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Balancing making a difference with making a living in the conservation sector

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Thomas Pienkowski[1,2,a]; Aidan Keane[2,b]; Sofia Castelló y Tickell[1,c]; Mirjam Hazenbosch[1,d]; William N.S. Arlidge[1,3,4,e]; Gergő Baranyi[5,f]; Stephanie Brittain[1,g]; Emiel de Lange[1,2,h]; Munib Khanyari[1,6,7,i]; Sarah Papworth[8,j]; E.J. Milner-Gulland[1,k].

[1] Department of Zoology, University of Oxford, Zoology Research and Administration Building, 11a Mansfield Road, Oxford OX1 3SZ, United Kingdom

[2] School of GeoSciences, University of Edinburgh, Crew Building, Alexander Crum Brown Road, Edinburgh EH9 3FF, United Kingdom

[3] Department of Biology and Ecology of Fishes, Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Müggelseedamm 310, 12587 Berlin, Germany

[4] Faculty of Life Sciences, Humboldt-Universität zu Berlin, Invalidenstrasse 42, 10115 Berlin, Germany

[5] Centre for Research on Environment, Society and Health, School of GeoSciences, University of Edinburgh, Drummond Street, Edinburgh EH8 9XP, United Kingdom

[6] School of Biological Sciences, 24 Tyndall Ave, University of Bristol, BS8 1TQ, United Kingdom

[7] Nature Conservation Foundation, 1311, Amritha, 12th Main, Vijayanagar 1st stage, Mysore 570017, India

[8] Department of Biological Sciences, Royal Holloway University of London, Egham Hill, Egham TW20 0EX, United Kingdom

[a] email thomas.pienkowski@zoo.ox.ac.uk

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Article impact statement

Employers and funders should prioritize conservationists' well-being, helping them make a difference while making a living.

Abstract

Goals play important roles in people's lives by focusing attention, mobilizing effort, and sustaining motivation. Understanding conservationists' satisfaction with goal progress may provide insights into real-world environmental trends and flag risks to their well-being and motivation. We asked 2694 conservationists working globally how satisfied they were with progress towards goals important to them. We then explored how this satisfaction varied between groups. Finally, we looked at respondents' experiences associated with goal progress satisfaction. Many (94.0%) said *"making a meaningful contribution to conservation"* was an important goal for them, with over half being satisfied or very satisfied in this area (52.5%). However, respondents were generally dissatisfied with progress to collective conservation goals, such as stopping species loss, echoing formal assessments. Some groups were more likely to report dissatisfaction than others. For instance, those in conservation for longer tended to be less satisfied with collective goal progress (log-odds -0.21, 95% credibility interval (CI) -0.32 to -0.10), but practitioners reported greater satisfaction (log-odds 0.38, 95% CI 0.15-0.60). Likewise, those who are more optimistic in life (log-odds 0.24, 95% CI 0.17-0.32), male (log-odds 0.25, 95% CI 0.10-0.41), and working in conservation practice (log-odds 0.25, 95% CI 0.08-0.43) reported greater satisfaction with individual goal progress. Free-text responses suggested widespread dissatisfaction around livelihood goals, particularly related to job security and adequate compensation. While contributing to conservation appeared to be a source of satisfaction, slow goal progress in other areas – particularly around making a living – looked to be a source of distress and demotivation. Employers, funders, professional societies, and others should consider ways to help those in the sector make a difference whilst making a living, including by prioritizing conservationists' well-being when allocating funding. This support could include avoiding exploitative practices, fostering supportive work environments, and celebrating positive outcomes.

Introduction

Goals play essential roles in many aspects of people's lives, including among conservationists (Kruglanski 1996). We consider goals to be desired outcomes, states, or processes, which reflect perceived discrepancies between the current and desired state of the world (Austin & Vancouver 1996; Locke & Latham 2006). Setting goals can increase performance on tasks by directing attention, mobilizing action, and helping sustain effort (Locke & Latham 2002; Latham & Locke 2007; Lunenburg 2011). Goals can be important for groups and organizations; collectively held goals are likely to increase group performance, but conflicting goals can undermine it (Latham & Locke 2007). Conservation is mission-driven (Soulé 1985), so goals are expected to direct conservationists' attention and effort. We consider conservationists to be actors intending to *"establish, improve or maintain good relations with nature"* (Sandbrook 2015). But how satisfied are conservationists with progress towards goals important to them?

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Exploring conservationists' satisfaction with goal progress is valuable in multiple ways. Goals often play central roles in conservation planning at multiple scales. These can range from global goals, such as reflected in the Aichi Biodiversity Targets, to local ones, such as found in project logframes (CBD, 2010). Conservationists witness threats to nature across diverse contexts and places and accumulate experience useful for conservation planning (Dicks et al. 2014). So, conservationists' experience-based appraisals may provide insights into real-world progress towards goals. Indeed, subjective evaluations can be an informative source of evidence in the adaptive management of ecosystems (Berkes et al. 2000). Moreover, these subjective appraisals – perhaps communicated as stories and other formats (Sundin et al. 2018) – may strengthen the case for society investing in areas of conservation where limited progress is being made. Alternatively, these perspectives may challenge conventional assessments, prompting further research to investigate why formal and experiential assessments differ.

Goal progress leads to feelings of control, competence, and autonomy and alleviates the stress associated with undesirable situations and unmet needs (Deci & Ryan 2000). And so, goal progress may contribute to conservationists' psychological well-being, but inadequate progress may be a source of distress (Ryan & Deci 2001; Strauman 2002; Wrosch et al. 2013). For example, a meta-analysis of 85 studies found that perceived goal progress was consistently, and perhaps bi-directionally, associated with subjective well-being (Klug & Maier 2014). Relatedly, environmentalists exposed to biodiversity loss, and tasked with preventing it, might face particularly acute "ecological grief" (Gordon et al. 2019). In turn, distress and grief can reduce workplace performance, harming concentration, workplace relationships, and judgment (Hazen 2008; Hilton & Whiteford 2010). The distress associated with goal progress dissatisfaction might be offset by support in other areas of conservationists' professional lives. This could involve addressing imbalances between workplace effort and reward, better management of the demands of the job, ensuring organizational equity and justice, and fostering workplace social support – factors known to influence mental well-being (van der Molen et al. 2020).

