connection between an individual's ecological values and attractiveness of an employer by
575 its ecological statement [60]. The good alignment of personal and organisational values
576 demonstrates that individuals present at Forum events are likely to be strong
577 representatives for their organisation's values and contribute to the decision-making
578 process in a way which is relevant to their organisation's aims, provided that their
579 perception of organisational values is accurate.

580 The deficit in representation from extractive industries and the general public is of particular
581 concern for a partnership aiming for ICZM and one common to other coastal partnerships
582 [35,36,44]. Though results here show that the members of the Forum consider it to be a
583 neutral, honest broker, the Forum appears to suffer from a perception of pro-environmental
584 leaning (North West Coastal Forum, pers. comm.), which may negatively influence
585 attendance by some industries. A perception of pro-environmentalism may discourage
586 some stakeholders and they may not feel they will get an equal voice or fair hearing.
587 Alternative explanations for lower participation of extractive industries might be perceived
588 significance of the Forum [47] or barriers to attendance. The pro-environmental leanings of
589 the Forum may, in part at least, be the result of attendance of stakeholders that are
590 motivated and financially able to attend, rather than be representative of all those who
591 have an interest. It may also be that different methods of communication are needed to
592 engage with some sectors, such as fishing [16]. Active recruitment of underrepresented
593 sectors may help to alleviate perceptions of bias and increase the capacity of the Forum to
594 represent the full suite of coastal sectors. Again, targeting events to appeal to these
595 underrepresented groups may also be useful.

596 This research was made possible in part by the excellent historical record keeping of the
597 Forum and provides an informative temporal analysis of stakeholder participation, values,
598 and perceptions of the Forum. The knowledge that some sectors are attracted to events of
599 particular themes (Figure 2) enables coastal partnerships to reflect on their stakeholder
600 engagement processes and target efforts to engage under-represented sectors. Research
601 such as this may also support funding applications as evidence of effective performance.

602 This study focused on a regional coastal partnership and some caution should be exercised
603 about applying the potential issues of under representation of extractive industries and the
604 general public to other partnerships, which work across different scales. Indeed, local CPs
605 may engage stakeholders differently. However, our findings of low representation of certain
606 industries is common to other research [35,36,44] and future studies should explore in more
607 detail the incentives and barriers to stakeholder engagement with coastal partnerships,
608 which in turn can inform coastal partnerships policies and activities.

609 **5. Conclusions**

610 Coastal partnerships can be effective in delivering a wide range of services that promote
611 integrated coastal zone management via engagement with a varied stakeholder base. In
612 particular, this work shows that coastal partnerships can bring stakeholders together and
613 facilitate dialogue in a way that stakeholders are satisfied with. However, this study has
614 highlighted a risk that coastal partnerships may fail to engage with the full range of
615 stakeholders and, with that shown, the potential that their utility will be limited as a result.
616 Indeed, it is within the most contentious areas of conflict, bringing together historically
617 opposed stakeholder groups, where coastal partnerships could offer the greatest benefit.
618 The lower participation by extractive industries shown here represents a missed opportunity
619 for dialogue between these industries, conservation-focused stakeholders, and policy-
620 makers. Potential perceptions of bias within coastal partnerships may limit the range of
621 stakeholders that engage, but engagement may also be affected by a range of perceived or
622 real barriers, such as cost. Future research should address the challenging question of how
623 coastal partnerships can influence higher decision-making levels, and what influence,
624 therefore, is exerted by the composition of stakeholders engaged in the partnership.

625 Ultimately, at least initially, coastal partnerships may need to invest in active recruitment of
626 under- and unrepresented groups. This inevitably requires resourcing: more staff or
627 volunteer time, flexibility in events and their timing/location, and allocation of sufficient
628 funding to remove logistical barriers. However, more complete representation of the full
629 range of coastal stakeholders will improve the ability of coastal partnerships to facilitate
630 comprehensive knowledge exchange and ultimately contribute to more integrated
631 management. Thus, whilst coastal partnerships may be an effective way to encourage
632 stakeholder participation, adequate resourcing guaranteed over extended timeframes will
633 be needed for coastal partnerships to reach their potential in terms of contributing to ICZM.

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