

Evaluating the Impact of the 2017 Conservation Optimism Summit and the Broader Implications of Conservation Optimism

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"Optimism is the faith that leads to achievement...no pessimist ever discovered the secret of the stars, or sailed to uncharted land, or opened a new doorway for the human spirit".

Helen Keller (1890 - 1968)

DECLARATION OF OWN WORK

I declare that this thesis, "Evaluating the Impact of the 2017 Conservation Optimism Summit and the Broader Implications of Conservation Optimism", is entirely my own work, and that where material could be construed as the work of others, it is fully cited and referenced, and/or with appropriate acknowledgement given.

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LIST OF ACRONYMS

- **CO** Conservation Optimism
- ToC Theory of Change
- ANOVA Analysis of Variance

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iii

STATEMENTS OF OWN WORK

All data collected and used for this study were gathered by myself, Holly-Marie Richards, and are entirely my own, unless otherwise referenced. My supervisors have provided invaluable academic support, and contributed significant intellectual effort to the design of the study. All participants consented to their involvement and use of their responses in the study.

1 ABSTRACT

2 The negative discourse around conservation has been widely discussed in both popular and scientific 3 literature, many authors have suggested balancing the current, predominantly problem focused 4 narrative with a more optimistic and solutions focused approach. Despite being widely discussed, 5 these ideas had not previously been applied in a strategic way. This year on Earth Day (22nd April 6 2017) several events were held internationally to celebrate conservation successes and outline a 7 positive vision for the future. One of these events was the "Conservation Optimism Summit", 8 organised by scientists from the University of Oxford, the Durrell Wildlife Conservation Trust and the 9 Zoological Society of London. This study presents a preliminary impact analysis of the summit and 10 also explores the conservation/earth optimism paradigm in a broader context. It reviews the 11 development of the paradigm over time and the debate as to how a more optimistic approach could 12 make conservation more effective. The impact of the summit was primarily that it brought together 13 new groups of people from different sectors, the majority of whom had remained in contact 2 months 14 later. More than half also reported that they felt part of a wider international network of likeminded 15 people as a result of attending. However, there was no significant change in measured levels of conservation optimism in attendees before and after the summit. Conservation optimism scores were 16 17 not affected by career level, sector or gender and the factors underlying them were found to be much 18 more complex and varied. Limitations of the study are considered and suggestions for future steps 19 are offered.

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- Keywords: Conservation Optimism; Earth Optimism; Hope; Natural World; Success Stories;
 Optimism Summit.
- 27

28 INTRODUCTION

29 Optimism has been the subject of extensive research by psychologists in the past few decades and is 30 consistently associated with a range of positive life outcomes including improved physical health, 31 higher professional and educational achievement and increased socioeconomic status (Seligman & 32 Csikszentmihalyi, 2014). Forgeard and Seligman (2012) argued that an individual's "optimistic 33 explanatory style" can help us to understand why some people are more resilient and less likely to 34 give up in the face of adversity whilst others become helpless in response to environmental stressors 35 that are out of their control. Given the benefits of improved life outcomes and increased resilience to 36 trauma cultivating optimism is now a common strategy adopted in therapeutic settings to increase 37 wellbeing (Carver et al., 2010). Similarly, in the conservation literature there have been many calls to 38 readdress the imbalance of pessimism percolating the discipline and to build a more balanced 39 narrative of realism and optimism (Beever, 2000; Orr, 2004, 2007 Webb, 2005; Swaisgood & 40 Sheppard, 2010, 2011; Balmford, 2012; Knight, 2013). It has been argued that reframing the narrative 41 to be more balanced and solution focused (as opposed to problem focused) will benefit the discipline 42 and increase its effectiveness in a range of different ways. These include increased public 43 engagement, more effective recruitment to the sector, further interdisciplinary collaboration with the 44 private sector and increased resilience and motivation in practitioners. These arguments and related 45 empirical evidence are reviewed below.

46 Increasing public engagement and behavioural change is critical to progress conservation goals, 47 conservation is more about people and the decisions they make than it is about biology (Balmford & 48 Cowling, 2006). Understanding conservation as a social process that aims to facilitate behavioural 49 change requires requires practitioners to adopt the most efficient tactics to engage different groups 50 (communities, consumers, businesses etc.). Redford & Sanjayan (2003) argued that defining 51 conservation science as a "crisis discipline" had initially caught the world's attention but that decades 52 later the perpetuation of this conceptualisation has become counterproductive and is contributing to 53 "crisis fatigue" among global audiences. Morton (2017) suggested that the prevalence of pessimism 54 amongst ecologists often leads to exaggeration and misanthropy when communicating results. 55 Negative messaging concerning environmental issues is potentially damaging to conservation actions 56 as it limits impact due to disengagement (Ochoa-Ochoa et al., 2015). This argument is supported by

empirical evidence suggesting that a focus on negative impacts to scare audiences into action is
largely ineffective and can be more damaging by causing them to disengage with issues entirely
(Moser & Dilling, 2011). Messages promoting sustainable behaviours are more successful at
engaging audiences than messages emphasizing the severity of failing to do so (Van de Velde et al.,
2010). Fostering long term pro environmental behaviour requires empowering people at an individual
and local scale (Fernandes & Guiomar, 2016) combined with social support or peer pressure for
maintaining the behaviour (Moser & Dilling, 2007).

64 A key line of argument developed by Swaisgood and Sheppard (2010) in their paper highlighting the 65 culture of hopelessness in conversation was that a culture of despair may fail to inspire the next 66 generation of would-be conservation scientists. Additionally, they argued, it could influence the type of 67 people being recruited to the sector by creating a selection bias towards the more misanthropic or 68 problem focused, reducing the diversity of personalities making up future cohorts. The idea that a 69 pessimistic culture seeps through to environmental education programmes (and subsequent 70 recruitment to the sector) has been supported by a growing literature on the psychological 71 implications of environmental education (Kool & Kelsey, 2005). For example, a Swiss study found 72 that when discussing the state of the environment secondary school students demonstrated 73 characteristics in line with the clinical diagnosis of depression including guilt, pessimism, a bleak 74 outlook of the future and an external locus of control (Zeyer & Kelsey, 2012). The authors comment 75 that negative emotions are widespread across environmental education programmes but is an issue 76 that is rarely addressed. Blame focused messaging in environmental education has been attributed to 77 the disempowerment of students and education research suggests combating this by engaging 78 students through encouraging a love and respect of nature, maintaining hope and optimism and the 79 sharing of success stories to present both problems and solutions (Hicks, 2010).