Relatedly, satisfaction with current goal progress may support motivation. According to expectancy-value theory, motivation is a function of both the expectation of success and the value of doing a task (Eccles et al. 1983; Wigfield & Eccles 2000; Wigfield & Cambria 2010). For instance, according to the theory, a conservationist's motivation is influenced by the perceived likelihood and value of attaining a goal. Expectations of future success can be influenced by multiple factors, including perceptions of one's ability, control over the outcome, and experiences of previous success. Consequently, progress towards goals in the present elevates expectations of future success, and therefore motivation (Eccles et al. 1983; Wigfield & Eccles 2000). Finding high levels of dissatisfaction would suggest the need for further research investigating impacts on motivation and, perhaps, conservation outcomes.

Satisfaction with goal progress is expected to vary within the conservation community and by context (Table 1). This variation may depend on whether goals are considered at an individual level (individual goals) or at a collective level (collective goals). Understanding variation in satisfaction might suggest groups and regions where resourcing should be invested to enable individual or collective goals to be met, or support offered to offset dissatisfaction with inadequate goal progress.

Our study asks a) how satisfied are conservationists with progress towards goals they consider important; b) and how this satisfaction varies with respect to key covariates (Table 1); and c) how conservationists describe experiences associated with goal progress. To answer these questions, we surveyed 2694 conservationists working globally between July 2019 and August 2020. This survey included a mix of quantitative and qualitative questions, which we analyzed using mixed-effects ordinal logistic regression within a Bayesian framework and thematic analysis.

Methods

Study population and sample

The target population included all those who self-identified as conservationists. The boundaries of this population are inherently fuzzy, but our sampling strategy targeted those most likely to identify with the global conservation movement (Supporting Information). This population was convenience sampled (including snowball sampling) through an online survey conducted in Spanish, English, French, Kiswahili, Portuguese, and Khmer, seeking to maximize the number of respondents. We sampled over two recruitment phases in July 2019 and May 2020, through conservation listservs and newsletters, by directly contacting conservation organizations, in person at an international conference, and through social media networks, with the aim to get the widest global reach possible. Our ethical protocol was approved by an Ethical Review Board at the [redacted] (R62487/RE001, Supporting Information).

The survey included a combination of closed and open-ended questions, yielding quantitative and qualitative data, respectively. The quantitative data was used to investigate research questions a) and b), while the qualitative data was used to explore question c).

Quantitative data description

A wide range of goals are expected to be important to conservationists. We pre-defined goals to aid comparison between respondents and keep the survey short. We based our goal selection process on the value-belief-norm theory, which builds on work by Heberlein (1972), Stern et al. (1993), and others. These authors suggested that pro-environmental behavioral intentions arise from caring about nature and its role in society (Stern 2000), but that pro-environmental behavior can have personal costs and benefits, and so behavioral intentions are also influenced by their consequences for individuals (de Groot & Steg 2009). Consequently, the value-belief-norm theory suggests that pro-environmental behavioral intentions are motivated by egoistic, altruistic, and biospheric values (Stern et al. 1999; Stern 2000). Other research suggests that the aim of *"making a difference"* is also important to conservationists (Papworth et al. 2018). We therefore developed a set of statements spanning this range of values during a series of workshops attended by six co-authors. These

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statements span sub-dimensions of the egoistic, altruistic, and biospheric values described by de Groot and Steg (2007), as well as a statement reflecting the individual goal of *"making a difference"* (Supporting Information). However, many conservation goals – such as those reflected in our statements – entail positive outcomes for both people and nature. For instance, the goal of *"stopping damage to the natural world"* may be closely associated with values around protecting nature, but also concern for the human well-being impacts of nature loss. Consequently, egoistic values corresponded to statements regarding individual goals, and statements relating to altruistic and biospheric values were clustered as collective conservation goals (Table 2).

Not all conservationists are likely to prioritize the same goals, so we first asked respondents if each goal was important to them. For those goals considered important, we then asked respondents to indicate their satisfaction or dissatisfaction according to five response levels ranging from *"very dissatisfied"* to *"very satisfied"*. Respondents were asked to think about their personal work context when responding to the questions about individual goals, and the conservation area or context they were most familiar with when responding to questions about collective goals.

Quantitative data analysis

All quantitative data handling and analysis were performed in the statistics software R (R Core Team 2020). Not all participants progressed through all questions. Those that completed the goal endorsement and satisfaction questions were included in the descriptive results (sample *N* = 2694). Within this sample, those that completed questions related to goal endorsement, progress, and dispositional optimism were included in the statistical analysis (sub-sample *N* = 2336). Some respondents within the sub-sample did not complete all questions (Supporting Information). This mostly occurred when individuals chose to leave the survey early. Missing data within this sub-sample were substituted through multivariate imputation by chained equations, where ten datasets were created containing imputed values using the package mice (Supporting Information, van Buuren S & K 2011).

Multivariate mixed-effects ordinal logistic regression models were implemented using these imputed data. Two models were fitted, the first where the response variable was reported satisfaction with progress to endorsed individual goals, and the second satisfaction with endorsed collective goals. Each model was fitted with each of the ten imputed datasets. Not all respondents endorsed all goals. So, the endorsed goals were stacked row-wise and *"respondent ID"* was included as a random effect, allowing goal progress satisfaction to be treated as a single variable while accounting for dependencies within responses from the same individual. The explanatory variables included *"goal name"* (for each goal within the set of the individual or collective goals, Table 1). The proportional odds assumption was graphically assessed and considered to have been adequately met, following Harrell (2015).