The culture of hopelessness does not just impact students and can also contribute to burn out in professionals. Leopold (1949) famously stated that ecologists "live in a world of wounds" referring to the fact that an increased understanding of the natural world results in a deeper awareness of its plight, Beever (2000) built on this metaphor by suggesting that conservation biologists are "performing triage daily on a ward full of chronically haemorrhaging patients". He goes onto describe how during the course of their careers practitioners continuously grapple with the loss of biodiversity, the constant

onslaught of bad news over time he argues can cause professionals to become increasingly
pessimistic and jaded. Hobbs (2013) proposed that conservationists are passing through the five
stages of the grieving process in response to the loss of nature. Kelsey and Armstrong (2012)
reported echoes of these narratives of disillusionment and burnout in a series of facilitated workshops
with staff and volunteers at a climate change exhibition. Participants reported feeling hopeless and
angry at the current state of the planet in addition to reported alienation from loved ones who
embraced lifestyles of high consumption.

Burnout and pessimism amongst those working to preserve nature is logically justifiable (Morton,
2017). However pessimism and optimism are cognitive constructs highly correlated with motivation
and professional performance. Research consistently associates pessimism with disengagement,
optimism on the other hand is associated with increased exertion of effort and higher professional
attainment (Carver & Scheier, 2014). Hence encouraging a culture of hope and optimism (balanced
with the realism of challenges faced) can reduce burn out and contribute to the development of more
effective professionals.

100 Some authors have indicated the difficulty in maintaining an optimistic or hopeful disposition when the 101 objectives of conservationists appear to be in direct conflict with market demands of constant growth 102 (Patten & Smith-Patten, 2011). This narrative however does not account for the increasing interest 103 and participation of the private sector in environmental issues (Mazurkiewicz, 2004) or the strong 104 internal and external divers of sustainable supply chain management (Walker & McBain, 2008). For 105 example, the increasing demand for environmental certification schemes has provided gains for both 106 the environment and businesses (Fuerst & McAllister, 2011). The growing demand for sustainable 107 business practice has allowed scientists and NGOs to increase their influence on the private sector 108 though the formation of partnerships that can reduce the negative impacts on the planet of a 109 consumer culture and help to mainstream conservation ideas. Substantial environmental and social 110 gains have been achieved through such partnerships (Gray & Stites, 2013). A double pronged approach of combining strong communications to increase the public demand for sustainability with 111 112 private sector partnerships to facilitate best practice can be achieved by working collaboratively 113 across sectors.

114 Conservation actions have had a positive measurable impact on species recovery and regional scale 115 habitat protection (Sodi et al, 2011; Young et al., 2014).15.4% of the world's terrestrial land is now protected and species richness is higher within these areas then outside of them (Gray et al., 2016). 116 117 Several authors have suggested that in addition to reporting on biodiversity loss that we should also 118 be celebrating conservation successes to learn from what has worked well and to offer practical, 119 directions for the future that people can engage with, if no alternative vision is presented then it 120 cannot be constructed (Balmford, 2012; Ochoa-Ochoa et al., 2015). Sharing both successes and 121 failures are important for the continual improvement of conservation actions and fostering an 122 environment of continuous learning. Balmford (2017) asserted that celebrating conservation 123 successes is also important to prevent "positive shifting baselines", the risk of forgetting the scale of 124 how far we have come with species recovery. He argued that if we do not remember and celebrate 125 such achievements then we may risk slipping back, he gives examples from the European Union and 126 the US of successful conservation initiatives being undermined when situations are no longer 127 considered as critical. The continued acknowledgement and celebration of conservation successes reduce the risk of undermining hard work and resources spent, and can help in communicating a 128 129 viable vision for the future of the natural world.

130 The ideas so far discussed concerning how a more optimistic approach could benefit conservation to 131 increase public engagement, empower students, fight burnout, engage with businesses and not shy 132 away from celebrating successes has gained traction and support in recent years. These ideas are 133 not exclusive to academic literature and have also grown in the popular media with the publication of 134 books dedicated to cultivating hope and optimism for the natural world amongst the public (Suzuki & 135 Dressel, 2002; Balmford, 2012). However, reactions towards these ideas have been mixed and they 136 have been criticized as irresponsible. Some have argued that spreading optimistic or hopeful 137 messages about the future of the natural world may mislead the public into thinking that there is no 138 cause for concern (Noss, 1995; Patten and Smith-Patten, 2011) and have questioned the 139 appropriateness of communicating the current state of the planet in a positive manner (Arlettaz et al., 140 2011). These criticisms are not in fact in conflict with any of the arguments explored above or the 141 literature calling for a more balanced view of realism and optimism, all of which outline the need for 142 balance rather than blind optimism. Outlining a positive vision for the future should not undermine or 143 downplay any of the current challenges faced.

144 The Conservation Optimism Project

Despite the widespread discussions of the merits of adopting a more optimistic approach, it had yet to be applied to conservation in a strategic way. Several proponents of a change in discourse have suggested that international gatherings dedicated to the sharing and celebrating of conservation successes are an important step to creating a positive paradigm shift (Webb, 2005; Swaisgood and Sheppard, 2010 Garnett & Lindenmayer, 2011; Balmford & Knowlton, 2017). This year on Earth Day (22nd April 2017) for the first time several such events took place internationally as a part of the "Earth Optimism" movement.

152 One of these events, the "Conservation Optimism Summit" took place over 3 days from 20-22 April 153 2017 and unlike some of the other events was aimed at professionals rather than the general public. 154 The summit was organised by scientists from the University of Oxford, Zoological Society of London 155 and the Durrell Wildlife Conservation Trust and aimed to bring together individuals from different 156 sectors to exchange ideas, celebrate successes and build hope and resilience. This report aims to 157 evaluate the impact of the summit on those who attended and also explore some of the broader 158 factors driving conservation optimism (CO) in professionals by addressing the following research 159 questions:

160	1.	How did the organisers intend for the summit to bring about a positive change in discourse?
161	2.	Did participants feel more optimistic about conservation following the summit?
162	3.	After attending the summit did participants feel park of a supportive network and identify with
163		a wider optimism movement?
164	4.	Did the ideas shared at the summit spread beyond just those who attended?
165	5.	Did the summit lead to increased collaboration between practitioners – particularly those from
166		different sectors?
167	6.	Was the information presented at the summit (workshops, creative sessions etc.) relevant and
168		applicable to delegates in their own practice?
169	7.	What factors drive optimism in conservationists?

171 METHODS

172 Constructing a Participatory Theory of Change

In order to address the first research question, I developed a participatory theory of change (ToC) in consultation with the event organisers. A ToC is the modelling of how an intervention or action that produces outputs will lead to larger intended outcomes in a causal pathway, and the assumptions that need to be met to do so. The participatory ToC was developed according to methods outlined by Taplin & Clark (2012) and was later on used to interpret the results of the online surveys with regards to the impact of the summit on participants.

179 Online Surveys

180 Three online surveys were designed using Qualtrics software to address research questions 2-7, the 181 first was distributed one week prior to the summit, the second in the week following the event, and the 182 final two months post summit. Questionnaires were completed anonymously but were associated to 183 an identification number so that responses could be matched across surveys. The first section focused on demographic information, such as age, country of residence, gender and occupation. The 184 185 second section aimed to measure participants level of optimism regarding conservation and the future 186 of the natural world quantitively. I used an adaptation of the positive psychological capital scale, 187 developed originally by Luthans et al. (2007). The psychological capital scale is a statistically 188 validated measure that is often adopted in research settings, in this instance I adapted 3 of the 4 189 subscales including optimism, hope and self-efficacy (the remaining subscale, resilience was not 190 suitable for this research). Items from the original questionnaire are focused on an individual's general 191 outlook but in this case were adapted to focus specifically on the conservation of the natural world, for 192 example item 1 was changed from "I feel optimistic about my future" to "I feel optimistic about the 193 future of the natural world". Items from the self-efficacy subscale were adapted to focus on the 194 perceived efficacy of conservation as a discipline rather than at an individual level. Participants 195 responded to each statement on a 5-point likert scale varying from strongly disagree to strongly 196 agree, the original scale contained one negatively framed reverse scored item but during the 197 adaptation this was changed to 50% of all items to reduce any bias resulting from the positive framing 198 of questions. The final survey section contained focused questions specifically relating to the study 199 aims and open-ended qualitative questions about how participants define conservation optimism,

- 200 what their motivations were for attending the summit etc. These questions aimed to explore
- 201 perceptions of and feelings towards the conservation/earth optimism paradigm further and provide
- 202 contextual evidence for any quantitative changes in optimism scores between groups and over time.
- 203 (Full questionnaires are included in the Supporting Information).

204 Participants

205 Two groups of participants were recruited for the online survey aspect of this study, those who 206 attended the summit and those who did not but worked in conservation or a related field to act as a 207 comparison group. The attendee group were contacted via email from the Conservation Optimism 208 mailing list, they submitted their details when registering for the event and their participation in the 209 surveys was voluntary. The non-attendee group were recruited using 3 strategies, firstly a Facebook 210 page with a link to the online survey was set up and promoted via targeted advertising to appear to 211 anyone with the words "conservation", "environment" or "biodiversity" included in their stated 212 occupation. Participants recruited in this manner clicked through a Facebook ad through to the page 213 which briefly explained the study and shared a link to the survey. Similarly, the second strategy also 214 used Facebook, the survey link and a brief outline of the study was shared in professional and student 215 conservation interest groups inviting volunteers to take part in research. Finally, a snowball sampling 216 method was also used by sending out an email to my professional network with a brief outline of the 217 study and a link to the online survey, participants were asked to pass on the email subsequently to 218 other colleagues who may be interested in participating. Participants from the comparison group were 219 recruited to take part in surveys 2 and 3 only.

Ethical approval was obtained from Imperial College prior to the collection of data from participants. Before completing surveys participants were given a brief outline of the study and its aims and were asked if they consented to the use of their data. All were given the option to withdraw their information or not take part in the study if they felt uncomfortable in any way.

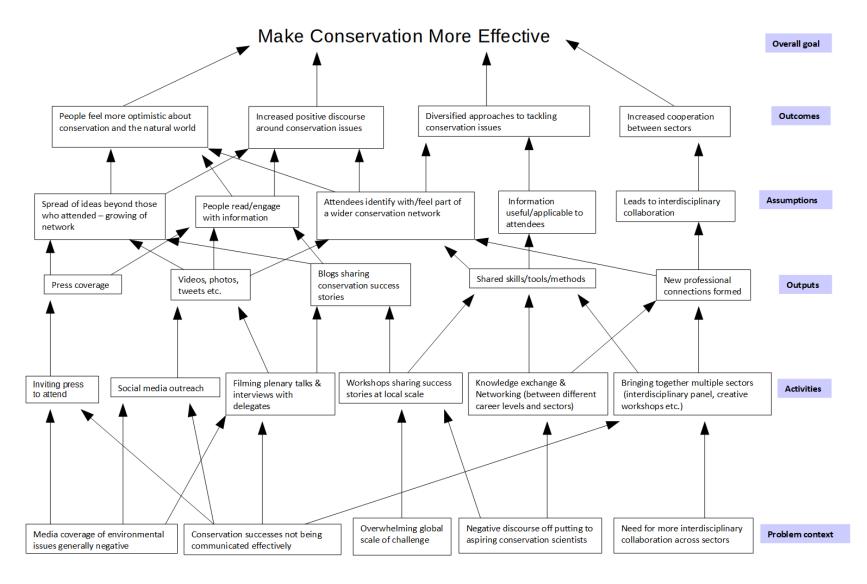
224 **Optimism Boards**

Participants who attended the summit were also given the option to take part in an additional
qualitative exercise. During the summit, a large board was displayed with the words "I feel optimistic
about conservation because...", attendees were invited to write any reasons that they personally felt

- 228 optimistic and add them to the board. Additionally, dry wipe boards with the words "I'm a conservation
- 229 optimist because..." were passed around during break times for attendees to write on, they were then
- 230 photographed holding the board and it was shared on Twitter using the hashtag
- 231 #ConservationOptimism. All of the reasons people shared for feeling optimistic were retained for a
- subsequent thematic analysis (conducted according to Clarke and Braun's (2014) methodology) to
- 233 explore qualitatively some of the drivers of optimism and resilience amongst practitioners and to
- address research question 7.