Dispositional optimism was estimated using the Life Orientation Test-Revised (Scheier et al. 1994). Ten sets of plausible values were extracted for use in the statistical analysis (Supporting Information). A dummy variable corresponding to the period before and after the start of the COVID-19 pandemic was included in additional analysis, the results of which were consistent with those presented below (Supporting Information). The analysis was performed in the Stan computational

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framework, accessed using the brms package (Bürkner 2017; Carpenter et al. 2017). Weakly informative priors, compared with the sample size and scale of explanatory variables (with all continuous variables being scaled and centered), were chosen. The same normal prior distribution was used for all coefficient and intercept parameters, following:

$$prior = N(0, 10)$$

where *N* denoted the normal distribution with a mean of 0 and a standard deviation of 10. A normal distribution was chosen because extreme parameter estimates were deemed less likely than those near to zero (Lemoine 2019). Additionally, the software's default weakly informative priors (a half student-t distribution with 3 degrees of freedom and a scale parameter of 2.5) were used for the standard deviation of random effects. The models were fitted with a logit link function and were run for 4000 burn-in, followed by 4000 post-burn-in iterations used to estimate the posterior distribution (8000 total) using the Markov Chain Monte Carlo sampler, and a seed value of *"123"*, across four Markov chains, following McElreath (2016). The models were evaluated according to steps 1-7, and 10, of the *WAMBS-Checklist* (Supporting Information, Depaoli & Van de Schoot 2017). The model results from each set of ten imputed datasets were pooled by combining the posterior distributions.

Qualitative data description and analysis

Respondents were invited to provide open-ended free-text responses to the question, *"Do you have any thoughts or comments on the challenges and rewards experienced by those in conservation?"*. A total of 965 people provided a free-text response. Around 426 provided responses that appeared to describe desired states (a pre-defined theme), from which goals could be inferred. These desired states related to both the external world, such as biological or social conditions, and those experienced by individuals, such as a respondent's perceived job prospects. For instance, if a respondent stated they intended to continue working to conserve nature, then one could infer that conserving nature was a goal important to them. This subset of responses provided insights into respondent's experiences associated with goal progress and so were included within the thematic analysis.

The thematic analysis was conducted by [redacted] and was inductive, meaning the themes emerged from reviewing the text. The analysis followed Braun and Clarke (2006), through the steps described below:

1. Familiarization with data by reading all responses.
2. Iteratively generating increasingly specific codes and systematically applying them across the text, through three rounds of coding.
3. Searching and clustering codes and associated text into themes.
4. Selecting the most frequently mentioned key themes, ensuring they were internally consistent but discrete.
5. Defining and naming key themes (Supporting Information).

Results

Mixed satisfaction with progress towards goals considered important

A total of 2694 respondents familiar with conservation in 145 countries told us which of our goals they endorsed or considered important and how satisfied they were with progress towards each goal (Supporting Information). This sample included 969 men and 1208 women, of which 1094 worked in academic settings, and 729 worked in practice. Respondents had a mean of 12.2 (standard deviation = 10.5) years working in conservation, with 2069 having received university-level education. Additionally, 95.4% of respondents completed the survey in English, 2.8% in French, 1.0% in Portuguese, 0.6% in Spanish, less than 0.1% in Kiswahili, and none in Khmer. Of these, 9.2% were nationals of Central and Southern Asian countries, 4.3% from Eastern and South-Eastern Asia, 48.6% from Europe and Northern America, 5.8% from Latin America and the Caribbean, 1.2% from Northern Africa and Western Asia, 4.9% from Oceania, 8.2% from Sub-Saharan Africa, with the remaining 17.9% being unknown.

Some goals were more frequently endorsed than others (Fig. 1a). For instance, almost all respondents (94.0%) said that *"making a meaningful contribution to conservation"* was important, but just over a third (39.6%) endorsed the goal of making money. In general, the collective goals were more frequently endorsed than the individual ones, except *"making a meaningful contribution"*.

Exploring research question a), there was mixed satisfaction with progress towards goals that respondents considered important (Fig. 1b). For instance, of those who thought *"making a meaningful contribution"* was an important goal (94.0%), around half were satisfied or very satisfied with progress towards it (52.5%). In contrast, for the next most frequently endorsed goal – *"stopping human-driven species loss"* (important to 72.2%) – only 15.6% said they were satisfied or very satisfied with progress towards it. A post hoc mixed-effects ordinal logistic regression suggested there was greater satisfaction with progress towards individual compared with collective goals (log-odd 1.76, 95% credibility intervals 1.69-1.83, *N* = 2336).

Variability in satisfaction with goal progress

Investigating research question b), variability in perceived satisfaction with goal progress was associated with various factors in the statistical analysis (Fig. 2). Dispositional optimism was positively associated with satisfaction with progress towards individual but not collective goals. Those with one standard deviation higher dispositional optimism than the mean had an estimated 30.3% higher probability of being satisfied or very satisfied with progress towards individual goals compared to those one standard deviation below the mean. Years in conservation were positively associated with satisfaction with individual goal progress but negatively associated with satisfaction with collective goals. For instance, someone in conservation for 30 years was 52.6% more likely to be satisfied or very satisfied with progress towards individual goals and 36.5% less likely for collective goals, than someone in conservation for five years. Work hours were negatively associated with collective goals progress satisfaction, with someone working 40 hours being 18.2% less likely to be satisfied or very satisfied with progress towards collective goals than someone working 20 hours. Work hours was not strongly associated with individual goal progress. Men reported 15.5% higher

probability than women of being satisfied or very satisfied with progress towards individual goals and 19.3% for collective goals. Those with university-level education were 50.4% less likely to be satisfied or very satisfied with progress towards collective goals than those without university-level education, but this association was not seen for individual goals. Those working in conservation practice reported 16.3% higher probability of being satisfied or very satisfied with individual goals than those in academia, and 36.9% higher for collective goals. There was also some variability in goal progress satisfaction between regions. For instance, those familiar with conservation in Oceania reported 16.3% higher probability of being satisfied or very satisfied with progress towards individual goals than those in Europe and North America. There was no evidence of an effect associated with the other variables.