235 **RESULTS**

- Following a consultation with the event organisers a ToC for the Conservation Optimism Summit was
- constructed (Fig 1).



239 Figure 1: Theory of Change for Conservation Optimism Summit

A total of 223 responses were recorded across all online surveys, participants were predominantly

female and UK based (Table 1).

242 Table 1: Online survey response rates and demographics of participants

	Survey 1	Survey 2	Survey 3
Incomplete responses	5	59	23
Complete responses	33 (all attendee group)	136 (76 attendee group, 65	54 (27 attendee group, 27
		comparison group)	comparison group)
Male	8	46	18
Female	25	88	36
Prefer not to disclose	0	2	0
Age range	22-65	22-67	23-66
Mean (S.D)	35.8 (10.9)	36.3 (10.6)	37.7 (11.1)
Career Level			
Junior	8	34	18
Mid-level	20	70	22
Senior	5	32	16
Country based			
Argentina	-	1	-
Australia	-	1	1
Bangladesh	1	-	1
Belize	1	-	-
Cameroon	-	1	1
Canada	-	3	-
China	-	1	-
Congo	-	-	1
France	-	1	1
Greece	-	1	-
India	-	2	-
Indonesia	1	1	1
Iran	-	1	-
Italy	-	-	1
Japan	1	-	-
Kenya	-	1	1
Malaysia	-	1	-
Pakistan	-	-	1
Peru	1	1	2
Philippians	-	1	-
Poland	-	1	-
Spain	1	-	-
United Kingdom	25	108	37
United Republic of	-	1	-
Tanzania	-	-	_
United States	2	8	7

243

244 Changes in optimism over time

245 There was a slight increase in optimism scores overtime in both groups, as demonstrated in table 2.

246 Table 2: Group means and standard deviations for optimism scores over time

Group	Survey 1	Survey 2	Survey 3	
Attendee group	35.03 (4.85)	36.71 (4.25)	37.81 (4.48)	
Comparison group		35.52 (4.16)	37.37 (4.57)	

247

248 The majority of participants from the attendee group took part in only one survey (immediately after

the summit), of the participants who claimed to have completed multiple surveys only 2 could be

250 reliably matched across all 3 data sets by using their identification numbers and/or demographic

information. As we were unable to support the relatedness of the data observations were treated as independent for the purpose of analysis. A one way analysis of variance (ANOVA) compared the differences in group means over time for the attendee group and found the increases in optimism scores was not significant F(2,131)=2.94, p=0.056. The increases in optimism scores for the comparison group were also found to be non-significant t(76)=1.98, p=0.051

256 Optimism scores from the comparison group in the second round of data collection were also

compared with the baseline scores for attendees in order to establish if there was a bias in

attendance (i.e. individuals attending who were already more optimistic than their counterparts).

There was no significant difference found between groups t(94)=0.512, p=0.61. Nor were there

statistically significant differences between both group scores in surveys 2 or 3 (t(139)=1.72, p=0.08;

t(52)=0.242, p=0.81). There was no bias in optimism between groups, regardless of attending the

262 summit.

263 Impact of the summit on participants

The summit enabled attendees to meet new people, and in particular, it enabled networking across sectors. In the second survey 72% of participants stated that they had met someone for the first time at the summit with whom they were interested in working collaboratively in the future, 22% answered maybe and 5% had not met anyone that they would be interested in working with. Of those who had answered yes or maybe 95% described an individual from a sector other than their own, the remaining 5% were from conservation NGOs and were interested in collaborating with individuals they had met from the same sector.

Two months on in the final follow up survey 60% of participants stated that they had been in touch with someone from the summit (who they had not previously known). Of the 40% who had not in been contact 27% stated that they intended to contact a person from the summit, 36% were unsure if they would be in contact and 36% did not intend to contact anyone from the summit.

The summit also enabled participants to begin to form a wider supportive network, in the final survey,

they were asked if since attending the summit they felt part of a wider international network of

likeminded individuals, 62% agreed with the statement, 33% neither agreed or disagreed and 3%

278 disagreed.

279 The summit however had a lower impact in terms of the adoption of novel methods to tackle

280 conservation issues. When asked if they had applied any of the tools, methods or ideas shared at the

summit to their own practice, 33% responded that they had and 67% had not.

282 As part of an open-ended question in survey 2 participants were asked if they were planning to take 283 any actions to keep up the momentum of the conservation optimism movement, the answers given 284 were then used to form a structured question in survey 3. Participants were presented with a list of 285 actions and asked to indicate which (if any) they had taken in the two months following the summit. 286 This list was also presented to participants from the comparison group although was worded slightly differently (e.g. "shared any ideas from the summit with friends and family" was changed to 287 288 "discussed any ideas related to CO with friends and family"). The actions taken by individuals in both 289 groups were very similar proportionally (Table 3). This suggests that the ideas relating to CO were 290 discussed widely, beyond just the scope of the summit.

291

292 Table 3: Actions taken by both groups in the 2 months following the summit

Attendees	Non- Attendees	Action
10	9	Used #ConservationOptimism hashtag on social media
15	14	Shared (discussed) CO ideas with friends & family
19	13	Shared (discussed) CO ideas with colleagues
4	2	Considered developing own CO inspired event
4	3	Developed any presentations/workshops/lectures based on CO
13	14	Shared positive articles/success stories online
6	6	Written any articles (blog posts, newsletters etc.) about CO
3	0	Other Action
4	4	None

293

294 Quantitative Drivers of Optimism

- As survey 2 had the largest sample size (n=136) the data was used to test the effects of career level,
- 296 sector and gender on optimism scores, a univariate GLM found no significant effect of these
- 297 demographic factors (table 4).