The primary analysis assumed a linear relationship between work hours and goal progress satisfaction. Testing this, the analysis was repeated after substituting numeric work hours with a binary variable indicating if the respondent worked over forty hours per week (Supporting Information). Forty hours was chosen for the cut-off as this represents a commonly accepted standard for the working week of a person in full time employment. Consistent with the main analysis, working over 40 hours per week was negatively associated with collective (log-odds = -0.22, 95% CI = -0.42 to -0.03) but not individual (log-odds = -0.03, 95% CI = -0.18 to 0.12) goal progress satisfaction.

Two further post hoc mixed-effects ordinal logistic regressions were implemented, following similar model specifications to the main analysis but disaggregating the collective goals (Supporting Information). The first model included the biospheric-related goals and the second the altruistic-related ones. The results of both of these models described similar patterns as found within the main analysis.

Goals, barriers, and consequences in respondents' own words

Exploring research question c), a total of 426 participants provided free-text responses that appeared to describe desired states or divergence from those states. The following sections describes the themes that were most commonly mentioned across respondents, accompanied by the number of respondents who offered relevant text (in brackets), followed by an illustrative quote.

Desired collective states, progress, and barriers

Many respondents (110) described desired states related to collective conservation outcomes (including relating to people and nature) or divergence from those outcomes. Some of these responses (55) related to the state of nature and the environment, with most being dissatisfied with progress in these areas. For example, one respondent said it *"always feels like we should do more and what we do isn't enough* [...] *it feels like a drop in the ocean when I read all of the headlines on widespread species endangerment across the world".* Others (24) indicated desired states related to people's relationships with nature and conservation, with mixed sentiments of satisfaction and dissatisfaction. For instance, one respondent said *"we will lose everything and our children will have a very tough life"* if we fail to address the biodiversity crisis. Many (67) suggested conservation faced insurmountable odds, such as the respondent who said, *"ultimately we act to protect life, all life, on Earth. This is an incredible, essential, and arguably insurmountable goal."*

Some (125) respondents indicated broad-scale factors that appeared to impede progress towards collective conservation aims. These responses centered on conflicts between the aims and interests of conservation versus those of governments, businesses, the public and other actors (87), often discussed in relation to inadequate funding (45). For instance, one said, *"It feels like most of the human race is rowing in a different direction from those of us in conservation."* Another stated, *"the public does not always see the value in conserving landscapes/species and funding can change rapidly due to political shifts".* Others (33) mentioned conflicts between aims and interests within conservation. These included apparent tensions between individuals and organization; funders and practitioners; science, policy, and practice; and among organizations. These often surrounded differences in approaches to conservation. For instance, one said, *"I am also increasingly becoming aware of tensions in the conservation fraternity* [...] *which can sometimes become rather aggressive (e.g. between those for and those against resource use in protected areas)."*

Desired individual states, progress, and barriers

Many respondents (252) described desired individual states, or divergence from those states. A large number (147) of free-text responses indicated that *"making a difference"* was important to them, with most being satisfied in this area. For instance, one said, *"the best rewards is the personal satisfaction of working for nature in particular the wildlife I work on!"* But, some (20) highlighted how people's *"passion"* or desire to make a difference created a culture of exploitation in the sector. For instance, one respondent said, *"we are expected to love our jobs - and we do - but are therefore not paid enough, because we do it "for the love of it". My landlord, alas, does not accept passion as a payment method."*

Several (19) stated their desire to contribute to conservation came at the expense of perusing livelihood goals, such as one who said *"The biggest dilemma I have is how do I work in a field that I believe in* [...] *while at the same time be able to provide for my family"*. Another said *"I realize that there is a trade-off for doing work that is interesting and rewarding and inspiring and financial remuneration."* Many respondents (143) discussed desired states relating to their livelihoods, such as adequate and commensurate incomes; job security; career progression; and maintaining a work-life balance. Most of these respondents were dissatisfied in these areas, such as one respondent who said *"It's hard to find a meaningful job that pays a liveable wage."* Some (20) highlighted that support and positive interactions with colleagues were important to them, with most being satisfied in this area. However, some (5) of these respondents indicated dissatisfaction associated with discrimination, particularly around gender and race.

Respondents (85) also indicated factors impeding progress to desired states at an individual level, mainly related to respondents' livelihoods. These primarily related to resource and funding constraints (60), challenges gaining appropriate experience (14), and lack of time within a working week (8). Several highlighted that these constraints affected the least wealthy the most. For instance, one said, *"I worry about conservation work being a rich man's game. It certainly preferences those who are financially able to work with little to no pay to gain experience and can afford a degree."* Some suggested this reduced diversity and meritocracy in conservation, such as

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one who said, *"as we cannot hope to attract the brightest and best, we normally end up with people who have a passion and an ability to subsidise their career."*

Consequences of (lack of) progress towards desired states

Some (81) highlighted negative consequences associated with inadequate progress to desired states, including impacts on motivation (30), mental well-being (31), and the feeling of being overwhelmed (18). For instance, one respondent said, *"where I work in Cambodia, the feeling of being hopeless at achieving goals and making the impact you crave for your profession and your personal passion can drive one into a depressed state of mind."* Several (26) indicated strategies or mind-sets that helped them deal with dissatisfaction, including focusing on personal contributions, trying to remain optimistic, reminding oneself of their *"love of nature",* considering how the work aligns with their values, and in some cases seeking professional support. For instance, one said, *"Focus on your core values and goals in conservation, and making decisive manageable efforts in the direction of your goals on a daily basis".*

Several (40) mentioned the positive impacts of goal progress, including feeling fulfilled (13) and motivated (3). For example, one said, *"balanced against this is the knowledge that those of us working in conservation are doing something worthwhile with our lives, which gives great satisfaction."* Another said, "*successful conservation spurs one to work better and harder".*

Discussion

How satisfied are respondents with progress towards important goals and how is this progress experienced?

The high proportion of respondents who said the goal of *"making a meaningful contribution"* was important suggests working in conservation is more than just a job for many in our sample. Across the pre-defined and free-text responses, most appeared to be satisfied in this area. However, there was an apparent tension between many respondents' desire to contribute to conservation and their ability to pursue livelihood goals. The free-text responses suggested that many aspirations around livelihoods were not reflected in our set of pre-defined goals. For instance, while *"earning money"* might not have been a priority, many desired adequate incomes and job security. Nevertheless, many respondents indicated having to invest significant time, effort, and emotional commitment in pursuing livelihood goals, as has been noted in other research (e.g., Ramos et al. 2017). As a result, for many respondents, working in conservation appeared to be a trade-off between contributing to a cause they cared about and their need to earn a living.

We recognize that many conservation organizations aim to provide stable and appropriately compensated jobs but are often constrained by inadequate funding (Malcom et al. 2019). However, we encourage employers to consider ways to better support their staff in these areas. For instance, employers might examine their use of volunteer labor and prioritize paying for salaries rather than short-term contracts and consultancies (Vercammen et al. 2020). They may seek ways to pay staff living wages and contribute to health insurance, pensions, and other benefits, factors known to

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increase staff retention in other sectors (Lehmann et al. 2008). Funders might consider ways to support the livelihoods of conservationists with the budgets they have. This support could include providing funding over longer periods and allowing a greater share of budgets to be used for staff overheads. Similarly, funders might reject projects with unrealistic aspirations that risk staff becoming overworked or from organizations that do not pay living wages. As well as supporting their well-being, improving conservationists' livelihood security might enable them to better deliver conservation outcomes.

Other research likewise suggests that *"making a difference"* motivates those in the conservation sector (Papworth et al. 2018). This desire to *"make a difference"* is also found in other sectors, such as public health and humanitarian aid (e.g., Roth 2015; Greenberg et al. 2019). Yet some respondents expressed concern that conservationists' passion for nature put them at risk of exploitation by employers. This risk also appears in other sectors where job fulfillment is used to legitimize the poor treatment of employees, such as requiring staff to do unpaid overtime, work excessive hours, or do tasks irrelevant to their job description (Kim et al. 2020). Sandbrook (2019) expressed concern that the professionalization of conservation might displace passion towards protecting nature. Yet, many of our respondents felt that contributing to conservation was important to them, suggesting they remain passionate about safeguarding nature. Rather than displacing passion, the professionalization of conservation could help ensure that those working in the sector are highly valued, fairly compensated, and otherwise at less risk of exploitation than currently.

Respondents' dissatisfaction with progress towards collective conservation goals is perhaps unsurprising, given the scale of threats to biodiversity and their implications for human well-being (IPBES, 2020; CBD Secretariat, 2020). There appeared to be greatest dissatisfaction with progress towards goals most directly related to the state of nature, such as the goal of *"stopping human-driven species loss"*. These subjective appraisals appear to corroborate formal assessments, affirming the need for greater action to protect nature (e.g., CBD Secretariat, 2020). Many free-text responses suggested there was limited progress because biodiversity conservation was not prioritized and funded by governments, the public, businesses, and other sectors of society. Recognizing this, conservationists have been calling for greater investment to reduce biodiversity loss (e.g., Malcom et al. 2019). Sundin et al. (2018) argue that stories can help mobilize societal support for conservation. In this respect, conservationists' accounts of why they are dissatisfied with progress towards collective goals, drawing on their direct experiences, might be seen as particularly legitimate and motivating.

The free-text responses corroborated other research suggesting inadequate goal progress is a source of distress and demotivation, but progress contributes to well-being (Eccles et al. 1983; Wigfield & Eccles 2000; Ryan & Deci 2001; Strauman 2002; Wrosch et al. 2013). Distressed and demotivated conservationists might be offered support in other aspects of their work lives. This support could involve encouraging workplace sociability, tackling organizational injustice (such as through discrimination), and helping staff maintain a work-life balance (van der Molen et al. 2020). Some individuals distressed by the *"gloom-and-doom"* conservation discourse might find it useful to engage with optimism movements, such as *Conservation Optimism, Earth Optimism,* and *Ocean*

Optimism (Swaisgood & Sheppard 2010). Others might choose to focus on their own contributions, celebrating the positive outcomes from their work.

Our sampling approach meant those signed up to conservation listservs and mailing lists or active on social media were most likely to be recruited. This approach is reflected in the characteristics of our sample, with most respondents having received university-level education and responding in English. So, our results cannot speak to the experiences of goal progress satisfaction among some groups, such as community-based conservationists, those in frontline roles, non-English speakers, and others. These groups may face greater constraints to goal progress, perhaps working in more threatened ecosystems and with less funding (Waldron et al. 2013; Powers & Jetz 2019). Therefore, we caution against generalizing our results across the conservation community. A growing number of studies examine the perspectives and experiences of conservationists, but many are not globally representative (e.g., Sandbrook et al. 2011; Papworth et al. 2018; Montana et al. 2019; Sandbrook et al. 2019). Such research (including our current study) risks overlooking the experiences of those working in some of the most important but challenging conservation contexts. Further research is needed to understand the heterogeneity of experiences, and avoid worsening potential inequalities, within the conservation sector.

How does goal progress satisfaction vary between groups?

Dispositional optimists may be more likely to sustain their effort, and thus to progress towards goals, than pessimists (Forgeard & Seligman 2012). This may explain why optimists reported greater satisfaction with progress towards individual goals that one can influence, but not collective goals outside an individual's control. While dispositional optimism is a relatively stable trait, encouragement from others – such as colleagues and friends – might help pessimists sustain effort towards challenging goals (Fishbach et al. 2010).