299 Table 4: Effects of gender, career level and sector on CO scores

Demographic Impacts on Optimism			
Factor(s)	<i>F</i> Value	Significance	
Gender	<i>F</i> (2, 105)=.553	<i>p</i> =0.577	
Career Level	<i>F</i> (2, 105)=.395	<i>p</i> =0.674	
Sector	<i>F</i> (9, 105)=.618	<i>p</i> =0.779	
Gender*Career Level	<i>F</i> (2, 105)=.335	<i>p</i> =0.716	
Gender*Sector	<i>F</i> (4, 105)=.583	<i>p</i> =0.676	
Career Level*Sector	<i>F</i> (10, 105)=.672	<i>p</i> =0.748	
Gender*Career*Sector	<i>F</i> (3, 105)=.013	<i>p</i> =0.998	

300

301 Thematic Analysis of Optimism Boards

- 302 127 reasons for feeling optimistic about conservation were shared on the summits optimism boards, a
- 303 thematic analysis of the responses identified 4 prominent themes, 2 of which were divided into 2
- 304 further subthemes as detailed in table 5.
- 305

306 Table 5: Common themes identified in thematic analysis of optimism boards

Principle Theme	Sub Themes	Example Quotes
		"People from many disciplines come together to solve conservation problems"
	Conservation unites people	"Over 1 billion people around the world celebrate Earth Day"
Decale neuror		"People are an amazing force for good not just bad and we can harness that potential"
People power		"All of the people I meet who are so committed to conservation"
	Commitment of the people working in conservation	"The inspiring energy of everyone here today"
		"I know there are people like Anna Opossum working in it!"

		"I have seen evidence that we can make a difference"
	Conservation works	"Because conservation works and we can prove it"
		"River Thames recovery"
Evidence based motives		"A positive attitude is essential to creating change"
	Optimism is more effective	"Pessimism inhibits motivation"
		"You can't see the top of the mountain if its covered by clouds"
		"It feels better"
Personal resilience		"Because the world needs me to believe and I need to believe"
		"Who wants to be grumpy and cynical?"
		"Because we are starting to see we need to reconnect with nature"
Nature		"Animals are too amazing to be lost"
		"Because life is a miracle and worth that we fight for it!"

307

308 The most prominent of theme by far concerned people. The broader theme of "people power" was 309 divided into two further subsections, one referring to the people working in conservation as a source 310 of inspiration and optimism. Responses in this theme sometimes referred to specific individuals who 311 were doing particularly inspiring or effective work and sometimes referred to the general commitment 312 and dedication of all conservationists. The other "people power" subtheme referred to the power of 313 conservation as a cause to unite people, answers in this category suggested that people are united by 314 conservation, care about its future and that that all of this concern could be harnessed. The "evidence 315 based motivations" theme largely focused on issues explored in the introduction section of this report 316 regarding how a more optimistic approach is more effective at engaging and motivating. It also 317 included answers that referenced examples of conservation success stories as a rational reason for 318 CO. The "nature" theme contained answers that tended to emphasise the beauty of the natural world 319 as a reason to be optimistic about conserving it. Finally, the "personal resilience" theme was identified 320 in responses that described CO as a necessity for personal wellbeing and the resilience needed to 321 work in conservation.

322 DISCUSSION

The preliminary nature of the above results should be noted, as the final time point for data collection was only 2 months post event, conclusions drawn about its impact are considered in a short-term context. The chain of outputs to outcomes identified in the ToC are of a more long-term nature (i.e.

from forming a new connection to developing a collaborative project) and were unlikely to be achieved in a 2-month timeframe. However, preliminary results are useful in understanding how/if these steps are in the process of developing. A further limitation of the results to is that they relied exclusively on self-report measures which may be susceptible to eliciting socially desirable responses (Paulhus, 1984).

331 Despite these limitations, the survey results do indicate that the summit was successful in bringing 332 new groups of people together from different sectors. The formation of an inclusive interdisciplinary 333 network was identified as an important aspect of the ToC, the summit aimed to not only bring people 334 together but also for them to begin to identify with a movement, take actions to build its momentum 335 and share information in an inclusive way. Sixty two percent of participants stated that they felt part of 336 a wider international network as a result of attending. Despite this the summit was less successful in 337 helping attendees to diversify their own practice in the two months following. The majority of 338 participants had not applied any of the methods or tools from the summit to their own work which 339 could be indicative that the information was not relevant to them, they were unconvinced of its 340 effectiveness or that they had simply not yet had the opportunity to do so. Although, solely providing 341 information rarely results in behavioural change (Moser & Dilling, 2007). Facilitating a continued 342 dialogue between participants could be an option for encouraging this, and would also support them 343 in maintaining and growing the optimistic support network that has begun to emerge post-summit.

344 The results show no significant difference in participants CO score after attending the summit nor a 345 significant difference between the scores of attendee and comparison groups. In fact, conservationists 346 from both groups were relatively optimistic regardless of the summit. These results are not entirely 347 unexpected considering that all have chosen a value driven career and are actively working towards 348 conserving the natural world. Pessimism is associated with disengagement (Carver & Scheier, 2014) 349 and all participants of this study were actively engaged with conservation. It does however contradict 350 the broader issue of negative discourse (Swaisgood & Sheppard, 2010). Some have suggested that 351 people who have worked in conservation for longer are more likely to become jaded over the course 352 of their careers (Beever, 2000) however this study found no significant difference in CO between 353 more senior and junior professionals. Nor was there any difference based on gender or career sector, 354 the factors underlying CO were in fact far more varied and complex (table 5).