Early-career respondents appeared particularly dissatisfied with progress towards the pre-defined individual goals, echoed in the free-text responses. One reported barrier was that employers often evaluated candidates based on their experience, which disproportionately favored those who could afford to work in poorly paid or voluntary positions. This barrier might be lowered by adopting competency-based recruitment methods, which evaluate candidates based on demonstrated ability rather than experience (Draganidis & Mentzas 2006). Furthermore, organizations should consider whether their use of unpaid labor is unfair and counter-productive to the conservation sector's long-term sustainability (Vercammen et al. 2020).

Some respondents might work long hours because of heavy job demands or because they are overcommitted to their work. Overcommitment is a set of behaviors, emotions, and attitudes associated with excessive striving towards goals (de Jonge et al. 2000). In our study, overcommitment might emerge from dissatisfaction with progress towards collective goals, leading individuals to work longer hours in the hope of being able to *"make a difference"*. Other research suggests that many conservationists regularly work outside normal office hours, including on the weekends (Campos-Arceiz et al. 2013). These individuals might benefit most from efforts to reduce overcommitment, such as managing employee workloads, not rewarding overwork, and encouraging individuals to not work excessive hours.

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Previous research suggests gender-differentiated challenges within conservation, which might explain why men were more satisfied with individual goal progress than women (Jones & Solomon 2019). Free-text responses also suggested women faced greater challenges pursuing individual goals than men. Competency-based recruitment may play a role in reducing gender discrimination (Draganidis & Mentzas 2006). Further research could usefully explore why female conservationists appear less satisfied with collective goal progress than males.

Aside from gender, we did not examine how goal progress satisfaction varied by other identities, such as race, ethnicity, or sexuality. These identities can have profound effects on conservationists' experiences, particularly given colonial legacies in conservation (Duff 2020; Butler 2021; Demery & Pipkin 2021). But, we felt that an online survey would be an inappropriate platform for investigating these topics, and that we did not have the disciplinary expertise to do this adequately. Further research could help understand how discrimination and other barriers influences progress towards goals, particularly those around conservationists' livelihoods and careers.

Our results supported our expectation that those with university-level education would be less satisfied with collective goal progress. This finding could be because those with higher education have greater environmental awareness (e.g., Kollmuss & Agyeman 2010), because they are more exposed to *"gloom-and-doom"* discourses (Swaisgood & Sheppard 2010), or other factors. However, those with higher education may not necessarily provide more accurate assessments. Indeed, qualifications, track record, and experience can be poor predictors of the accuracy of expert judgments (Burgman et al. 2011).

Practitioners reported greater satisfaction with collective goal progress than academics. Practitioners may be more aware of examples of conservation success in the areas they are familiar with, or less exposed to global-scale biodiversity threats. Alternatively, individuals with positive conservation outlooks may self-select into practitioner roles, where positivity might be encouraged more than in academia. Equally, practitioners also appeared more satisfied with progress towards individual goals, perhaps partly because it might be harder for academics to see how their work *"makes a difference"*. Academics might, therefore, be at higher risk of distress and demotivation associated with goal progress dissatisfaction. However, the full range of challenges faced in different roles should be considered when deciding where resourcing to support conservationists should be directed.

The lack of significant variability in goal progress satisfaction between regions and biomes was unexpected, given the actual variability in progress to conservation targets between places (CBD Secretariat, 2020). This variability did not appear to follow easily explained patterns, and so further research could usefully explore the causes of these differences and the appropriate scale of analysis.

Additionally, the post-hoc supplemental analysis (Supporting Information) suggests that many of the explanatory variables had similar associations with progress to goals related to both altruistic and biospheric values. This likely reflects how many conservation goals have positive implications for both people and nature. Thus, those groups more satisfied with progress toward goals related to nature are also likely to be more satisfied with progress toward goals concerning people.

Balancing making a difference against making a living

Understanding conservationists' satisfaction with goal progress can tell us about real-world trends and might highlight risks to the well-being and motivation of those in the sector. To our knowledge, we provide the first study asking how satisfied conservationists are with goals they consider important, how this satisfaction varies between groups, and how it is experienced. Our study includes voices from nearly 2700 conservationists familiar with conservation in 145 countries. Among this sample, the goal of *"contributing to conservation"* was important to most. However, many struggled to earn adequate incomes and maintain stable careers while pursuing this goal. Employers, funders, and other actors should consider ways to support those working in the sector to deliver conservation outcomes whilst having stable and rewarding livelihoods. This could involve conservation organizations giving greater priority to their staff's well-being and working conditions when considering how funding is allocated.

Moreover, respondents felt like little progress was being made towards collective conservation goals, corroborating formal assessments, which appeared to be a source of distress and a threat to motivation. Employers and others in the sector might consider ways to offset this distress by offering support in other aspects of conservationist professional lives. This could include, for instance, fostering supportive work environments and celebrating positive outcomes in one's work. Such support might be directed to at-risk groups, such as those who are less optimistic, early-career professionals, those who are overworked, women, and others who feel they would benefit from support.

Further research is needed to understand how many leave the sector because of these challenges. Nevertheless, our research demonstrates conservationists' fortitude and commitment towards protecting nature despite the challenges they face. Conservation is mission-driven and aims to improve relations between people and nature and so is implicitly aspirational (Soulé 1985; Sandbrook 2015). Reflecting on conservationists' goals might shed light on new approaches for meeting these aspirations, such as creating more sustainable career pathways that allow those in the sector to focus on delivering conservation outcomes.