355 Understanding what inspires hope and optimism in those who are regularly exposed to the realities of 356 biodiversity decline could help to inform a strategy to cultivate CO more broadly. For example, if the commitment of people is a source of CO then perhaps there should be more emphasis on the hard 357 358 work, resources and dedication that are currently going into conservation efforts. Storytelling is a 359 valuable tool in conservation (Leslie et al., 2013). The most contentious aspect of the optimism 360 movement is how to outline a positive vision for the future and inspire hope without undermining the 361 communication of current of ecological decline (Arlettaz et al., 2011). Clearly both narratives are 362 needed, but the question is how to ensure that they are synergistic and not competing or confusing to 363 the public (Noss, 1995). Future research should focus specifically on how to address this balance, for 364 example should messages be presented separately or should they be intertwined? Are the themes 365 presented in table 5 as relevant to inspiring and engaging the broader public?

366 The online survey results suggest that the main impact of the summit was the new connections it 367 fostered and the different groups of people that it brought together. There were also indications that 368 CO was being discussed more widely beyond just the scope of attendees, this could partially be due 369 to the activism by attendees post summit in sharing information, but also the wider social media 370 campaign or attention that the summit received by the press. In terms of triggering a larger paradigm 371 shift away from the current negative discourse around conservation the optimism movement is still 372 very much in its infancy. The summit provided a first step towards building a more interdisciplinary 373 network of conservation optimists, if this network is to grow and strengthen into something bigger that 374 enables people to draw resilience from common goals and the sharing of successes and failures then 375 a continued dialogue should be facilitated. Maintaining the momentum will be essential in bringing 376 about any meaningful change, this could be achieved through the facilitation of further gatherings and 377 the creation of a platform in which people can continue to share ideas. The results of this study do not 378 indicate any immediate radical change of discourse, they do however indicate a growing discussion of 379 and interest in incorporating a more optimistic, solutions focused approach to conservation issues.

380 Supporting Information description

- 381 A copy of the online Qualtrics survey 1 (Appendix S1,) survey 2 (Appendix S2), and survey 3
- 382 (Appendix S3) are included as supporting information. The author is solely responsible for the content
- 383 of these items.

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SUPPORTING INFORMATION

Appendix S1: Survey 1

Q1 Thank you very much for taking part in this research project that I'm conducting as part of my MSc in Conservation Science at Imperial College. This project aims to explore the conservation optimism paradigm and evaluate the impact and discourse of the summit. Please be aware that this is part one of three surveys for participants attending the conservation optimism summit at Dulwich College, one to be completed prior to the event, one on the day and the final 6-8 weeks post summit. Please note that:

* You are under no obligation to complete this survey, it is completely voluntary and you may withdraw at any time.

* The survey is anonymous and all of your answers will remain confidential.

* Should this research be published, no individual's answers will be identifiable as their own. Many thanks again, Holly-Marie

I have read and understood the above information and agree to take part in this survey (1)

Q35 Although this survey and all responses are anonymous, we would like to track the change in people's feelings of optimism before, just after and a while after the summit. Therefore please can you construct a personal identification number for us, by combining your birth date with your mother's birth date. For example if you were born on 3rd June 1967 and your mother was born on 2nd March 1940, the number would be: 030667020340.Please enter your personal identification number below:

Q3 To which gender do you most identify?

O Male (1)

O Female (2)

 \bigcirc Prefer not to say (3)

Q4 Please enter your age

Q38 What is your occupation?

Q23 At what level are you at in your work?

O Junior (1)

O Mid level (2)

O Senior (3)

X→

Q30 In which country are you based?

 $X \rightarrow$

Q36 In which regions do you mainly work?

Antarctica (1)
Caribbean Islands (2)
Central America (3)
East Asia (4)
Europe (5)
North Africa (6)
North America (7)
North Asia (8)
South & Southeast Asia (9)
South America (10)
Sub-Saharan Africa (11)
West & Central Asia (12)
Oceania (196)

Q22 Please indicate the extent to which you agree or disagree with the following statements

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
l am optimistic about the future of the natural world (1)	0	0	0	0	0
When conservationists decide to tackle a problem they rarely get it right (2)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
I tend to focus on the negative outcomes of conservation projects (3)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Given the current state of the natural world, we should rarely expect things to turn out well in conservation (4)	\bigcirc	0	\bigcirc	0	\bigcirc
Conservationists are not very good at solving problems creatively (5)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
As a discipline conservation is not very good at developing ideas from other sectors (6)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Conservationists are good at generating novel ideas (7)	\bigcirc	0	\bigcirc	\bigcirc	\bigcirc
Although the natural world faces many difficulties there are also a diverse range of effective solutions to these problems (8)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0

There are always alternative ways to reach a conservation goal if the current one fails (9)	\bigcirc	0	0	\bigcirc	0
There are many ways to overcome any problem in conservation (10)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc

Q26 The following questions are about your own working practice, please read the statements and indicate to what extent they apply to you

Q18

	No (1)	Occasionally (2)	Often (3)
In the past year have you worked collaboratively on projects with professionals from sectors or industries different to your own? (1)	\bigcirc	\bigcirc	\bigcirc

Q20

	No (1)	I'm not sure (2)	Yes (3)
Do you feel that working with individuals from different sectors can provide benefits for your own work? (1)	0	0	0

Q7 In no more than 100 words, how would you define conservation optimism?

Q8 Why have you chosen to attend the conservation optimism summit?

Q9 What would make the summit a success for you personally?

Q37 How could the summit be a success for conservation more generally?

Q36 Thank you very much for taking part in this research, as stated earlier this is the first of three surveys that aim to track change in optimism and practice over time. Please indicate if you are happy to take part in the two follow up surveys below. If you would like to receive a copy of the results of this study please enter your email address on the following page.

 \bigcirc I am happy to complete the follow up surveys (1)

I do not wish to participate in any further surveys (2)

Appendix S2: Survey 2

Q2 Thank you very much for taking part in this research project that I'm conducting as part of my MSc in Conservation Science at Imperial College. This project aims to explore the conservation optimism paradigm and evaluate the impact and discourse of the optimism summit. **Responses are welcomed from everyone who works in conservation whether or not you attended the Conservation Optimism summit at Dulwich College and ZSL from 20-22 April and whether or not you completed the pre-summit survey last week**

Please note that:

* There will be a final follow up survey in 6-8 weeks time.

* You are under no obligation to complete this survey, it is completely voluntary and you may withdraw at any time.