Acknowledgments

Supporting Information

Results from repeating the statistical analysis with a more conservative definition of conservationists (Appendix S1); a description of the ethical protocol (Appendix S2); details of the goal progress statements (Appendix S3); patterns of missing data and imputation methods (Appendix S4); development of the dispositional optimism variable (Appendix S5); results from repeating the statistical analysis with a dummy variable corresponding to the COVID-19 (Appendix S6); details associated with the *WAMBS-Checklist* (Appendix S7); definition of key themes (Appendix S8); respondent characteristics (Appendix S9); results of repeating the analysis treating working hours as a binary variable (Appendix S10); results of repeating the analysis with the altruistic and biospheric related goals separately (Appendix S11); details of an analysis of characteristics associated with the likelihood of endorsing goals (Appendix S12). The online survey questionnaire can be found at [redacted] and in Appendix S13. Study data is available at https://figshare.com/s/b2b2e4f4db5a74d8546d (doi:10.6084/m9.figshare.14501238) and code at [redacted GitHub link – but can provide code as a separate file]. The authors are solely responsible for the content and functionality of these materials. Queries (other than absence of the material) should be directed to the corresponding author.

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Table 1. A priori hypothesized associations between satisfaction with progress towards individual and collective goals individual and contextual characteristics.[a]

Goal type	Expected association	Factor	Possible links between the factor and goal progress satisfaction
Individual	(+)	Dispositional optimism	Dispositional optimism is the general expectation of good outcomes in life (Tusaie & Patterson 2006).
Collective	(+)		Optimists tend to sustain greater effort and be more likely to attain goals (Forgeard & Seligman 2012). They may also have more positive outlooks on life in general. As a result of these factors, they are expected to provide more positive assessments of individual and collective goal progress.

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Individual	(+)	Years in conservation	Those in the sector for longer may be more established in their careers and are thus expected to assess their individual goal progress more positively. However, they may have a longer-term view of progress towards collective goals, which might be negative because of historic failure to meet conservation targets (CBD Secretariat, 2020).
Collective	(-)		
Individual	(?)	Work hours	Those working longer hours might make greater progress to individual goals. Alternatively, some may work longer hours – a sign of overcommitment – because of dissatisfaction with perceived individual and collective goal progress (de Jonge et al. 2000).
Collective	(?)		
Individual	(+)	Gender (male)	Men, women, and those who do not identify themselves as either may face differing constraints in conservation work (Jones & Solomon 2019). In general, we expect men to face fewer barriers in pursuing some individual goals, thus to provide more positive assessments on individual goals but not necessarily on collective goals.
Collective	(?)		
Individual	(+)	Education	More education can improve career prospects and enable people to take roles in which they have more influence over their individual goal progress, so we expect those with higher education to provide more positive assessments (Crawford et al. 2016).
Collective	(-)		
			Environmental awareness may be positively associated with educational level (e.g., Kollmuss & Agyeman 2010). So, we expect those with university-level education to be more aware of threats to nature and thus be less satisfied with collective goal progress.
Individual	(?)	Practice or academia	Individuals with more positive outlooks might be attracted to one type of job role. Or, opportunities to pursue individual goals may vary between practitioner or academic settings. However, the expected direction of the relationship is unclear.
Collective	(?)		
			Those in practice may be more directly exposed to biodiversity loss, leading to negative assessments, or more exposed to conservation action, resulting in positive assessments. Equally, academics trained to reflect on downsides, and more exposed to global-level studies but distanced from real-world action,

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might be less satisfied with collective goal progress. As a result, the expected direction of the relationship is unclear.

Individual	(?)	Focal biome	Opportunities and constraints to pursuing individual and collective goals may vary between terrestrial, marine, or cross-cutting biomes, although the expected direction of the relationship is unclear.
Collective	(?)		
Individual	(?)	Region (where most familiar with the conservation context)	As above, opportunities and constraints to pursuing individual and collective goals may vary between regions, although the expected direction of the relationship is unclear.
Collective	(?)		

[a](+) indicates an expected positive association, (-) indicators a negative association, and (?) indicates where the expected direction of association is unclear.

Table 2. The pre-defined individual and collective goals, based on the value-belief-norm theory and its sub-dimensions, and other literature (Stern et al. 1999; Stern 2000; de Groot & Steg 2007; Papworth et al. 2018).[b]

Individual goals	Collective goals
Making a meaningful contribution to conservation	Stopping human-driven species loss
Being a leader	Ensuring people benefit from nature in a sustainable way
Influencing other people's behavior	Making sure people are treated equally and fairly
Earning money	Avoiding conflict between people and conservation
	Stopping damage to the natural world
	Creating a more sustainable world

[b]Individual goals correspond to egoistic values, and collective goals relate to biospheric and altruistic values (Supporting Information).
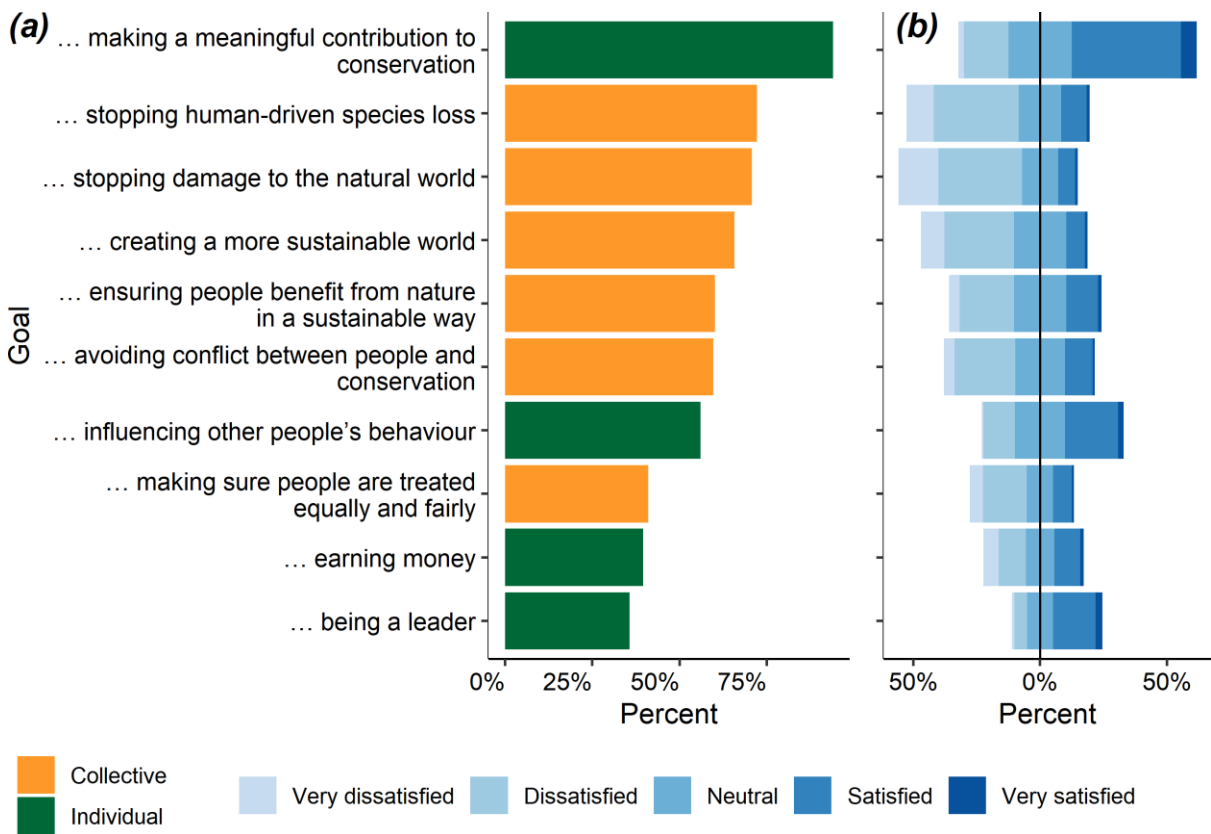
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Figure 1. (a) The percentage of respondents who said that ten individual and collective goals were important to them (the total number of respondents was 2694) and (b) the reported satisfaction with progress towards each goal.

Figure 2. The estimated associations between satisfaction with goal progress and each explanatory variable among 2336 respondents. Points represent the mean of the posterior distribution, and bars indicate the 95% credibility intervals on the log-odds scale. Dispositional optimism, years in conservation, and work hours are scaled and centered. Thresholds, "goal name", and response categories corresponding to missing data are not shown.
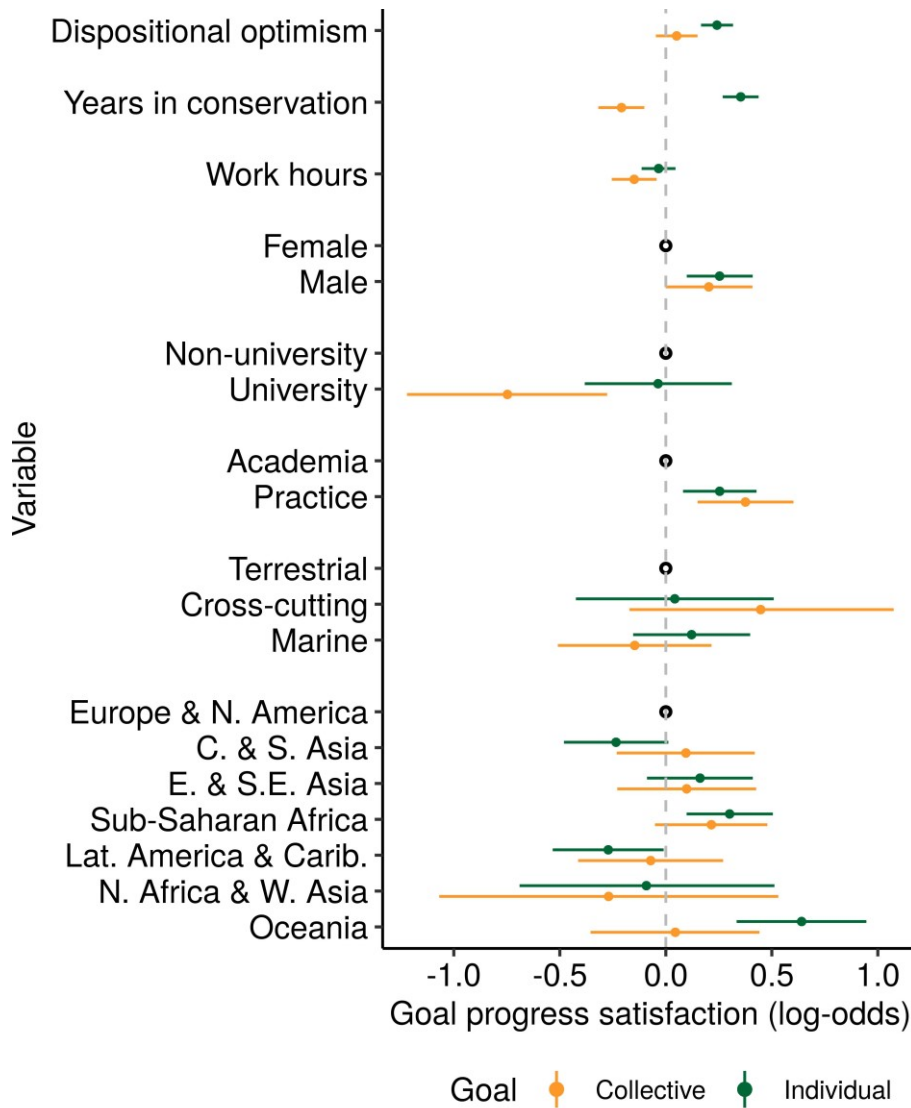
Figure 2. The estimated associations between satisfaction with goal progress and each explanatory variable among 2336 respondents. Points represent the mean of the posterior distribution, and bars indicate the 95% credibility intervals on the log-odds scale. Dispositional optimism, years in conservation, and work hours are scaled and centered. Thresholds, "goal name", and response categories corresponding to missing data are not shown.