* The survey is anonymous and all of your answers will remain confidential.

* Should this research be published, no individual's answers will be identifiable as their own

Many thanks again,

Holly-Marie

 \bigcirc I have read and understood the above information and agree to take part in this survey (1)

Q3 Although this survey and all responses are anonymous, we would like to track the change in people's feelings of optimism before, just after and a while after the summit. Therefore please can you construct a personal identification number for us, by combining your birth date with your mother's birth date. For example if you were born on 3rd June 1967 and your mother was born on 2nd March 1940, the number would be: 030667020340.Please enter your personal identification number below:

Q4 To which gender do you most identify?

O Male (1)

O Female (2)

O Prefer not to say (3)

Q5 Please enter your age

Q6 What is your occupation?

Q23 In which sector do you work?

Academia (1)
Business (2)
Conservation NGO (3)
Government (4)
Other NGO (5)
Other (please specify) (6)

Q7 At what level are you at in your work?

O Junior (1)

O Mid level (2)

O Senior (3)

X→

Q8 In which country are you based?

X→

Q9 In which regions do you mainly work?

Antarctica (1)
Caribbean Islands (2)
Central America (3)
East Asia (4)
Europe (5)
North Africa (6)
North America (7)
North Asia (8)
South & Southeast Asia (9)
South America (10)
Sub-Saharan Africa (11)
West & Central Asia (12)
Oceania (196)

Q10 Please indicate the extent to which you agree or disagree with the following statements

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
l am optimistic about the future of the natural world (1)	0	0	0	0	0
When conservationists decide to tackle a problem they rarely get it right (2)	\bigcirc	\bigcirc	0	\bigcirc	\bigcirc
I tend to focus on the negative outcomes of conservation projects (3)	\bigcirc	\bigcirc	0	\bigcirc	\bigcirc
Given the current state of the natural world, we should rarely expect things to turn out well in conservation (4)	0	\bigcirc	0	0	\bigcirc
Conservationists are not very good at solving problems creatively (5)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
As a discipline conservation is not very good at developing ideas from other sectors (6)	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Conservationists are good at generating novel ideas (7)	\bigcirc	\bigcirc	0	\bigcirc	\bigcirc
Although the natural world faces many difficulties there are also a diverse range of effective solutions to these problems (8)	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc

There are always alternative ways to reach a conservation goal if the current one fails (9)	\bigcirc	0	\bigcirc	\bigcirc	\bigcirc
There are many ways to overcome any problem in conservation (10)	\bigcirc	0	\bigcirc	0	\bigcirc

Q26 Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April?

O Yes (1)

🔿 No (2)

Display This Question:	
If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected	

Q33 Did you complete a pre-summit survey prior to attending the summit?

O Yes (1)

🔿 No (2)

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? No Is Selected

Q30 Have you received information about Conservation Optimism from any of the below sources? (Select all that apply)

Facebook (1)
Twitter (2)
Conservation optimism website (3)
Email (4)
The media (5)
Other (please specify) (6)
I have not received any information (7)

Q13 Do you feel that working with individuals from different sectors can provide benefits for your own work?

O No (1)

O I'm Not sure (3)

O Yes (4)

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? No Is Selected

Or Did you complete a pre-summit survey prior to attending the summit? No Is Selected

Q32 In the past year have you worked collaboratively on projects with professionals from sectors or industries different to your own?

O No (1)

Occasionally (2)

Often (6)

Display This Question: If In the past year have you worked collaboratively on projects with professionals from sectors or i... Occasionally Is Selected Or In the past year have you worked collaboratively on projects with professionals from sectors or i... Often Is Selected

Q24 In which sectors did the individual(s) that you collaborated with work?

Academia (1)	
Business (2)	
Conservation NGO (3)	
Creative industries (4)	
Government (5)	
Other NGO (6)	
Other (please specify) (7)	

Display	This	Question:	
---------	------	-----------	--

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected

Q31 Did you meet anyone at the summit who you would like to collaborate with in the future?

No (1)
Maybe (2)
Yes (3)

Display This Question:

If Did you meet anyone at the summit who you would like to collaborate with in the future? Maybe Is Selected Or Did you meet anyone at the summit who you would like to collaborate with in the future? Yes Is

Q54 In which sectors did the individual(s) that you may be interested in collaborating with work?

Academia (1)	
Business (2)	
Conservation NGO (3)	
Creative industries (4)	
Government (5)	
Other NGO (6)	
Other (please specify) (7)	

Q14 What does conservation optimism mean to you?

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected

Q27 Has this changed since the Conservation Optimism Summit, and if so what has changed and why?

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected

Q15 Was the Summit successful for you personally, and if so in what way?

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected

Q16 How likely is the Summit to have changed the path of conservation?

O Highly unlikely (1)

O Unlikely (2)

O Neutral (3)

C Likely (4)

O Highly likely (5)

O I don't know (7)

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected

Q17 In what way might the Summit have changed the path of conservation?

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected

Q28 Will you take any actions to continue the momentum of the conservation optimism movement? (And if so what will they be?)

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? Yes Is Selected

Q29 When will these actions be taken?

• From now (1)

 \bigcirc In the next few weeks (2)

 \bigcirc In the next few months (3)

• Sometime in the future (4)

• Not applicable (5)

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? No Is Selected

Q35 How did you access this survey?

O It was sent via email from the Conservation Optimism mailing list (1)

It was sent via email from a colleague (2)

• Via social media (3)

Other (please specify) (4) _____

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College or ZSL from 20-22 April? No Is Selected

Q19 Thank you very much for your participation in this research, we would like to track changes in optimism and practice over time and so will be sending out a follow up survey in 6-8 weeks time, if you are happy to participate in the follow up survey please enter your email address below

Appendix S3 – Survey 3

Q2 Thank you very much for taking part in this research project that I'm conducting as part of my MSc in Conservation Science at Imperial College. This project aims to explore the conservation optimism paradigm and evaluate the impact and discourse of the summit. Responses are welcomed from everyone who works in conservation whether or not you attended the Conservation Optimism summit at Dulwich College and ZSL from 20-22 April.Please note that:* You are under no obligation to complete this survey, it is completely voluntary and you may withdraw at any time.* The survey is anonymous and all of your answers will remain confidential.* Should this research be published, no individual's answers will be identifiable as their own.Many thanks again,Holly-Marie

 \bigcirc I have read and understood the above information and agree to take part in this survey (1)

Q3 Although this survey and all responses are anonymous, we would like to track the change in people's feelings of optimism before, just after and a while after the summit. Therefore please can you construct a personal identification number for us, by combining your birth date with your mother's birth date. For example if you were born on 3rd June 1967 and your mother was born on 2nd March 1940, the number would be: 030667020340.Please enter your personal identification number below:

Q31 Have you completed any other conservation optimism surveys?

Yes, two (1)

• Yes, one (2)

O No, I have not completed any previous surveys about conservation optimism (3)

Q4 To which gender do you most identify?

O Male (1)

O Female (2)

O Prefer not to say (3)

Q5 Please enter your age

Q22 In which sector do you work?

Academia (1)
Business (2)
Conservation NGO (3)
Government (4)
Creative industries (5)
Other NGO (6)
Other (please specify) (7)

Q6 What is your occupation?

Q7 At what level are you at in your work?

O Junior (1)

O Mid level (2)

O Senior (3)

X→

Q8 In which country are you based?

X→

Q9 In which regions do you mainly work?

Antarctica (1)
Caribbean Islands (2)
Central America (3)
East Asia (4)
Europe (5)
North Africa (6)
North America (7)
North Asia (8)
South & Southeast Asia (9)
South America (10)
Sub-Saharan Africa (11)
West & Central Asia (12)
Oceania (196)

Q20 Did you attend the conservation optimism summit at Dulwich College and ZSL from 20-22 April?

O Yes (1)

🔿 No (2)

Display This Question:
If Did you attend the conservation optimism summit at Dulwich College and ZSL from 20-22 April? Yes Is Selected
Q23 Have you been in contact with anyone that you met at the summit, who you didn't already know over the last 2 months?
O Yes (1)
O No (2)
Display This Question: If Have you been in contact with anyone that you met at the summit, who you didn't already know over the last 2 months? Yes Is Selected
Q24 In which industry did the person (or people) you have been in contact with work?
O Academia (1)
O Business (2)
O Creative industries (3)
O Conservation NGO (4)
O Government (5)

Other NGO (6)

Other (please specify) (7) _____

If Have you been in contact with anyone that you met at the summit, who you didn't already know over the last 2 months? No Is Selected

Q25 Do you intend to contact anyone that you met for the first time at the summit in the near future?

O Yes (1)

O No (2)

O Not sure (3)

Display This Question:

If Do you intend to contact anyone that you met for the first time at the summit in the near future? Yes Is Selected

Or Do you intend to contact anyone that you met for the first time at the summit in the near future? Not sure Is Selected

Q26 In which sectors do they work?

O Academia (1)

Business (2)

Creative industuries (3)

Conservation NGO (4)

Other NGO (5)

Other (please specify) (6) ______

If Did you attend the conservation optimism summit at Dulwich College and ZSL from 20-22 April? Yes Is Selected

Q21 Since the summit have you done any of the following? (please tick all that apply)

Used the #ConservationOptimsim hashtag on social media (1)
Written any articles (such as blog posts, newsletters etc.) about conservation optimism (2)
Shared any positive articles or success stories online (3)
Shared any of the ideas from the summit with your friends or family (4)
Shared any ideas from the summit with your colleagues (5)
Developed any presentations, workshops or lectures based on ideas from the summit (6)
Considered developing your own conservation optimism inspired events (7)
Taken any other actions inspired by conservation optimism (please specify) (8)
I have taken none of these actions (9)

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College and ZSL from 20-22 April? Yes Is Selected

Q28 Have you applied any of the tools/methods/ideas shared at the summit to your own practice?

O Yes (1)

🔿 No (2)

If Have you applied any of the tools/methods/ideas shared at the summit to your own practice? Yes Is Selected

Q29 Which tools, methods or ideas have you applied to your own practice?

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College and ZSL from 20-22 April? Yes Is Selected

Q27 Do you agree with the following statement?

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Since attending the summit I feel part off a wider international network of like- minded individuals (1)	0	0	0	0	0

Display This Question:

If Did you attend the conservation optimism summit at Dulwich College and ZSL from 20-22 April? No Is Selected

Q30 In the past two months have you done any of the following? (Please tick all that apply)

Used the #ConservationOptimism hashtag on social media (1)
Written any articles (such as blog posts, newsletters etc.) about positive environmental stories (2)
Shared any positive articles or conservation success stories online (3)
Developed any workshops, presentations or lectures based around the idea of conservation optimism (4)
Considered developing your own conservation optimism inspired event (5)
Discussed ideas with your friends and family related to conservation optimism (6)
Discussed ideas with your colleagues related to conservation optimism (7)
Any other actions inspired by the idea of conservation optimism (please specify) (8)
I have taken none of these actions (9)

Q10 Please indicate the extent to which you agree or disagree with the following statements

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
l am optimistic about the future of the natural world (1)	0	0	0	0	0
When conservationists decide to tackle a problem they rarely get it right (2)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
I tend to focus on the negative outcomes of conservation projects (3)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Given the current state of the natural world, we should rarely expect things to turn out well in conservation (4)	\bigcirc	\bigcirc	\bigcirc	0	0
Conservationists are not very good at solving problems creatively (5)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
As a discipline conservation is not very good at developing ideas from other sectors (6)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Conservationists are good at generating novel ideas (7)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Although the natural world faces many difficulties there are also a diverse range of effective solutions to these problems (8)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc

There are always alternative ways to reach a conservation goal if the current one fails (9)	\bigcirc	0	0	0	0
There are many ways to overcome any problem in conservation (10)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc

Q33 How would you describe the conservation optimism movement?

Q32 If you have any thoughts or comments relating to conservation optimism that you would like to share please do so in the box below

Q19 Thank you for your participation in this study, please enter your email address below if you would like to receive a copy of the survey results

End of Block